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Abstract 1: Studying the anti-proliferative effects of a combination therapy involving mesenchymal stem cells carrying *Coxsackie* oncolytic virus, ozone therapy, and *Lactobacillus casei* probiotic therapy on colorectal cancer.

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Abstract

Introduction: Colorectal cancer is among the frequently occurring cancers globally and has a high mortality rate. Although advances in treatment methods have been made, the surgical removal of the tumor remains the only effective treatment in most cases. However, patients have a high likelihood of experiencing a recurrence of the disease post-surgery. Chemotherapy is a common treatment method but has two fundamental problems - drug resistance of cancer cells and side effects on healthy cells. As a result, researchers have turned to multifactorial combined treatments. This study's main objective is to explore the anti-proliferative effects of mesenchymal stem cells carrying *Coxsackie* oncolytic virus together with ozone therapy and probiotic therapy with *Lactobacillus casei* in an experimental model of colorectal cancer.

Method & material: The study was conducted at Baqiyatallah University of Medical Sciences and involved two parts - cell culture and mouse modeling. The first part involved culturing colorectal carcinoma CT-26 cells in the Laboratory of Applied Virology Research Center, while the second part involved modeling colorectal cancer in female BALB/c mice at the Laboratory Animal Maintenance Center. Once tumors were palpable, the mice were treated with several therapies, including mesenchymal stem cells carrying *Coxsackie* oncolytic virus A21, *Coxsackie* oncolytic virus A21, ozone, and probiotic *Lactobacillus casei*, to examine their synergistic effects. After the final treatment, half of the mice in each group were euthanized to assess the effectiveness of the treatments.

Result: The combined treatment had better results on survival and tumor growth rates in mice than single-agent treatment or no treatment. It also increased nitric oxide and lactate dehydrogenase levels in splenocytes cultures and led to an increase in IFN-γ secretion while decreasing the secretion of IL-4, IL-10, and TGF-β.

Conclusion: Based on the findings, it appears that combining ozone, *Lactobacillus casei*, and mesenchymal stem cells that carry *Coxsackie* virus can improve the efficacy of anti-cancer treatment when compared to using any of these methods individually.

Keywords: Colorectal cancer, Ozone, *Lactobacillus casei* probiotic, *Coxsackie* virus

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Abstract 2: A Recombinant Bispecific Tandem scFv Antibody for Cancer Immunotherapy: Optimizing Expression and Purification, and Evaluation of Its Binding Properties In-vitro

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Abstract

Introduction: Cancer cells prevent the activation of T-cells through immune checkpoint receptors. Among these receptors are CTLA-4 and PD-1. Various studies have shown that the combined use of CTLA-4 and PD-1 inhibitors is more effective than the use of each alone. Single chain fragment variable(scFv) antibodies offer some advantages over full length antibodies, such as better tumor penetration, fewer side effects, and the possibility to be produced in bacterial cells. However, their functional production has been a challenge due to the misfolding potential. Therefore, in this study, the expression and purification of a Bispecific Tandem scFv Antibody targeting CTLA-4 and PD-1(scFv-BsAb) was optimized and then its binding properties were investigated.

Method & material: E. coli BL21(DE3) cells were transformed with pET28a scFv-BsAb plasmid and were cultured in Luria-Bertani medium. Expression of protein was induced at different conditions by various temperatures and concentrations of Isopropyl β-D-1-thiogalactopyranoside. Cell lysis was done by sonication. For protein purification, two different methods were used: Ni NTA affinity chromatography or solubilization and refolding of inclusion bodies. Protein concentration was measured by Bradford assay. For labeling, the dialyzed protein and fluorescein isothiocyanate (FITC) mixture incubated. To remove the excess dye, the resulting mixture was dialyzed. To determine the labeling efficiency, protein absorption was measured at 280 and 495 nm wavelengths. To investigate the binding ability of antibody, peripheral blood mononuclear cells (PBMCs) and HEK293 (immortalized human embryonic kidney) cells (as a negative control) were cultured. The scFv-BsAb binding properties and ability in competitive inhibition of PD-L1 and B7-1 ligands was investigated by flow cytometry.

Result: According to SDS PAGE analysis, the highest soluble expression of scFv-BsAb was observed at 30°C and 1 mM IPTG. Protein purification by denaturing Ni-NTA chromatography resulted in small amounts of purified protein(0.3 mg), but, by solubilization of inclusion bodies, more amounts of purified protein(5.4 mg) were obtained. Labeling efficiency was 40% and 92 µg/ml labeled protein was obtained. Fluorescent antibody at different concentrations bound to about 8 to 78% of PBMCs, while this percentage was about 0.8 to 10.5% for HEK cells. Moreover, the binding is completely dose-dependent. Competitive inhibition is also dose-dependent and at 14 µg/ml scFv-BsAb, the binding of each ligand decreased from about 26% to 3%.

Conclusion: Evaluating different expression conditions and different purification methods is essential to achieve highest amount and purity of recombinant proteins. According to the results of this study, it seems that for proteins with low soluble expression, solubilization of inclusion bodies and then refolding is a more suitable method. Based on flow cytometry results, the percentage of scFv-BsAb binding to PBMCs is higher than HEK cells, which shows its specificity for these cells (including T cells). The competitive inhibition also indicates its specific binding to CTLA-4 and PD-1 receptors.

Keywords: scFv Antibody, Cancer cell, Immunotherapy

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Abstract 3: Apply health behavioral theories to examine students' intentions about getting a Covid-19 vaccine

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Abstract

Introduction: The lack of acceptance of the COVID -19 vaccine by some people has been one of the challenges we have faced during the last pandemic. Therefore, identifying factors that influenced vaccination intention during this pandemic may serve as a basis for developing a more effective education program for future outbreaks. The purpose of this study was to assess the factors causing hesitancy about vaccination against COVID -19 using a synthesis of three theories of health behavior, including the Health Belief Model, the Extended Parallel Process Model and the theory of planned behavior. This study can lead to a better understanding of the psychosocial factors underlying vaccine hesitancy and assist public health agencies in developing educational programs.

Method & material: psychosocial responses to the COVID vaccine, assessed with six indices: perceived susceptibility, fear of COVID-19, attitude, self-efficacy, response-efficacy, and perceived severity; and a final section to write down the information participants received about the COVID -19 vaccine. Quantitative data are reported as mean and standard deviation. Shapiro-Wilk test, independent T-test, and Pearson correlation coefficient were used in this study. The significance level was considered to be 0.05.

Result: Results showed that participants' gender, marital status, and education level were associated with their willingness to be vaccinated. Older students scored higher on perceived susceptibility, while women scored higher on fear of COVID-19. PhD students had higher attitudes and perceived vaccine response-efficacy. We also demonstrated the effectiveness of health behavior theories sociopsychological factors predicting people's intention to receive COVID-19 vaccine. The main messages received by our participants about vaccines that have influenced them were: "possible future side effects", "presence of smart chips in the vaccine", "lack of research, evidence, and WHO approval for emergency use", and "political issues". These findings can lead to a better understanding of the psychosocial factors underlying vaccine hesitancy and assist public health agencies in developing educational programs specifically designed to promote student awareness of vaccination in pandemic situations.

Conclusion: For having a successful preventative service, vaccination, and immunization is crucial. Therefore, to develop effective interventions that promote the acceptance vaccines, it's important to identify the factors that influence individuals' intentions to be vaccinated. The vaccine hesitancy that occurred during COVID-19 pandemic and the sociopsychological factors associated with this hesitancy, can be a lesson for the future pandemics. Overall, COVID-19 vaccine acceptance is high at Isfahan University of Medical Science, but still, vaccination hesitancy is high enough to put people's immunity in a vulnerable position. Our results suggest that some collaboration is needed to address the COVID-19 vaccine hesitancy in women, unmarried students, and less educated people. Healthcare providers, counselors, and the government need to gain people's trust and lead communication in ways that improve their intention to get vaccinated.

Keywords: Vaccine hesitancy, students, intention, Covid-19 vaccine

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Abstract 4: Automatic diagnosis of multiple sclerosis from retinal images by optical coherence tomography device with artificial intelligence

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Abstract

Introduction: Multiple Sclerosis (MS) is a prevalent autoimmune and inflammatory disorder that leaves demyelination and neurodegenerative changes in Central Nervous System (CNS). The retina is among the body organs that are affected by MS, particularly the pRNFL, which is impaired during the early episodes of the disorder. Optical Coherence Tomography (OCT) images can play a key role in the preliminary stages. Convolutional Neural Networks (CNN)-based methods are commonly applied in image classification and have shown promising and applicable results in MS diagnosis.

Method & material: in total, 197 MS patients and 283 healthy cases were included in this study, and Spectralis OCT images were taken then, using data augmentation, the CNN was trained with 15,000 images. Finally, the automatic diagnosis algorithm for MS disease was implemented in Python, and then the network loss processes diagram was drawn, and the sensitivity, specificity, and accuracy of the algorithm were evaluated.

Result: The disease was successfully diagnosed by OCT images with an accuracy of 93.0, a sensitivity of 96.47, and a specificity of 90.44.

Conclusion: The proposed method showed improvements in early-stage MS diagnosis and with the potential to be used in either the diagnosis or prediction of the progression of other diseases that affect the CNS (e.g., Alzheimer's disease, bipolar disorder, etc.).

Keywords: Convolutional Neural Networks, Artificial intelligence, Multiple sclerosis, Optical Coherence Tomography, Retinal nerve fiber layer

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Abstract 5: Cerebrospinal Fluid Neuronal Pentraxin-2 as a Potential Biomarker in Alzheimer's Disease: A Systematic Review and Meta-analysis

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Abstract

Introduction: The core biomarkers of Alzheimer's disease (AD) -i.e. cerebrospinal fluid (CSF) amyloid-beta and tau- fail to reflect the heterogeneous neuropathology underlying AD. Moreover, in higher ages, changes in these markers overlap with those in cognitively unimpaired. This calls for finding diverse biomarkers that reflect other pathological aspects. Neuronal pentraxin-2 (NPTX-2) is a synaptic protein involved in neuroplasticity and cognitive function. The aim of this study was to evaluate the ability of CSF NPTX-2 levels to differentiate between AD patients and cognitively unimpaired controls.

Method & material: This systematic review followed the PRISMA guidelines and Cochrane systematic review protocols. An extensive search was carried out in online databases including PubMed, Web of Science, and Scopus, with keywords such as "pentraxin", "Alzheimer's disease", and "cerebrospinal", from May 2023 to June 10, 2023. Google Scholar search-engine was used to identify grey literature. All English observational studies that compared CSF NPTX-2 levels in AD patients and cognitively unimpaired controls were selected. Reviews, conference abstracts, and animal studies were excluded. After removing duplicates, title and abstract screenings and full-text assessments were performed by two researchers, independently. Relevant data were extracted, such as CSF NPTX-2 levels in AD and controls. The Newcastle-Ottawa Quality Assessment Scale for Case-Control Studies was utilized. Using Stata (v.14.2), a random-effects meta-analysis was conducted based on standardized mean differences (Cohen's d) of CSF NPTX-2 levels. The Heterogeneity of the studies was measured using I^2 and controlled using the leave-one-out approach.

Result: After removing duplicates, 153 studies remained, 26 of which survived title and abstract screening, and underwent full-text assessment. 12 studies were included, comprising 643 AD patients (50.38% female) and 714 cognitively unimpaired controls (56.15% female). Mean age of the patients and controls were 63.65 and 62.28, respectively. 10 studies reported a significant decrease in CSF NPTX-2 levels in AD, one reported a non-significant decrease, and another reported a non-significant increase. Meta-analysis of all eligible studies (n=8, including study subsets) found significantly lower CSF NPTX-2 in AD compared to controls (Cohen's d= -0.78, 95%CI= -1.11, -0.46), with high heterogeneity (I^2=70.2%, p=0.001). However, by applying the leave-one-out approach, heterogeneity was reduced and turned non-significant (I^2=30.1%, p=0.199), while CSF NPTX-2 levels remained significantly lower in AD (Cohen's d= -0.67, 95%CI=-0.89, -0.45).

Conclusion: CSF NPTX-2 levels seem capable of differentiating between AD patients and cognitively unimpaired controls, and may be used as a biomarker to diagnose AD.

Keywords: Alzheimer's disease, Cerebrospinal fluid, Neuronal Pentraxin-2

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Abstract 6: Challenges Of Artificial Intelligence "Chat GPT" In Nursing Education and Nursing Care: A Systematic Review Study

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Abstract

Introduction: Artificial intelligence technologies are constantly evolving and are increasingly seen in various aspects of our lives. One of the recent phenomena is Chat GPT. One of the current capabilities of Chat GPT is the existence of a wide potential for education, research, and medical and nursing care. Chat GPT is trained on a wide variety of texts, including web pages, books, and conversational data. As a result, it is very versatile and can be used for a wide variety of fields, including education and healthcare. Therefore, this study was conducted to review the challenges of Chat GPT artificial intelligence in nursing education and care.

Method & material: This review study was conducted in 2023 by searching “Google Scholar, PubMed, and Science Direct” databases with keywords “Nursing care, Education, chat GPT, Nurse, Health” without considering the time limit. To check and control the quality of the articles, the PRISMA checklist was used. By re-reading the articles in three stages including reviewing the title, reading the abstract, and reading the full text; Repetitive articles, unrelated to the purpose of the study and without full text were removed. Finally, among the 108 articles found, 12 articles were examined.

Result: the results were analyzed in 3 categories of artificial intelligence challenges in "nursing education", "nursing research" and "nursing care". In the first category, the findings have shown that ChatGPT in the field of nursing education has advantages such as personal learning, efficient grading, more accessibility, and limitations such as loss of human interaction, privacy concerns, lack of critical thinking, and presentation of illogical information. In the field of nursing research, it has advantages such as; Data analysis, hypothesis generation, and automation of experiments also has limitations such as the risk of data quality problems and loss of human insight. In the field of nursing care, it has advantages such as early warning systems, patient interaction, administrative productivity, drug discovery, personalized medicine, and on the other hand, the use of artificial intelligence may have negative effects such as privacy concerns, over-reliance and it has technical challenges on the nurse-patient relationship.

Conclusion: Chat GPT can simplify nursing education and research; However, it is important to use it with caution and responsibility. This technological progress is not able to replace the necessary cognitive process of man and it requires the integration of knowledge and human experience. Healthcare professionals, including nurses, should be aware of its potential benefits and risks. However, AI is already revolutionizing nursing education by providing innovative solutions to long-standing challenges. While the ethical dilemmas and considerations must be actively addressed, the potential benefits for the future of healthcare are limitless.

Keywords: Artificial Intelligence, Nursing Care, Nursing Education, Nurse

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Abstract 7: Comparing the accuracy of machine learning algorithms in the diagnosis of ovarian cancer malignancy using blood biomarkers and simulating data using Generative Adversarial Networks (GANs)

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Abstract

Introduction: In recent decades, remarkable advances in artificial intelligence and Machine learning have made this technology a powerful tool for cancer diagnosis. Given that ovarian cancer is one of the most dangerous and advanced diseases, the use of blood biomarkers and artificial intelligence to diagnose this disease can serve as an accurate and incredibly useful method in this field. In this article, we will delve into more details about the use of blood biomarkers and artificial intelligence in ovarian cancer diagnosis and present a proposed diagnostic model.

Method & material: The data in this study includes 349 individuals with ovarian cancer, for whom 50 blood biomarkers were measured and published by Mi et al. Due to the limited data, generative adversarial networks (GANs) were used to generate new data close to real data. The number of samples increased from 349 to 3115 through simulation. Then, using the Pearson correlation between the biomarkers, the biomarkers that have the greatest impact on the malignancy or benignancy of cancer were selected. Finally, using the Python programming language, a model was developed to detect the malignancy of ovarian cancer.

Result: In this study, after data processing operations, the data was divided into three parts: training, testing, and real data. Then, the data was fed to classical machine learning algorithms, ensemble learning algorithms, and a deep neural network. The results showed that most models had an accuracy of over 80% and an F1 score of over 75%. The best diagnostic model belonged to the gradient boosting algorithm, which had an accuracy and F1 score of 100% in both training and real data, and achieved accuracies of 92% and 90% in testing data, respectively. Additionally, for each of the models, metrics such as F1 score, recall, precision, and AUC, as well as cross-validation, were evaluated. The best model among them was gradient boosting, which had a high diagnostic ability of over 95%.

Conclusion: The use of blood biomarkers and artificial intelligence in ovarian cancer diagnosis can serve as an accurate and incredibly useful method in this field. This approach can act as an important tool for the prevention and treatment of ovarian cancer. For example, it can be used in populations with a higher risk of developing ovarian cancer, such as women with a family history in this area, to increase the chances of success in treatment and prevent the side effects of treatment by increasing the accuracy of diagnosis.

Keywords: ovarian cancer, Generative Adversarial Networks (GANs), malignancy

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Abstract 8: Comparison of Skull Bone Morphology in CT scan Images and Dry Bones in a Selected Iranian Population

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Abstract

Introduction: Pterion is an important point and anatomical landmark that can be seen on the outer surface of the skull where the frontal, parietal, temporal and sphenoid bones meet. Detailed information about this point is useful in pre-surgical planning, especially neurosurgery. Despite the importance of this area, unfortunately, limited studies have been done in this area. Also, all of these studies have been conducted in countries other than Iran, and due to the possibility of anatomical variances in the bones of the Iranian population, the necessity of conducting local studies in this regard is evident.

Method & material: A total of 57 dry bone samples and 120 CT scan samples were studied in normal skulls. Measurements were made in dry bone using a caliper ruler digital and in CT scan images using Syngo fastView software using multi-level reconstruction method. Descriptive statistical studies including mean, standard deviation and comparison of means with T-student test were conducted to investigate the relationship between parameters using spss23 software.

Result: The average parameters measured in millimeters in dry bone and CT scan are as follows the distance from the lateral posterior edge of the frontozygomatic groove to the center of the petrion on the right and left is 3.84 and 3.15, respectively. The distance from the center of the petreon to the posterior middle meningeal branch is 3.53 and 3.53. the distance from the center of the petreon to the anterior middle meningeal branch is 4.22 and 53.00 respectively on the right and left .and the horizontal distance from the center of the petrion to the outer edge of the optic canal was 4.03 and 2.4 on the right and left respectively, the thickness of the bone in the center of the petrion was calculated as 0.62 and 0.62 on the right and left respectively.

Conclusion: In this study, useful information about the parameters of the skull bone and its relation to Pterion was presented, which is useful for surgeons during surgeries that are close to the middle cranial part (temporal fossa) and for pre-operative planning. Surgery is useful, especially neurosurgery. This study showed that the most type of pterion is the sphenoparietal type and the least is the frontotemporal type of the Iranian population. Which shows the existence of anatomical variances of the bone compared to others.

Keywords: Pterion, dry bone, CT scan

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Abstract 9: Compatibility study of kojic acid and azelaic acid used in semi-solid preparations

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Abstract

Introduction: Kojic acid and azelaic acid are skin-lightening agents used in the treatment of melisma. both of them can decrease the production of melanin through the inhibition of tyrosinase. These ingredients are utilized in the extemporaneous preparation. However, the compatibility between them has not been studied yet. Therefore, in a recent study, the physicochemical compatibility of kojic acid with azelaic acid is evaluated.

Method & material: kojic acid and azelaic acid were mixed (in the ratio of 1:1) using vortex mixer. Then, 20% w/v water was added and mixed well. These samples were kept in the oven at 40 °C for two months. DSC and FT-IR were employed to analyze the compatibility. A validated HPLC-UV analytical method was performed to quantify the amount of kojic acid remaining after stress.

Result: The color of the mixtures containing kojic acid and azelaic acid was changed visually. DSC and FT-IR data illustrated the initial incompatibility of the formulations. The absence of endothermic peak (114 °C) in the DSC thermogram of azelaic acid and the lack of stretching vibration peak at 1696 cm-1 refer to the degradation of azelaic acid. Also, the HPLC outcome, indicated 81.82 ± 3.68 % of kojic acid remaining in the samples after stress test. This finding is in confirmation with the incompatibility of kojic acid with azelaic acid. This method have a good linearity (10-80 µg/mL), acceptable accuracy (98-99.5%), precision (RSD2%), low LOD, and LOQ (2.65, 8.04 µg/mL, respectively).

Conclusion: The results of DSC, FT-IR, and HPLC proved incompatibility between kojic acid and azelaic acid. It can be recommended to avoid using these ingredients in combination in a unit pharmaceutical dosage form.

Keywords: Incompatibility, Kojic acid, DSC, FT-IR, HPLC

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Abstract 10: Data elements and technical features of a skin self-care application

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Abstract

Introduction: The skin has a great impact on beauty and is also the largest organ and mirror of the human body. Skin care is a part of human life from birth to death and this care includes the beauty aspect to various diseases including cancer. Various contextual, environmental, nutritional and lifestyle factors have a significant impact on the health and control of skin disorders. Therefore, self-care measures can be very effective. The development of new technologies in the field of health, including companion health, plays a prominent role in self-care of diseases. The purpose of this research is to identify the data elements and infrastructure requirements necessary to design and developed a skin self-care application.

Method & material: The current study was conducted in two main stages. In the first stage, with the aim of identifying the necessary information elements, relevant articles were searched in the PubMed, Scopus, Web of Science, and Google Scholar databases based on the search strategy. In addition, GOOGLE PLAY was also surveyed to find applications related to skin and necessary data elements were extracted. Finally, the collected information elements were prepared in the form of a checklist. In the second stage, the checklist prepared based on the Likert scale was designed and provided to dermatologists and health information technology specialists, and according to the scoring, the analysis was done and finally the information elements needed to create a self-care application were determined.

Result: A total of 2658 articles were found in the databases and after analysis based on the PRISMA chart and according to the inclusion and exclusion criteria of the study, finally 6 articles were included. In the GOOGLE PLAY search, 11 applications were found, of which 4 related applications were reviewed. A total of 151 data elements were extracted from both methods. After analyzing these elements, the number of 47 information elements was confirmed and divided into 6 categories: demographic and identity information (9 items), disease history (7 items), clinical symptoms (12 items), initial diagnosis (5 items), patient's medical record (4 items), and care programs (10 items).

Conclusion: The identified requirements for skin self-care application can facilitate physician-patient communication and will have benefits such as modification and management of lifestyle and diet, improvement of self-care process, better skin care and control and treatment of skin diseases.

Keywords: mobile health, application-dermatology, Tele dermatology, telehealth

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Abstract 11: Designing A Data Set for An Endometriosis Self-Care System, Based on A Literature Review

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Abstract

Introduction: Telemedicine is part of telehealth, an appropriate tool for providing medical care remotely. It is defined as the practice of medicine at a distance and information technology is used to ensure the delivery of medical care services. According to WHO, 190 million reproductive-aged women are affected by endometriosis. According to a recent study, limited access to healthcare services during the COVID-19 pandemic negatively impacted endometriosis patients' lives. Electronic health tools are considered an appropriate alternative for gynecologic care, addressing restrictions in access to health services. Using self-care interventions has a significant impact on managing endometriosis-related pain. Despite the enormous potential of different endometriosis applications, the medical professionals' role has been neglected in the system development process. This study aimed to extract the requirements for developing a system for self-care of endometriosis patients through an overview of the literature and validate them according to the expert gynecologists' point of view.

Method & material: This cross-sectional descriptive study was conducted in two phases. First, endometriosis-related articles, endometriosis guidelines, and gynecology-related reference textbooks were reviewed to identify required data elements. A researcher-made questionnaire (Cronbach's alpha = 0.98) was designed to validate the identified information elements. Using the random-access sampling method, the questionnaires were distributed between 25 gynecologists. Elements that obtained at least an average score of 3.2 (60%) out of a 5-point Likert scale, were considered as required data elements for designing an endometriosis self-care system.

Result: According to the literature review, 293 studies were retrieved and after the screening, 36 related studies were included in the research. Through scanning the related articles, and references 126 data elements were extracted. These items were classified into six subgroups including electronic health record (57 items: 15 demographic and 43 clinical data elements), pain management (19 items), lifestyle (19 items), educational materials (12 items), nutritional diet (10 items), and follow-up (9 items). According to the respondents, all data elements except "using traditional opioids/drugs" in the lifestyle subgroup were verified.

Conclusion: This study provides a data set for designing an endometriosis self-care system. Due to the lack of international standards for designing health apps, the results of this research can be beneficial for the design and development of any endometriosis-related systems. In the current research, an effort has been made to study all related references carefully in order to provide a comprehensive data set for designing and developing an endometriosis self-care system. This data set could be useful for designing any other systems related to endometriosis self-care as well.

Keywords: Endometriosis; Self-care; Self-management; Mobile Health, Electronic Health Record

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Abstract 12: ECG Paper Records Digitization: A new approach to detection of cardiovascular diseases

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Abstract

Introduction: The electrocardiogram is a graphical representation of the heart's electrical activity, which is commonly used to detect heart dysfunctions like arrhythmias. Normally, the ECG is printed on thermal paper for further physical inspection by medical practitioners. It can be error-prone process of examination to manually assess and share the bulk ECG paper records. Additionally, archiving ECG printouts in paper format has made it difficult to create an electronic medical database. The study aims to present a new algorithm for automatically extracting ECG signals from scanned ECG sheets to detect arrhythmia in COVID-19 patients. The method involves using digital image processing techniques to convert ECG paper records into a time series digitized signal form, which allows for easy storage and analysis of them. The proposed work aims to convert ECG paper records into a digital signal and generate a diagnosis of arrhythmia in some COVID-19 patients according to these digital ECG.

Method & material: To display the ECG signal images in MATLAB, the original 140 ECG recorded images were pre-processed by operations such as edge detection, image binarization and deviation correction. Then, the ECG waveform was extracted from the background networks based on connected component analysis (CCA). For waveform segmentation, horizontal projection was applied to obtain the segmentation boundaries. The ECG signal trace was then panned to extract the time series of the signal. The extracted signal was plotted as the final ECG signal using MATLAB. Efficient noise removal and image enhancing algorithms are also required to increase overall digitization process accuracy. After digitization of ECG, we measure the QT interval, as well as heart rate and R-R intervals as the most important indicators of arrhythmia in 140 patients with COVID-19 infection. Cardiac arrhythmia was diagnosed in 70 patients by presenting a new method and using digital ECG images.

Result: The calculation of HR and QT intervals using MATLAB showed that the average length of the QT period in patients with COVID-19 who had arrhythmia was equal to 402.7±10.38, while the COVID-19 patients without arrhythmia problems, showed an average equivalent of 347.36 ± 6.1. The results showed that the group with arrhythmia has a longer QT period than other COVID-19 patients with P0.001, While the results did not show a significant difference in heart rate between the two groups.

Conclusion: The use of digital analysis of ECG signals is recommended to accelerate the analysis process and achieve efficient and automatic diagnosis in the future through deep learning process.

Keywords: ECG Paper, cardiovascular diseases, MATLAB

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Abstract 13: Effective home care nursing interventions to improve the quality of life of patients with spinal cord injury: A systematic review

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Abstract

Introduction: Patients with spinal cord injuries (SCI) require lifelong nursing care in their own homes. Previous studies suggested several strategies for the rehabilitation of patients with SCI. This systematic review aims to identify the most commonly used home care procedures for these patients.

Method & material: The present study which is in line with PRISMA, has been conducted by searching in domestic (SID, MagIran, IranDoc) and foreign (Google Scholar, PubMed, Scopus, Science Direct) databases using the keywords of "spinal cord injury", "nursing management", "home care", "rehabilitation" along with their Persian equivalents in the period from 2010 to 2022. In the initial search, 1158 articles were retrieved, after reviewing and removing duplicates and unrelated to the study, 20 articles were selected for comprehensive review according to the following inclusion criteria: Participants included individuals with SCI (traumatic or non-traumatic cause) aged ≥20 years, The primary intervention(s) studied was a supportive rehabilitation intervention (not a surgical, pharmacological intervention) aimed at post-hospital cares, The status of the study was "fully published" and was not in the "data collection" or any pre-publication stages. The search date of this study is May 9, 2023, and studies after this date were not included.

Result: Interventions including management of skin integrity and pressure ulcers, prevention of UTI by Intermittent Catheterization or Indwelling (Foley) Catheterization, bladder management, bowel management and prevention of constipation, efficient urination and defecation schedule, stress management, pain control, transcutaneous electrical nerve stimulation (TENS), depression management and range of motion exercises were the most common.

Conclusion: Wound, bowel, bladder, skin and pain management are the most important home care interventions. It seems that future studies in the field of mobility assistive technologies can help patients who suffer from SCI.

Keywords: Rehabilitation, Home Nursing, Spinal Cord

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Abstract 14: Effectiveness of mobile phone applications in the field of organ transplantation: a systematic review

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Abstract

Introduction: Many chronic diseases lead to organ failure, and the best treatment is organ transplantation for patients who reach the end stages of failure. Transplant patients require serious care. Advances in technology have led to the development of new programs aimed at improving medicine. Nowadays, many people use smart phones and have a positive attitude towards the use of mobile health programs. Therefore, the present systematic review study was conducted with the aim of investigating mobile phone applications in the field of organ transplantation.

Method & material: The present study was conducted according to PRISMA guidelines. For this purpose, Web of Science, PubMed and Scopus databases were searched to retrieve English articles without time limit, until September 24, 2022. The criteria for entering the study were original and English-language articles that were done to introduce mobile phone applications in the field of organ transplantation. All short articles, letters to the editor, conference abstracts, observational studies, review articles, as well as articles whose full version was not available and, in a language, other than English, as well as unimplemented items, were excluded from the study process. After selecting the studies, data collection was done based on the data extraction form. Then the data was analyzed through the content analysis method.

Result: A total of 123 articles were found, 11 of which matched the study criteria. The users of mobile applications were patients (64%), medical staff (55%) and family or caregivers of the patient (45%). These studies were conducted in Spain, the United States and America. 45.5% of applications were designed for kidney and liver transplant recipients, 5.36% for stem cell transplant, 9% for heart transplant and 9% of applications were specifically designed for kidney transplant candidates. 63.6% of the studies focused on the effectiveness of applications in adherence to treatment, and 36.4% focused on the design and development of applications for self-care and its evaluation.

Conclusion: The results of the present study showed the effectiveness of mobile phone applications in the field of organ transplantation. The use of mobile phone applications increases patients' adherence to treatment, improves individual care, increases patients' awareness in the field of disease treatment, eases self-reporting for health monitoring, and communication between family and treatment staff.

Keywords: mobile applications, organ transplantation, systematic review

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Abstract 15: Effects of cumin (Cuminum Cyminum L) vaginal cream on sexual function and sexual distress in menopausal women: A triple-blind randomized controlled trial

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Abstract

Introduction: Sexual dysfunction is the most important complication associated with postmenopausal vaginal atrophy. Improving vaginal atrophy may improve sexual performance at menopause. This study was conducted to investigate the effect of cumin (Cuminum Cyminum L) vaginal cream on sexual function and sexual distress in postmenopausal women with vaginal atrophy.

Method & material: This triple-blind randomized controlled clinical trial was conducted on 76 postmenopausal women with vaginal atrophy in Gonabad city in 2022-2023. The inclusion criteria were to have sexual activity; and not having diabetes. Vaginal atrophy was confirmed by a gynecologist before the intervention. The intervention group used vaginal cumin cream, while the control group received placebo cream. Both groups used one gram of the creams nightly for six weeks, then every other night for another two weeks. Demographic, female sexual function index (FSFI), and female sexual distress scale-revised (FSDS-R) questionnaires were completed by the participants at baseline and at the end of the fourth and eighth week. Data analysis was done using SPSS software. $P<0.05$ was considered significant.

Result: The results of the study showed no statistical difference between two groups in terms of FSFI and FSDS-R scores at baseline ($p>0.05$). The mean FSFI score was significantly higher in the intervention group compared to the control group at fourth ($p=0.002$) and eighth ($p<0.001$) week follow-up. Also, the mean FSDS-R was significantly lower in the intervention group compared to the control group at fourth ($p=0.003$) and eighth ($p<0.001$) week follow-up

Conclusion: Vaginal cumin cream improves sexual performance and sexual distress in postmenopausal women with vaginal atrophy; Therefore, this cream can be used to improve sexual performance in women with vaginal atrophy due to its safety and no specific side effects.

Keywords: Vaginal Atrophy, Cumin Cyminum, Sexual Dysfunction, Sexual Distress

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Abstract 16: Effects of Ginger Supplementation on the Frequency and Severity of Gastrointestinal Symptoms in Patients with Multiple Sclerosis: A Double-Blind Randomized Placebo-Controlled Trial

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Abstract

Introduction: Gastrointestinal symptoms affect more than 80% of patients with multiple sclerosis (MS). Ginger is known for its gastrointestinal relieving properties. Therefore, as the first study of its kind, we investigated the impact of ginger supplementation on different gastrointestinal symptoms in patients with relapsing-remitting MS.

Method & material: This was a 12-week double-blind parallel randomized controlled trial with a 3-week run-in period. The intervention (n = 26) and control (n = 26) groups received 500 mg ginger and placebo (as corn) supplements 3 times a day along with main meals, respectively. At the beginning and end of the study, the frequency and severity of constipation, dysphagia, abdominal pain, diarrhea, bloating, belching, flatulence, heartburn, anorexia, and nausea were evaluated by the visual analogue scale ranging from 0 to 100 mm. All outcomes were analyzed using the intention-to-treat approach. This clinical trial was registered at the Iranian Registry of Clinical Trials (IRCT) under the registration number IRCT20180818040827N3.

Result: In comparison with placebo, ginger supplementation resulted in significant or near-significant reductions in the frequency (-23.63 ± 5.36 vs. 14.81 ± 2.78, P=0.001) and severity (-24.15 ± 5.10 vs. 11.39 ± 3.23, P=0.001) of constipation, the frequency (-12.41 ± 3.75 vs. 3.75 ± 1.82, P=0.001) and severity (-13.43 ± 4.91 vs. 6.88 ± 2.69, P = 0.001) of nausea, the frequency (-9.31 ± 4.44 vs. 1.56 ± 4.05, P = 0.098) and severity (-11.57 ± 5.09 vs. 3.97 ± 3.99, P = 0.047) of bloating, and the severity of abdominal pain (-5.69 ± 3.66 vs. 3.43 ± 3.26, P = 0.069). However, between-group differences in the frequency or severity of other gastrointestinal symptoms were non-significant.

Conclusion: Supplementation with ginger can improve constipation, nausea, bloating, and abdominal pain in patients with relapsing-remitting MS.

Keywords: Ginger, Multiple Sclerosis, Gastrointestinal Symptoms

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Abstract 17: Effects of Polycaprolactone-Propolis combined scaffold with Quercetin on burn wound healing in the male rat model

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Abstract

Introduction: Burn injuries are a major health challenge in all societies and result in physical, psychological, hygiene-related disorders, and economic burdens for patients and their families more than any other type of trauma. A ten-year average of mortality statistics due to burns shows that 2,690 people lose their lives each year due to burns. As a new solution in this study, we aim to investigate the healing properties of propolis in combination with polycaprolactone (PCL) scaffolds and quercetin in the treatment of skin injuries resulting from burns.

Method & material: The study was conducted on 50 adults male Wistar rats. The rats were divided into 5 groups: the control group (the regular dressing), the propolis group, the PCL group, the quercetin group, and the combination group (all three substances). The burn wound was created between the shoulder blades and below the neck using a hot iron, resulting in a third-degree thermal burn with a diameter of 5 millimeters. Nanofiber PCL-propolis dressings were prepared by electrospinning and were used as combination dressings along with quercetin. Digital photographs were taken of the target wounds, and the wound area was measured using Image J software. Skin samples from the wound area and healthy skin around it was obtained using punch biopsies for histological examinations. To assess the effects of the dressings, the percentage of wound improvement, epidermal thickness, number of hair follicles, and collagen production were measured on the 7th and 14th days.

Result: The highest and lowest epidermal thickness was observed in the combination group and the control group, respectively, with this difference being statistically significant. Furthermore, the highest and lowest numbers of hair follicles were observed in the combination group and the control group, respectively, and the difference between the two groups was statistically significant. The smallest and largest wound areas were observed in the combination group and the control group, respectively. The highest level of collagen synthesis was observed in the combination group, while the lowest was in the control group. There was a statistically significant difference between the treatment groups and the control group, but there was no significant difference among the treatment groups.

Conclusion: In conclusion, although the use of individual dressings also showed better results compared to the control group, the combination dressing of propolis, PCL, and quercetin demonstrated the highest effectiveness in burn wound healing.

Keywords: Polycaprolactone-Propolis, Quercetin, burn wound healing

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Abstract 18: Epidemiological Characteristics of brucellosis in Sabzevar city during 1390-1400

Zahra Keyvanlo [1], Masoumeh Hashemian [2*], Fateme NikBakht [3], Amir Ghasemi [4], Mohammad Miri [5], Ali Oghazyan [6], Reza Shahrabadi [2], Ali Mehri [2], Alireza GHourbani [2], Saieed Mehranpour [2], Hamid Jouveini [2], Masoud Hiteh [7]

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Abstract

Introduction: One of the most common diseases between humans and animals is brucellosis, which is very important in most parts of the world, especially in developing countries, in terms of public health and its impact on the socio-economic status of society. The increasing trend of cases of this disease, especially during the last two years in Sabzevar city, has caused concerns about the consequences of this disease. Prevention, control or eradication of brucellosis in a country or region requires policy -making as well as accurate epidemiological statistics and information. Therefore, this study was conducted with the aim of the epidemiological Characteristics of brucellosis in Sabzevar city.

Method & material: This cross-sectional study was conducted using the data of 2,319 patients registered in the national portal of the health department of Sabzevar University of Medical Sciences from 1390 to 1400. Data analysis was done using the chi-square test in STATA version 14 software.

Result: Of 2,319 patients with brucellosis, 41.79 cases were women, and the rest were men. The average age of the patients was 37.88 ± 17.74 years. The highest rate of disease was observed in farmers and ranchers (47.78%). In 66.02% of cases, there was a history of local cheese or fresh milk consumption. There was contact with animals in 85.51% of cases. 95.64% of patients were new. The prevalence of the disease increased in the first three years of the study and then decreased, but it increased in 2018, at the same time as the covid-19 epidemic. 91.68% of patients lived in the village. No significant relationship was observed between sex and contact with livestock (P = 0.25). There was a significant relationship between the type of job and contact with livestock (P=0.000). There was a significant relationship between gender and type of disease (P = 0.002).

Conclusion: Most of the disease cases were in people with risk factors; educating people through public media and health centers, separating livestock from humans, vaccinating livestock, correcting nutritional patterns, and removing misconceptions about healthcare in people. It can be effective in reducing the spread of disease. Most of the population lives in villages with direct contact with livestock, so planning to increase livestock vaccination in these areas can be a potential solution to reduce the spread of this disease. Therefore, this disease should be considered a public health priority. Training farmers and ranchers to take preventive measures can play a significant role in controlling brucellosis.

Keywords: Epidemiology, Brucellosis, Malta fever, Infectious Disease, Iran

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Abstract 19: Evaluating the Relationship between Dietary Inflammatory Index and Hypertension: A Cross-Sectional Study

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Abstract

Introduction: Hypertension is the most prevalent preventable risk factor for cardiovascular and chronic kidney diseases, affecting about 1.3 billion people worldwide. Desperately, controlled hypertension has been achieved in less than 20% of patients (1). Inflammation has a crucial role in the pathogenesis of hypertension. Anti- and pro-inflammatory diets influence the plasma level of interleukins and the immune system. Therefore, the present study aimed to investigate the association between the pro-inflammatory diet and hypertension.

Method & material: This cross-sectional study involved 10,139 participants from the PERSIAN cohort of Fasa (2). The individuals with pregnancy and missed data were excluded. To assess the inflammatory potential of participants' diets, Dietary Inflammatory Index (DII) was calculated using the recorded Food Frequency Questionnaire. Negative and positive DII scores were considered anti- and pro-inflammatory, respectively (3). The hypertension group was defined as a history of medication (confirmed by a physician) for hypertension or high systolic/diastolic blood pressure (≥140/90 mmHg), according to the International Society of Hypertension (ISH) guideline (4). Covariates of this study were age (years), gender, body mass index (kg/m2), smoking, Educational status (low, medium, high), socioeconomic status (Assert index), physical activity (metabolic equivalent of tasks), and chronic diseases (diabetes, renal failure, fatty liver, depression, thyroid disease, and cardiovascular diseases). All statistical analysis process was performed in SPSS v.23 (IBM Inc., Chicago, Ill).

Result: After exclusions, 9,987 participants (mean age, 48.6±9.6 years; 4,489 men (44.9%)) remained eligible. The mean DII score was -0.89±1.75. The participants with hypertension have significantly higher DII scores (-0.95±1.71 vs. -0.70±1.83, p-value 0.001). Also, most participants with hypertension (53.6%) had a pro-inflammatory diet, while most healthy participants had an anti-inflammatory diet (51.2%, p-value0.001). Eventually, a pro-inflammatory diet was significantly associated with hypertension in the unadjusted model (Odds Ratio (OR):1.213, 95%Confidence-Interval (CI) :(1.107, 1.329), p-value0.001); but after adjustment, the association was not significant anymore (OR: 0.993, 95%CI :(0.891, 1.107), p-value =0.901).

Conclusion: This study revealed that although hypertensive patients have higher mean DII scores, there is no significant relationship between a pro-inflammatory diet and hypertension. Therefore, further studies are required to address this association.

Keywords: Dietary Inflammatory Index, Hypertension, Cross-Sectional Study

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Trauma Monthly
Abstracts

Abstract 20: Comparing the effect of Osteofix Barij cream® and Diclophenac ointment in patients with knee osteoarthritis

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Introduction: Osteoarthritis is a common type of arthritis often affects the knee and in the early stages, it will lead to mild symptoms. The use of local painkillers such as diclofenac ointment has had relatively acceptable results in controlling the pain of patients with minor complications. In this study, the effect of herbal and traditional combination of Osteofix® cream (containing essential oils of lavender, rosemary, peppermint, eucalyptus and ostrich oil) on the treatment of joint pain was investigated.

Method & material: This study was conducted on 98 patients with osteoarthritis who referred to the specialist office of the project manager. one group received Osteofix® cream made by Barij Essence pharmaceutical company and the second group received diclofenac ointment. We assessed pain level based on the WOMAC questionnaire. The changes in pain intensity and disease symptoms over time were investigated and compared in two groups. (IRCTID: IRCT20220512054829N3)

Result: There was no significant relationship between demographic factors including gender, occupation, education, history of treatment, disease grade and patients age with the studied groups. There was no significant difference between two treatment groups in WOMAC scale at the beginning of the study. In the Osteofix cream group, the average score of the disease symptoms subscale before treatment was 55.7, which reached 68.8 after two weeks of treatment and 71.9 after one month. In terms of all subscales and the total score of the WOMAC criterion, a significant increase was seen after two weeks and one month of treatment (P0.01). In the diclofenac cream group, the average score of the disease symptoms subscale before treatment was 60.9, which reached 68.7 after two weeks of treatment and 69.4 after one month. In terms of all subscales and the total score of the WOMAC criterion, a significant increase was seen after two weeks

Conclusion: After two weeks of treatment, there was no significant difference in the increase in the subscale score of disease symptoms between the two groups, but statistically, there was a significant difference between two groups in reducing the severity of osteoarthritis symptoms after one month, and the Osteofix® group had better results. Changes in the severity score of osteoarthritis symptoms over time were not the same in the two groups, and the Osteofix® group was superior in this regard.

Keywords: Osteofix cream, diclofenac ointment, knee osteoarthritis

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Abstract 21: Evaluation of Artificial Intelligence Methods to Predict Ectopic Pregnancy: A Systematic Review

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Introduction: Ectopic pregnancy is one of the most important causes of death of pregnant women in the first 3 months of pregnancy all over the world. Early diagnosis as well as choosing the most appropriate treatment method is very important to prevent possible complications of this type of pregnancy. Currently, the diagnosis of ectopic pregnancy depends on transvaginal ultrasound and continuous serum measurement of human chorionic gonadotropin (HCG). The use of artificial intelligence methods allows the creation of a rational strategy for the diagnosis of ectopic pregnancy.

Method & material: This study was conducted as a systematic review in 2023 by searching reliable PubMed, Scopus, Web of Science, and Google Scholar databases. The keywords Artificial intelligence, Ectopic pregnancy, and Prediction were checked in related studies. English-language studies that used an artificial intelligence method to predict ectopic pregnancy were included. Titles and abstracts were independently reviewed based on eligibility criteria. Then the full text of the articles was evaluated independently. The same form was used to extract data such as the title of the study, the year of publication, the country, the artificial intelligence method used, the objectives of the study and the main findings of the study.

Result: A total of 838 articles were examined, and after reading the full text of the articles, 10 related articles were included in the study. The results of these studies showed that Artificial Intelligence (SVM) Support Vector Machine and Multilayer Perceptron (MLP) algorithms can be useful to assist gynecologists in making decisions about the early treatment of ectopic pregnancy. Also, the SVM algorithm, which provides results with accuracy, sensitivity, and specificity of 96.1%, 96%, and 98%, respectively, was one of the most useful algorithms for predicting ectopic pregnancy.

Conclusion: The study's results showed that artificial intelligence algorithms were an efficient method of predicting ectopic pregnancy. Also, these algorithms have helped gynecologists choose the exact treatment method and prevent its subsequent complications.

Keywords: Artificial Intelligence, Ectopic Pregnancy, Prediction

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Abstracts

Abstract 22: Evaluation of parameters of oxidative stress in the cerebellum of the C57BL/6 mouse model of chronic demyelination

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Introduction: Multiple sclerosis (MS) is the most common demyelinating disease with an unknown exact etiology. However, factors like oxidative stress condition can cause myelin and, consequently, neuronal insults in the multiple regions of the central nervous system (CNS). Cerebellar involvement in the demyelinating disease could result in a broad range of issues, such as coordination troubles and disabilities in various mental skills. Cuprizone, a neurotoxin-based copper chelator widely used as an MS animal model, leads to myelin damage through mitochondrial dysfunction and activation of oxidative stress pathways. The purpose of the present study is to assess the cerebellar oxidative parameters in the C57BL/6 chronic demyelination mouse model following 12 weeks of cuprizone induction.

Method & material: Adult male C57BL/6 mice were purchased from the Pasteur Research Institute (Karaj, Iran) and randomly split into control and experimental groups after one week of acclimatization. The control (CONT) group received a normal diet, and the experimental (CPZ) group received chow containing 0.2% cuprizone for 12 continuous weeks. After the twelfth week, the cerebellum was extracted to evaluate oxidative stress markers, including malondialdehyde (MDA), glutathione (GSH), and catalase activity (CAT). The significance level is considered as $p \leq 0.05$.

Result: Evaluation of oxidative stress parameters of the cerebellum indicates that the MDA level, which represents the lipid peroxidation rate in the CPZ group, was significantly higher than the CONT group ($p<0.01$). In addition, the antioxidant capacity of the cerebellum, which was evaluated by measuring GSH and CAT following 12 weeks of cuprizone intoxication, was statistically decreased compared to the CONT group ($p<0.01$ and $p \leq 0.0.5$, in order).

Conclusion: Induction of chronic demyelination in the C57BL/6 mice following 12 weeks of cuprizone exposure via an increase of reactive oxygen species (ROSs), which leads to redux hemostasis-disturbance, may play a fundamental role in the cerebellar pathologies occurring in myelin related disorders.

Keywords: Demyelination, Cuprizone, Reactive oxygen species, Cerebellum

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Abstract 23: Evaluation of the Effect of Education Based on 7E Learning Cycle Model on Knowledge of Diabetic Foot Ulcer Prevention of Nursing Students

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Introduction: Prevention of diabetic foot ulcers has important effects on the quality of life of patients. Based on this, the education of nursing students as future nurses can play an important role in reducing the complications of foot ulcers. Therefore, research was conducted to determine the effect of education based on the 7E learning cycle model on the knowledge of diabetic foot ulcer prevention among nursing students.

Method & material: The present study was a randomized,single-blind,parallel-group clinical trial that was conducted on 98students in the fourth semester of the Bachelor of Nursing course at the Faculty of Nursing and Midwifery Shahid Beheshti University of Medical Sciences in 2022-2023.Convenience sampling was done and random allocation was done with flip the coin.ClassA students were in the experimental group(51people),and classB students were in the control group(47people).Before the implementation of the research educational tool intervention(demographic-questionnaire and Kaya-diabeticfoot-prevention-knowledge-questionnaire),the study samples were given the option to complete the pre-test.Two education sessions from source prevention of diabetic foot ulcer based on the 7E learning cycle model for the participants of the experimental group in the faculty and covered hospitals were held. The control group received conventional education. All participants completed the post-test questionnaires one month after the educational intervention.To analyze the data,SPSSversion-19 software is used,as well as descriptive statistics and Chi-square and independent sample t-tests,non-parametric Mann-Whitney and Wilcoxon-tests.

Result: There was no statistically significant difference between the two groups in demographic characteristics (p 0.05). The difference in the mean score of diabetic foot ulcer prevention knowledge in the experimental group between the time interval before the implementation of the intervention and one month after its completion was statistically significant (p0.001). Also, in the control group, an increased score of diabetic foot ulcer prevention knowledge is observed, but the difference in the mean score in this group between the time interval before the implementation of the intervention and one month after its completion was not statistically significant (p=0.16).

Conclusion: Education on the 7E learning cycle model is an effective educational strategy that can increase the knowledge of foot ulcer prevention among nursing students.

Keywords: Education, Learning, Foot Ulcer, Diabetic Foot, Nursing Students

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Abstract 24: Evaluation of The New Combination Drug Containing Camphor, Ellagic Acid and Elase on Wound Healing, An Experimental Study

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Introduction: Camphor, Elase (fibrinolysin/deoxyribonuclease), and Ellagic acid are substances that contribute to wound healing. This study aims to use different ratios of these three components to obtain a proper percentage of these compounds with maximum efficacy.

Method & material: In this study, 18 adult male mice were randomly selected and entered the study into 3 groups. One group received the combined extract with its carrier (sesame oil and almond oil). The control group received the drug carrier (sesame oil and almonds), and the third group received no treatment as a negative control group. A punch of 4 mm was used to create a wound on the back of the mouse. The combination of extract and ointment was prepared by sterilizing swabs on the wound. To obtain a microscopic specimen, on the 10th day, the mice were subjected to death and pustules. The samples were all thick and included the entire area of the wound and a portion of the healthy area.

Result: The statistical tests showed no significant difference in terms of fibroblast density, collagen density, angiogenesis, and tissue formation in the three groups. There was no significant difference between the intervention groups and the control group in terms of leukocyte density (P 0.05).

Conclusion: The ointment obtained from the combination of fibrinolysin/deoxyribonuclease (Elase) and pure Ellagic acid and camphor had no significant difference in terms of fibroblast density, collagen density, leukocyte density, angiogenesis, and the formation of tissue.

Keywords: Elase, Ellagic acid, Camphor, Wound healing

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Abstracts

Abstract 25: Evaluation of the Pharmacokinetic parameters of HB5 aptamer modified Imatinib liposomes

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Introduction: Breast cancer is one of the top five causes of death in women globally. Current treatment options for various breast cancer subtypes are based on the molecular categorization of the malignant cells. Although imatinib is expected to inhibit breast cancer, its therapeutic effectiveness is limited by off-target cardiotoxicity. Lipid nanoparticles (liposomes and SLNs) have great potential for the delivery of anti-cancer agents due to their rapid uptake, biodegradability. Aptamers can to improve the therapeutic potential of pharmaceuticals by serving as a targeted delivery vehicle. This research aimed to design and formulate HB5 aptamer modified liposomes loaded with IMT and evaluate in vitro characteristics such as particle size, polydispersity index, zeta potential, encapsulation performance, release performance, stability, and cytotoxicity. and investigating the pharmacokinetic parameters of the prepared formulations in Sprague–Dawley SD rats.

Method & material: HB5 Aptamer modified and liposomes were prepared, evaluated and the Pharmacokinetic parameters of each formulation has been studied.

Result: The HB5 modified liposomes showed an average size of 101.6 ± 50.80 nm with a zeta potential value of -19.66 ± 0.55 mV, a PDI of 0.250 and 81.96% ± 0.98% drug entrapment efficiency, meanwhile displayed a sustained release profile Following intravenous administration to rats, APT-IM-LIP not only extended the half-life of IMT, but also prolonged retention of IMT compared with plain IMT after intravenous administration.

Conclusion: In the present study, IMT-loaded liposomes (IM-LPs) were successfully developed with a narrow size distribution, high entrapment efficacy and a sustained release profile. Following intravenous administration to rats, IMT-LPs not only extended the half-life of IMT, but also prolonged retention of IMT. In summary, liposomes may be promising carriers for active delivery of IMT to delay the drug release and improve patient compliance for the treatment of Breast cancer.

Keywords: Her2, Imatinib, pharmacokinetic, liposome

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Trauma Monthly
Abstracts

Abstract 26: Evaluation of the relationship between internet addiction and sleep quality in medical students of Gonabad

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Introduction: The Internet is one of the most important technical innovations in the field of information, and its use in general and specialized fields is increasing at an astonishing rate. On the other hand, Internet addiction is a type of psychological-social disorder, and one of the most common complications of Internet addiction is low quality sleep. The present study was also conducted with the aim of determining the relationship between internet addiction and sleep quality of Gonabad University of Medical Sciences students.

Method & material: In this cross-sectional study, the research community was all students of Gonabad University of Medical Sciences, 284 of whom were selected by random stratified sampling. Data were collected using a three-part questionnaire, including demographic information form, Kimberly Young Internet Addiction Questionnaire (IAT) and Petersburg Sleep Quality Questionnaire (PSQI). In order to analyze the data, SPSS software version 25 and descriptive statistics such as mean, standard deviation, percentage and frequency and analytical statistics of chi-square, Fisher's exact and ANOVA, independent t and Pearson's correlation coefficient were used.

Result: About 1.2% (3 people) of the participants had severe internet addiction and 30.4% (79 people) had moderate internet addiction. 57.3% (149 people) of the participants had poor sleep quality and 42.7% (111 people) had good sleep quality. Also, the results showed that there was a significant relationship between Internet addiction and marital status (p0.011) so that 89.3% (159 people) of single people had no Internet addiction. There was also a significant relationship between internet addiction and health faculty (p 0.001). A significant relationship was also found between residence and internet addiction (p 0.001) and dormitory life showed more addiction. And with the increase in internet addiction, sleep problems have increased (p0.001). Therefore, people with severe internet addiction had worse sleep quality than the other groups.

Conclusion: Considering the results and the adverse effect of internet addiction on sleep quality, it is recommended to provide the necessary training courses in medical sciences universities in order to create a culture and use the internet appropriately and effectively in students. It is also suggested that behavioral and cognitive interventions be carried out with the aim of changing the patterns of internet and computer use.

Keywords: internet addiction, sleep quality, medical students

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Abstract 27: Exploring the effect of meropenem on reducing pgaA gene expression in Acinetobacter baumannii: an atomic force microscope study

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Introduction: A. baumannii presents a major challenge as a primary contributor of infections acquired within hospitals, particularly in the Intensive Care Unit (ICUs). Biofilm, an important factor in A. baumannii's ability to durability on surfaces and develop antibiotic resistance, contributes to prolonged infections and escalating healthcare expenses. The pgaA gene plays an important role in the maturation of A. baumannii biofilms and is a promising avenue for new therapeutic methods. This research investigates the influence of meropenem, a commonly employed antibiotic in hospital settings, on the formation of A. baumannii biofilms and expression of the pgaA gene.

Method & material: Over a span of five months, we gathered fifty urine samples from patients in ICU, identifying twenty instances of A. baumannii. We utilized the Kirby-Bauer technique to assess the susceptibility of antibiotics, including meropenem, imipenem, trimethoprim/sulfamethoxazole, ceftazidime, ciprofloxacin, tetracycline, amikacin, and gentamicin. The minimum inhibitory concentration (MIC) of meropenem was determined using the microdilution method (CLSI 2018). We examined biofilm formation employing the tissue culture plate (TCP) method and captured images using an atomic force microscope (AFM). The expression levels of the pgaA gene were measured using reverse transcriptase polymerase chain reaction (RT-PCR). Statistical analysis and significance assessments of the data were conducted using GraphPad Prism 5 software.

Result: The outcomes of our antibiotic susceptibility testing indicated that all A. baumannii strains exhibited complete resistance to meropenem, imipenem, ciprofloxacin, and amikacin. Additionally, a concerning 71.42% of strains demonstrated resistance to tetracycline. Surprisingly, none of the strains displayed a measurable MIC for meropenem. However, meropenem proved to be remarkably effective by inhibiting biofilm formation in over 70% of the A. baumannii strains. Detailed examination using AFM imaging uncovered the presence of slender biofilms. Furthermore, analysis using RT-PCR revealed a significant decrease (P=0.0001) in pgaA gene expression in more than 95% of the strains when exposed to meropenem.

Conclusion: This research presents strong evidence of how meropenem can effectively reduce the formation of biofilm in a significant number of A. baumannii instances. It suggests that meropenem might play a potential role in preventing A. baumannii infections. However, following sound academic principles and logical reasoning when prescribing antibiotics is essential to effectively combat the threat of Irrecoverable A. baumannii epidemics. Furthermore, for a more comprehensive understanding, future research should explore other factors such as purines, capsule, and cell wall lipopolysaccharides, additional enzymes, and the iron absorption system. It is better that this research is accompanied by in vitro methods, bioinformatics studies, and artificial intelligence approaches.

Keywords: Hospital infections, Acinetobacter baumannii, Biofilm, Atomic force microscopy, pgaA gene

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Abstract 28: Expression of myelin-related genes in the cerebellum of cuprizone-induced chronic demyelination in C57BL/6 mice

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Introduction: Multiple sclerosis (MS) is a chronic neuroinflammatory disease characterized by myelin and axonal damage in various parts of the central nervous system (CNS), including the cerebellum. Since the cerebellum has a pivotal role in normal motor and cognitive functions, the evaluation of cerebellar myelin content is of particular importance. Cuprizone is an oligodendrocyte-specific toxin that is a widely used animal model to study the demyelination/remyelination process similar to that seen in MS. The present study aims to evaluate the cerebellar tissue myeline-related gene expression in chronic demyelination animals by 12 weeks of cuprizone intoxication.

Method & material: Eight weeks old male C57BL/6 mice were divided into two groups as follows: I: the control (CONT) group received a normal diet and water ad libitum for 12 weeks, and II: the cuprizone (CPZ) group, which received chow containing 0.2% copper-chelator cuprizone for 12 consecutive weeks. At the end of the study, the cerebellum was isolated, and the expression of poly lipoprotein (Plp) and oligodendrocyte transcription-2 (Olig-2) genes were evaluated via quantitative RT-PCR. The relative gene expression was normalized with the GPDH housekeeping gene, and the $p \leq 0.05$ is considered as the significant level.

Result: The molecular analysis data indicate that the expression of Plp and Olig-2 genes in the cuprizone group significantly decreased in the cerebellum compared to the control group ($p<0.01$ and $p \leq 0.0.5$, respectively) at the end of the 12th week of the study.

Conclusion: In conclusion, our findings show that chronic demyelination in the C57BL/6 mice, which is induced by 12 weeks of cuprizone administration, affects Plp and Olig-2 as myelin-related genes in the cerebellum, which may contribute to cerebellar symptoms in MS.

Keywords: Multiple sclerosis, Cerebellum, Cuprizone, Myelin

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Trauma Monthly
Abstracts

Abstract 29: Expression Pattern of HOXC10, HOXC11, HOXD10, HOXD11 Genes Family During Implantation Window After Salpingectomy in Patients with Hydrosalpinx

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Introduction: HOX genes are essential regulators of adult endometrial development and differentiation. Evidence suggests that sequence conservation and overlapping expression pattern of the HOX family member genes (Hox paralogs 9–13) is high. HOXA10 is a well-known marker for uterine development and endometrial receptivity. Recently, studies have shown that the highly expressed HOXA9, HOXA11, and HOXD10 genes during implantation window are also involved in the endometrial receptivity. It has proven that pathological inflammation of endometrium in patients with hydrosalpinges inhibits the expression of receptivity molecules and salpingectomy results in statistically significant increase in endometrial HOXA10 gene expression in hydrosalpinx patients. We aimed to investigate the expression of HOXC10, HOXC11, HOXD10, and HOXD11, which are paralogs of HOXA10 and HOXA11 genes before salpingectomy and forth-post treatment cycle in hydrosalpinx patients.

Method & material: In this prospective study, 10 infertile women, aged 20-40, with moderate to severe hydrosalpinx proven by hysterosalpingography or laparoscopy undergoing salpingectomy from January 2021 to January 2022 were recruited. All patients had sonovisible hydrosalpinx (diameter 10mm), normal hormonal (AMH1.2 ng/dL), BMI (18–28 kg/m2) and regular menstrual cycle indicated by mid-luteal progesterone levels of 10 ng/mL were included. Ten healthy fertile age-matched women with a history of successful pregnancy considered as control group. Mid–luteal-phase endometrial sampling (by pipelle) performed at the time of surgery and second mid–luteal-phase endometrial sampling was obtained in forth-post treatment cycle. All women signed the informed consent form and did not receive any hormonal medication during the last three months. After endometrial tissues collection, RNA extraction and cDNA synthesis were done. Quantitative mRNA expression of HOXA10 was determined by real-time PCR technique.

Result: Gene expression profiles of HOXA10, HOXA11and HOXD10 were significantly decreased in hydrosalpinx endometrial tissue compared with control samples. Salpingectomy resulted in significant increase in endometrial HOXA10, HOXA11 and HOXD10 expression levels ü(P 0.05) . While the expression levels of HOXC10/HOXC11/HOXD11 genes in post-operative tissue were higher than pre-operative samples, but these elevations were not statistically significant. Moreover, there were not significant differences in expression mRNA levels of HOXC10/HOXC11/HOXD11 before and after surgery compared to control group.

Conclusion: Salpingectomy reverses HOXA10/HOXA11/HOXD10 expression levels which are important for embryo implantation. Expression of endometrial HOXC10, HOXC11 and HOXD11 was not altered pre- and post-surgery.

Keywords: HOXC10, HOXC11, HOXD10, HOXD11 Genes, Salpingectomy, Hydrosalpinx

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Trauma Monthly
Abstracts

Abstract 30: Factors affecting the duration of treatment in functional constipation of pregnant women treated with cassia fistula syrup

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Introduction: Constipation is a common gastrointestinal complaint in pregnancy that occurs in about 11-40% of women. One of the possible reasons for this is that during pregnancy, due to the hormonal effects and also the increased pressure of the uterus on the intestines, intestinal movements decrease. Cassia fistula syrup has wide applications as a laxative. So far, no study has been conducted to investigate the factors affecting the duration of treatment with this substance in pregnant women. Therefore, the aim of this study was to find effective factors on the duration of recovery (treatment duration) after starting the treatment with cassia fistula syrup.

Method & material: This study was conducted using clinical trial data of pregnant women with functional constipation in Ayatollah-Rouhani Hospital, Babol. the patients were randomly divided into two groups of 35 people (using permutation blocks) and were subjected to two types of treatment (cassia fistula syrup, standard treatment). Inclusion criteria included age between 17-38 years, gestational age 28-40 weeks, and diagnosis of constipation based on ROME IV criteria. exclusion criteria included high-risk pregnancy (twin pregnancy, Intrauterine growth restriction, history of abortion, placenta Previa, preterm birth, Congenital Abnormalities, Pregnancy hypertension), history of inflammatory bowel disease, rheumatological diseases, bowel surgery, smoking, and drug abuse. patients were followed up for two weeks. The time to recovery for each was evaluated by Kaplan-Meier survival analysis. Factors affecting the duration of treatment were obtained using Cox regression. Data were analyzed using SPSS-v26 software. A p-value less than 0.05 was considered significant.

Result: Out of 70 women (mean age: 28.92±5.95 years) suffering from functional constipation, 61.9% recovered. 94.4% in the group treated with Cassia fistula syrup and 28.6% in the group that received the standard treatment recovered. The time to recovery in the Cassia fistula treatment group was significantly less than the standard treatment group (log-rank p-value=0.001). In this study no significant relationship was found between the variables of age (HR=1.01, p-value=0.839), body mass index (HR=0.99, p-value=0.676), number of previous pregnancies (HR=1.20, p-value=0.344) and physical activity (HR =1.51, p-value=0.298) with the duration of treatment using Cox regression. Only the type of treatment had a significant effect on the time to recovery (HR=12.38, 95%CI: 5.24 to 29.33, p-value0.001). Also, according to the results obtained in this study, the duration of treatment increases by one percent for every year of increasing age of the patient.

Conclusion: Cassia fistula syrup reduces the length of the treatment period. In addition, since the duration of treatment increases with age in the group receiving Cassia fistula syrup, it is suggested to consider a longer duration of treatment in older patients.

Keywords: constipation, pregnant women, cassia

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Abstract 31: Graphene/Cobalt oxide (Co2O3)/Neodymium oxide (Nd2O3) nanocomposites: Synthesis, characterization and its application in cancer

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Introduction: According to the World Health Organization (WHO), cancer is the second leading cause of death in the world. Traditional cancer therapies don't show enough efficiency against the cancerous cells because of drug resistance and lack of selectivity for tumor cells, leading serious side effects; nanotechnology can play an important role to solve such problems through enhancing the physicochemical properties of anticancer agents. Using nanoparticles can develop diagnosis, targeted delivery and treatment of cancer. In this study, Graphene/Cobalt oxide /Neodymium oxide nanocomposites (G- Co3O4 / Nd2O3 NCs) were prepared and their anti-cancerous activity were assessed.

Method & material: Cobalt oxide /Neodymium oxide nanocomposites (Co3O4/Nd2O3 NCs) and G- Co3O4 / Nd2O3 NCs were prepared by the precipitation method. In order to characterize the physicochemical properties of the samples, fourier transform infrared Spectrometer, diffuse reflectance spectroscopy, field emission transmission electron microscopy, X-ray diffraction, dynamic light scattering, vibrating sample magnetometer and transmission electron microscope were used. Anticancer activity of prepared G- Co3O4 / Nd2O3 NCs and Co3O4 / Nd2O3 NCs samples at different concentrations were assessed in MDA_MB231 breast cancer cells.

Result: The average size of the prepared G- Co3O4 / Nd2O3 NCs and Co3O4 / Nd2O3 NCs were 425.5 nm and 177.5 nm with a zeta potential of -17.0 mV and -19.6 mV, respectively. The half maximal inhibitory concentration (IC50) of the G- Co3O4 / Nd2O3 NCs and Co3O4 / Nd2O3 NCs against MDA_MB231 cancer cells after 24 hours were 6.303 and 23.23, respectively. Cytotoxic effect of G- Co3O4 / Nd2O3 NCs at concentration of 100µM was significantly increased compared with Co3O4 / Nd2O3 NCs and control group ($P<0.05$). G- Co3O4 / Nd2O3 NCs have induced more reactive oxygen species (ROS) generation in cancer cells, compared with Co3O4 / Nd2O3 NCs and control group. Based on the results of mitochondrial membrane potential (MMP) test, both G- Co3O4 / Nd2O3 NCs and Co3O4 / Nd2O3 NCs at concentration of 100µM showed a significant increase in collapse of MMP, compared with cisplatin.

Conclusion: Our results showed that exposure to G- Co3O4 / Nd2O3 NCs G- Co3O4 / Nd2O3 NCs have significantly increased cytotoxicity of cancer cells by reducing the cell viability through increasing ROS levels and collapsing of MPP, leading induction of cancer cells' apoptosis and their death. The results of our study showed that G- Co3O4 / Nd2O3 NCs can be a promising candidate for improving the selectivity and anticancer activity of nanocomposites.

Keywords: Graphene/Cobalt oxide /Neodymium oxide nanocomposites, Cancer, Cell Culture

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Abstracts

Abstract 32: Green synthesis and characterizations of silver nanoparticle using alcoholic extract of Astragalus sarcocolla gum and evaluation of antibacterial, antifungal and antioxidant activities

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Introduction: The emergence of drug-resistant bacteria is a growing concern in medicine, necessitating the development of effective antibacterial agents. Green methods for synthesizing nanoparticles have several advantages over conventional physical and chemical methods, including being low-cost, safe, and rapid. In this study, green silver nanoparticles (AgNPs) were synthesized using Astragalus sarcocolla gum (ASG) extract.

Method & material: This experimental study evaluated various parameters affecting AgNO3 concentration (1-5 mM), time (15-60 min), and temperature (room temperature, 55°C, and 85°C) to obtain optimal conditions for the synthesis of ASG-AgNPs. The properties of the ASG-AgNPs were investigated using dynamic light scattering (DLS), UV-visible spectroscopy (UV-Vis), transmission electron microscopy (TEM), Fourier infrared spectroscopy (FT-IR), and X-ray diffractometer (XRD). The antibacterial, antifungal, and antioxidant activities were evaluated using the broth microdilution method and DPPH test.

Result: Optimal conditions for ASG-AgNP synthesis were achieved with 3 mM AgNO3 concentration, 85°C temperature, and 45 min duration. TEM analysis showed that ASG-AgNPs had a highly uniform, homogeneous, and spherical structure with an average particle size ranging from 15 to 30 nm. ASG-AgNPs exhibited effective antibacterial and antifungal activities against Klebsiella pneumoniae (MIC = 156.25 µg/ml; MBC = 156.25 µg/ml), Staphylococcus aureus (MIC = 312.5 µg/ml; MBC = 625µg/ml), and Candida albicans (MIC= 62.5 µg/ml; MFC = 62.5 µg/ml). Additionally, ASG-AgNPs showed high antioxidant activity (98% and 90% inhibition at concentrations of 800 and 400 µg/ml, respectively). Compared to both chemical silver nanoparticles and the extract, ASG-AgNPs demonstrated enhanced antibacterial, antifungal, and antioxidant potency, indicating a synergistic interaction between the extract and silver nanoparticles.

Conclusion: This experimental study suggests that the synthesized ASG-AgNPs may serve as a promising candidate for medical and pharmaceutical applications, such as antimicrobial and antioxidant agents.

Keywords: Green synthesis, silver nanoparticle, Astragalus sarcocolla gum

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Abstracts

Abstract 33: HIF1α Gene Expression and Atherogenesis: Role of Myo- inositol Supplementation in Patients with NAFLD

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Introduction: Non-alcoholic fatty liver disease (NAFLD) - the hepatic manifestation of metabolic disorders- is linked to a number of extra-hepatic conditions such as cardiovascular disease. In this context, hypoxia-inducible factor 1-alpha (HIF1α) and its downstream signaling pathway, mediate the progression of atherogenesis, dyslipidemia and inflammation through innate immune cells and macrophages. Recent studies have reported the potent effects of Myo-inositol (MI) supplementation against hyperlipidemia, inflammation and oxidative stress. Hence, we aimed to investigate the effects of MI supplementation on HIF1α gene expression and atherogenic indices in obese patients with NAFLD.

Method & material: The trial design was approved by "TBZMED. REC.1400.567" and also registered in "IRCT20100209003320N22". The current double-blinded placebo-controlled randomized clinical trial was conducted on 48 obese patients with NAFLD (grades I and II). By random allocation, the patients were divided into two groups; MI (4g/day) and placebo (maltodextrin 4g/day) for eight weeks. Pre- and post-intervention, gene expression levels of HIF1α were assessed in peripheral blood mononuclear cells (PBMCs) based on real-time polymerase chain reaction (RT-PCR). Total cholesterol (TC), high-density lipoprotein cholesterol (HDL) and TG levels were assessed based on colorimetric-enzymatic methods and then, low-density lipoprotein cholesterol (LDL) and atherogenic indices (including TC/HDL, TG/HDL, LDL/HDL and Non- HDL/HDL) were calculated.

Result: At baseline, there were no significant differences in the studied parameters between the groups. A significant down-regulation in HIF1α gene expression was observed (p=0.011) in the MI group in comparison with the placebo, after adjusting for the confounders. Despite the significant reduction in TC/HDL (p=0.002), LDL/HDL (p=0.003) and non-HDL/HDL (p=0.003) in the MI group, inter-group changes did not reach statistically significant levels.

Conclusion: Our results demonstrate that MI supplementation in obese patients with NAFLD could slightly improve atherogenesis through the down-regulation of HIF1α gene. While, more clinical trials are required to confirm these preliminary findings.

Keywords: Myo-inositol, Non-alcoholic fatty liver disease, Atherogenesis, Gene expression

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Abstract 34: Intravenous Alteplase, Outcome and Follow-up of acute stroke patients; Stroke Care Center of North of Iran

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Introduction: Stroke is a leading cause of death and Alteplase injection is a choice for re-perfusion of brain tissue. However due to the risk of hemorrhage, thrombolytic therapy with intravenous alteplase is restricted. In the current study, we assessed the outcome and follow-up of patients with or without taking intravenous Alteplase.

Method & material: This cohort study was conducted on 100 stroke patients (49 intervention vs. 51 control) who were referred to the stroke center in the north of Iran between 2019-2021 years. The diagnosis of stroke, inclusion, and exclusion criteria were according to the National Guideline of Stroke. Intravenous alteplase is administered at a rate of 0.9 mg/kg with a maximum dose of 90 mg per hour, along with an initial bolus dose of 10% of the total dose in the intervention group. Demographic information and National Institutes of Health stroke scale (NIHSS) and modified Rankin scale (mRS) score were analyzed in three periods of 7, 30, and 90 days. Fisher's exact test, P-paired Test, T-test, and repeated measures ANOVA at a confidence level of 95% were conducted in SPSS version 22 to analyze the data.

Result: The mean age of patients was 66.81±11.77 years and 51 cases (51%) were male. Ten cases (10%) had a hemorrhage. According to the Repeated Measures ANOVA with Greenhouse-Geisser correction, the difference in the average NIHSS score in the follow-up of the control group was not statistically significant (P=0.54), but in the intervention group, this difference was statistically significant (4.92 ± 3.081 in the 7th day, 2.90 ± 2.552 in the 30th day and 1.84 ± 2.375 in the 90th day, p=0.001). Furthermore, the post hoc test with Bonferroni correction showed that in the case group, the average NIHSS score on day 30 compared to 7 decreased by 2.020 points (P=0.001), the NIHSS mean score on day seven decreased by 3.082 (P=0.001), and NIHSS mean score on day 90, compared to day 7, decreased by 3.082 points, which were statistically significant (P=0.001).

Conclusion: Treatment with intravenous Alteplase had a good outcome, especially on neurological disorders and degree of disability. The challenges of administration of intravenous Alteplase in these patients are suggested for further studies.

Keywords: Cerebrovascular Disorders, Stroke, Tissue-Plasminogen-Activator, Disability Evaluations.

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Abstracts

Abstract 35: Investigating the relationship between perceived stress and resilience of nurses in covid-19 intensive care units in selected hospitals affiliated to Isfahan University of Medical Sciences in 1400

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Introduction: The widespread impact of COVID-19, with its all-encompassing and uncontrolled effects, has presented healthcare systems and healthcare workers, including nurses, with unique challenges. The rapid spread of the pandemic has quickly resulted in consequences such as an increase in the number of hospitalized patients, elevated stress levels, increased caregiving burden, occupational fatigue, and disruption in social and family relationships for healthcare workers. Since resilience is one of the personal characteristics and a concept of a positive approach, and it is based on individuals' abilities and effectiveness in mitigating perceived stress, this study aimed to investigate the relationship between perceived stress and resilience among nurses working in COVID-19 special care units.

Method & material: The present study is a descriptive-cross-sectional study conducted in the year 2021 in selected hospitals of Isfahan University of Medical Sciences, with the participation of 152 nurses working in COVID-19 special care units who met the inclusion criteria. Data collection tools included a demographic questionnaire, Connor-Davidson Resilience Scale, and Cohen et al.'s Perceived Stress Scale. The collected data were entered into the SPSS software and analyzed using descriptive statistical tests.

Result: The results showed that the mean age of participating nurses was 36.21 ± 6.84 years, with 86.2% being female, 92.1% holding a bachelor's degree, 79.5% having rotating shifts, and 88.8% having a history of COVID-19 infection. The mean score of resilience was 64.71 ± 15.26, and the mean score of perceived stress was 26.43 ± 7.68. There was a significant negative relationship between perceived stress and resilience (p 0.001, r = -0.467). The lowest mean resilience score was reported in divorced nurses (42.00 ±33.94), the lowest mean perceived stress score was in married nurses (26.19 ± 7.87), and the highest mean resilience score was in married nurses (65.90 ± 15.32).

Conclusion: The results indicate a significant negative relationship between perceived stress and resilience among nurses working in COVID-19 special care units. In this regard, it is recommended to provide nurses with retraining courses to enhance their resilience in dealing with stressors.

Keywords: Covid-19, Perceived stress, Resilience, Nurses

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Abstract 36: Investigating and predicting the effect of sleep duration on the work quality of shift workers using machine learning and data visualization

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Introduction: Sleep quality is one of the important issues of occupational health and safety, and people with low sleep quality face a decrease in work quality, which is accompanied by serious disorders among shift workers. This study was conducted to investigate and predict the effect of sleep duration on the work quality of shift workers using machine learning and data visualization approaches.

Method & material: This study was conducted in 2021 with the code of ethics IR.QUMS.REC.1400.443. In this study, data related to sleep quality and impairment in job performance of 82 rotating shift workers in one of the food industries were collected using the Pittsburgh Sleep Quality Questionnaire (PSQI). First, the data were cleaned through data analysis and preparations were made for data visualization. Then, by drawing dot charts (Scatter Plots), the dispersion pattern was obtained using the software Orange.

Result: According to the results obtained from the normal distribution chart, 2.35% of people sleep (3-4 hours), 4.71% (4-5 hours), 14.12% (5-6 hours), 41.18% (6-7 hours), 14.12% (8-7 hours), 20% (9-8 hours) and 3.53% people (10-9 hours). Also, the results showed that the highest percentage of work disorders is among people with 6 to 7 hours of sleep. According to the algorithm obtained from the data of this research, the average time for each person to fall asleep is 15 minutes, so the best sleeping time is 9 hours and 15 minutes and 7 hours and 45 minutes.

Conclusion: According to the results of the study, it takes 90 minutes from the moment of sleep to the time when the sleep becomes heavy and reaches the light stage again. Therefore, the best time to wake up from sleep is in the lightest stage, and the cause of people's fatigue and work disorders is due to inappropriate sleeping time and waking up in an inappropriate phase of sleep, which is mentioned in this study.

Keywords: Machine learning Occupational fatigue Sleep quality Shift work

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Trauma Monthly
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Abstract 37: Investigating INHBA expression as a diagnostic and prognostic biomarker in colorectal cancer patients; a bioinformatics approach

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Introduction: Colorectal cancer is a serious disease that ranks third in terms of both incidence and mortality rates worldwide. Although many genes have been implicated in its pathogenesis, the expression changes of the INHBA gene in colorectal cancer have been less investigated. Therefore, we conducted a study to investigate the role of INHBA in colorectal cancer and its potential as a diagnostic and prognostic biomarker.

Method & material: We used TCGA data from the GDCTCGA database to evaluate changes in INHBA gene expression in colorectal cancer. Transcriptomic (RNAseq) data from the TCGA database was used to identify non-coding RNAs (ncRNAs) whose expression changes can play a role in the development and malignancy of colon cancer. For this purpose, the RNAseq data related to colon cancer (TCGA-coad) was downloaded in raw format (HTseq-Counts) using the TCGA biolinks package. At first, using the edgeR package, genes with zero or close to zero expression with the CPM criterion 10 (count per million) were identified and removed in 70% of the samples. The data normalization was done based on the TMM method and data transfer was done based on using the limma package, and the groups were compared based on cancer and normal samples. We also analyzed the relationship between INHBA expression and some clinical characteristics.

Result: Our results showed that the expression level of INHBA in cancer samples was significantly higher than in normal samples (p0.001, logFC=3.95). Moreover, the expression level of INHBA was significantly increased in samples with TNM status T4 compared to T1, T2, and T3. Additionally, our Kaplan-Meier analysis indicated that the increase in INHBA expression was associated with poor prognosis of patients (Rank=0.03). Finally, we used ROC analysis to show that INHBA can be considered a diagnostic biomarker (AUC=0.99, P=0.001).

Conclusion: In conclusion, our study demonstrates that the expression level of INHBA is increased in colorectal cancer and is associated with a poor prognosis in patients. Furthermore, we suggest that INHBA expression can be used as a diagnostic and prognostic biomarker for the targeted treatment of patients with colorectal cancer. Our findings provide new insights into the pathophysiology of this disease and may help improve patient outcomes through early detection and personalized treatment.

Keywords: INHBA, Biomarker, Colorectal cancer, Gene expression, TSTAGE

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Trauma Monthly
Abstracts

Abstract 38: Investigating socio-economic relationship factors with birth weight disorders of infants born in 1401 in Khalkhal city

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Introduction: Birth weight is one of the main factors that determine the physical and brain development of the infant and can cause short-term and long-term complications for the infant. Weight disorders are affected by many factors. One of the most important factors is economic-social factors. Therefore, the current study was designed and implemented with the aim of investigating the relationship between socio-economic factors and birth weight disorders of infants born in 1401 in Khalkhal city.

Method & material: The present study was a descriptive cross-sectional study on 168 mothers who gave birth in the form of a census in Imam Khomeini Khalkhal Hospital. The data collection tool was a researcher-made questionnaire, which was confirmed for its validity and reliability. The collected data was entered into SPSS24 statistical software and analyzed via the Chi-square test. A p value of less than 0.05 was considered significant.

Result: The results of this study showed that the average age of the mothers was 6.71 ± 2.28 and 10.7% of the newborns (7.14% girls and 3.57% boys) were underweight (w2.5kg) and overweight (w4kg). Among the socio-economic variables examined in this research, satisfaction with economic status (k2: 6.17, p=0.013) and type of pregnancy (wanted or unwanted) (k2: 9.07, p=0.011) had a significant relationship with newborn weight disorders but in other variables, which include mother's employment, family's economic status, receiving financial aid, type of insurance and mother's education; No significant correlation was seen.

Conclusion: Considering that there is a relationship between socio-economic factors and an infant's weight. It is necessary to carry out educational, support and counseling programs for mothers in order to ensure the optimal well-being of the mother before pregnancy. As a result, it will be possible to improve the level of health of mothers and infants.

Keywords: weight disorders, socioeconomic factors, infants, pregnant mothers

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Trauma Monthly
Abstracts

Abstract 39: Investigating the effect of aromatherapy of pregnant mothers with the scent of spring orange on the Apgar of newborns at birth in elective cesarean surgery at Motahari Jahrom Hospital

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Introduction: Psychological processes have an effect on the health of the fetus. Studies have shown that anxiety before cesarean section by increasing cortisol and adrenaline can lead to disruption of blood supply to the placenta and thus to the fetus. The use of complementary medicine with an intervention approach and with the aim of reducing the level of anxiety and stress in pregnant mothers has attracted the attention of researchers. The present study was conducted with the aim of determining the effect of aromatherapy with a spring orange scent on the Apgar of newborns in pregnant mothers undergoing cesarean section.

Method & material: In a double-blind clinical trial conducted in 2019, pregnant mothers candidates for cesarean section were randomly divided into intervention and control groups (46 people in each group) in a ratio of 1:1. In the intervention group, half an hour before entering the operating room, the mother was asked to inhale cotton soaked with 3 drops of spring orange essential oil with a concentration of 10 for 30 minutes normally and with normal breaths from a distance of 10 cm until entering the operating room. For the control group, cotton soaked with distilled water was used. Apgarnozad's score was checked and recorded in minutes one and five after birth. Data using SPSS Ver. 21 cases were analyzed.

Result: No significant statistical difference was observed between the two control and intervention groups in terms of demographic variables based on the relevant tests. The trend of changes in the Apgar score of newborns was significant in the first and fifth minutes, and after the fifth minute in both groups, the Apgar score of all newborns reached 10. Therefore, the comparison of these points was done in these two minutes. The average Apgar score in the first minute after birth in the intervention group was (17.9 ± 529.) and in the control group (87.8 ± 0.806), based on the Mann-Whitney test, the difference between the two groups was significant (P = 0.039) The results show that the effect of aromatherapy in pregnant mothers was on the average Apgar score of babies in the first minute.

Conclusion: The use of complementary medicine methods such as aromatherapy before cesarean section can be effective on the Apgar score as an indicator of newborn health. Probably, aromas increase the secretion of endorphins and enkephalins, leading to a decrease in the level of anxiety and relaxation in mothers, followed by an increase in blood supply to the placenta.

Keywords: aromatherapy, pregnant, Apgar

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Trauma Monthly
Abstracts

Abstract 40: Investigating the effect of educational intervention based on the transtheoretical model on the physical activity of diabetic patients in Iran

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Introduction: Regular physical activity can reduce mortality in people with diabetes and prevent complications from the disease. Planning to change behavior in these people to improve self-care is very important. For this purpose, the present study was conducted with the aim of investigating the effect of the educational intervention based on the transtheoretical model on the physical activity of diabetic patients

Method & material: This interventional study was conducted in 1400 on 120 patients with type 2 diabetes in Rasht city. The samples of this study were divided into two intervention groups (60 people) and control (60 people) using 2 random block methods. The tools used in this study included demographic information questionnaires, models of stages of change and physical activity. Then, the educational intervention, which included lectures, pamphlets, and educational CDs, was implemented for the intervention group. While the control group did not receive any training. After a month of follow-up, the patients completed the questionnaire again. Data analysis was done using SPSS version 20 software and using descriptive and analytical statistical tests including independent t-test, chi-square, Fisher's exact test and Wilcox-Van signed rank test.

Result: The average age of the participants in this study was 58.37 ± 10.11. Among them, 87 were women (72.5%) and 33 were men (27.5%). The results showed that there was no significant difference in performing regular physical activities between the intervention and control groups before the educational intervention, but after the intervention, physical activity in the intervention group was more than the group without educational intervention, and this difference is statistically significant (P = 0.004). Also, the results of this study showed that the changes in activities between the intervention and control groups, based on individual and social studies, are significant in most cases (P<0.05). There was a statistically significant difference in the implementation of physical activity changes in the intervention group after the educational intervention (p=0.001).

Conclusion: The results showed that training patients with diabetes in the field of physical activity based on the transtheoretical model is effective in progressing the stages of change and increasing the regular physical activity score of patients. Therefore, it is recommended to design and implement educational programs to promote physical activity based on behavior change theories in order to improve the control and management of type 2 diabetes.

Keyword: educational intervention, transtheoretical model, physical activity, diabetic patients

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Trauma Monthly
Abstracts

Abstract 41: Investigating the effect of lavender aromatherapy on the accuracy of nursing students in objective structured test

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Introduction: One of the most common problems of nursing students in the clinical environment is the lack of accuracy, which can have negative effects on their learning. Accuracy is considered as a very important factor in clinical jobs, especially nursing, which is related to human lives. Therefore, using methods that can lead to increasing the accuracy of nursing students is very helpful and cost-effective. Regarding the effect of aromatherapy on the accuracy variable, the researcher did not come across a similar study in the target population, that is, students taking the osce test. Therefore, the researchers decided to design and implement a study titled the effect of lavender aromatherapy on the accuracy of nursing students in OSCE test.

Method & material: This study is a two-group clinical trial including a control group and a test group with a pre- and post-intervention design, which measured the effect of aromatherapy on the accuracy of nursing students. In this study, the research environment was the clinical skills laboratory of the Faculty of Nursing and Midwifery of Isfahan University of Medical Sciences. The 6th semester nursing students who met the inclusion criteria formed the research samples. The samples of this research were selected in an easy way and according to the inclusion criteria, and were randomly assigned to two control and test groups. The sample size was 30 people in each group. The tool of data collection included the Toulouse-Piron drawing test. The aromatherapy intervention for the test group was performed with lavender essential oil for 10 minutes after obtaining written informed consent.

Result: SPSS21 statistical software and chi-square, independent t and paired t statistical tests were used to analyze the data.According to the results of the research, the average accuracy score of the students in the pre-intervention test group was 110.10±33.5 with a range of (165.5-11) and in the control group it was 27.99±104.32 with a range of (172-51). After the intervention, the average accuracy score of the students in the test group was 32±152 and in the control group it was 103.77±26.17. The independent t-test showed that after the end of the intervention, the accuracy of the students in the test and control groups had a significant statistical difference with p0.001.

Conclusion: Also, the paired t-test showed that the average accuracy score of the test group students before and after the intervention has a significant difference p=0.001, but the average accuracy score of the control group students before and after the intervention does not have a statistically significant difference. Inhaling the scent of lavender could increase the accuracy of nursing students, which is consistent with the findings of other studies and can be used as a method to improve accuracy in practical tests of nursing students.

Keywords: Lavender, aromatherapy, osce, nursing students, accuracy

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Trauma Monthly
Abstracts

Abstract 42: Investigating the effect of the corona pandemic on the pattern of drug consumption in the outpatient prescriptions of one of Islamic Republic of Iran's insurance organizations in 2019

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Introduction: The covid-19 pandemic, which in 2020 faced the world and Iran with serious challenges. Challenges that go beyond mere public health challenges. Part of the effect of covid-19 is on the physical health of people, but other sectors such as the economy of families, medical centers and insurances are also affected by the pandemic. In this study, by examining the outpatient prescriptions data of one of Islamic Republic of Iran's insurance organizations and analyzing the pattern of drug consumption according to this prescription, it is possible to first look at the general changes in drug consumption in the country and then to more detailed changes regarding the growth or decline in the consumption of specific drug categories.

Method & material: After accessing the insurance data, it was determined that the total number and cost of the total sales of outpatient prescription drugs in the years 1398 and 1399 as a dependent variable, as well as the number and cost of selected drugs in this research was available in 1398 and 1399 (as well as 1400). Then, in the statistical analysis and comparison, one compares the changes in the pattern of consumption of basic drugs used in Corona (based on the review of the official guidelines for the treatment of Covid-19 in the Ministry of Health, Treatment and Medical Education of the Islamic Republic of Iran) and the other changes in the pattern of consumption of other basic drugs Treatment categories (based on the selection based on the essential medicine list of the World Health Organization) were provided in each one.

Result: contrary to popular opinion, the number of prescriptions and the total number of medicines has decreased from 1398 to the end of 1400. The total volume of prescriptions and the number of drugs at the end of 1400 compared to 1398 has reached about half. However, the overall cost of preparing and consuming these drugs has increased at the end of 1400 compared to 1398 and has surpassed the total volume of 2.000.000.000.000 Rials by about 300.000.000.000.

Conclusion: All drug categories (except for Covid-19) generally decreased in the first six months of facing the pandemic and then increased in the following six months until reaching the last six months of 1400 and resuming the decreasing trend or no change. Most of the findings in this study are consistent with other similar studies in the world and an analysis of economic, social and health events can be considered for each of the trend changes in the research process.

Keywords: covid19, drug utilization evaluation, pharmacoepidemiology, insurance, outpatient prescription

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Trauma Monthly
Abstracts

Abstract 43: Investigating the role of AhR-Notch signaling pathways in the induction of toxicity with arsenic trioxide (ATO) in breast cancer cell lines

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Introduction: Breast cancer is known as one of the most common cancers after lung cancer. Studies have shown that the activation of AHR can play an important role in breast cancer,as the increase in AHR activity increases the amount ofCYP1A1,CYP1B1, and IDO1enzymes in the cell and the increase of these enzymes contributes to the cancerous growth of normal cells.do The Notch messenger system in the physiological state plays an important role in cell differentiation and any disturbance in the Notch messenger system can cause the differentiation of normal cells into cancer cells.Despite the progress made in the treatment of the disease,unfortunately,there is still no proper prognosis.Accordingly,there is a need to use more effective treatment methods.Arsenic trioxide,is one of the old drugs and has been approved by the FDA for the treatment of APL due to its low toxicity and high efficiency.The aim of this study is to investigate the role of AHR/Notch signaling pathway in breast cancer cells.

Method & material: This study is an experimental study that was conducted on breast cancer cells including MDA-MB-231 and MCF-7. Statistical analysis of data was done using Prism GraphPad version 8 software. The data are expressed as mean ± SEM and analysis of variance (ANOVA) was used to compare the means. One-way ANOVA and Tukey's supplementary test were used to check and determine the difference between the means and the significance of the analysis results. A significance level of p value0.05 is considered.

Result: The value of IC50 in the MDA-MB-231 cell line has decreased in a dose-dependent and time-independent manner, and in the MCF-7 cell line, it has decreased in a dose-dependent and time-dependentmanner. Theamountof mitochondrial membrane potential drop with increasing concentration Arsenic trioxide increases and in the presence of FICZ and DAPT, it increased significantly compared to other groups, but in the presence of CH223191, the drop in mitochondrial membrane potential was greatly reduced.By increasing the concentration of arsenic trioxide in both MCF-7 and Mda-mb cell lines, the amount of ROS produced also increased. In the presence of FICZ and DAPT, there was a significant increase compared to other groups, but in the presence of CH223191, the amount of ROS produced was greatly reduced. In the study of cell migration in both cell lines, the rate of cell migration in the control group was higher than in other groups.

Conclusion: Overall,theobtained results showthat arsenic trioxide,has shown favorable anticancereffects inMDA-MB-231,and MCF-7strains and can be used as a promising drug in cancer.Sine used it.

Keywords: AhR-Notch signaling pathways, arsenic trioxide, breast cancer

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Trauma Monthly
Abstracts

Abstract 44: Investigating the role of clinical decision support systems in reducing medical errors

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Introduction: In information technology, systems called Clinical Decision Support Systems (CDSS) have been developed, which can help therapists by providing information such as standards, counseling-oriented guidance, procedures and protocols, rules, and suggestions for care. and thereby reduce medical errors. The aim of the present study is to investigate the role of clinical decision support systems in reducing medical errors from the perspective of doctors and nurses in the teaching and therapeutic hospitals of Ferdows city.

Method & material: The current study is a descriptive-cross-sectional study conducted in Ferdows city in 2021 in two teaching and therapeutic hospitals. In this study, the census method was randomly available and the research community was considered as the research sample. The inclusion criteria were doctors and nurses working in Ferdows hospitals who were willing to participate in completing the questionnaires and were somewhat familiar with health information systems. Exclusion criteria included other treatment staff other than doctors and nurses - such as pharmacists, laboratory technicians, operating rooms, etc. Also, doctors and nurses who were not willing to cooperate or did not have enough information about health information systems, or could not answer the questions of the questionnaire were excluded from the study process. The data collection tool was the questionnaire of Ariyai et al. After collecting the questionnaires, the data were analyzed using descriptive statistics methods in SPSS software version 19.

Result: A total of 42 medical personnel were included in the study. Doctors benefit from the decision support system by reducing the risk of severe allergic reactions and drug interactions (60%), quickly accessing patient records (50%), and registering orders electronically (30%). From the point of view of nurses, eliminating problems related to doctors' illegible handwriting (25%), reducing the chance of forgetting to repeat the test or radiology (18.8%), quick access to updated information during work (12.5%), and reducing the possibility of embolism (9.4%) are the advantages of clinical decision support systems.

Conclusion: Considering the importance of developing these systems in hospitals as well as measuring the readiness of medical staff to accept decision support systems, it is suggested to provide the necessary training in this field.

Keywords: Clinical Decision Support System (CDSS), Medical Error, Physicians, Nurses

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Trauma Monthly
Abstracts

Abstract 45: Investigating the Role of Mobile Health in Lupus Self-Care Education: A Systematic Review

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Introduction: Lupus is a chronic autoimmune disease. One of the most common symptoms of this disease is skin rashes that usually appear in the form of butterflies. Although a lot of research has been done in this field, this disease still has significant mortality and there is no complete treatment for it. On the other hand, to improve the quality of life of patients, it is possible to use mobile health technology and self-care training.

Method & material: This study was conducted as a systematic review and by searching the reliable databases of PubMed, Scopus, Web of Science, and Google Scholar. The keywords Self-care, Lupus, and Mobile health were investigated in related studies between 2020 and 2022. English-language studies that investigated the role of mobile health in lupus self-care education met the inclusion criteria. Titles and abstracts were independently reviewed based on eligibility criteria. Then the full text of the articles was evaluated. An identical form with the fields of study title, year of publication, country, number of participants, study objectives, and main findings of the study was used for the data extraction stage.

Result: A total of 850 articles were obtained, of which 20 related articles were included in the study. 75% of lupus patients complained about the pains that plagued them during the day, and through self-care training, these pains were reduced and the disease improved. 75% of the patients with lupus complained about the pains that plagued them during the day, that these pains were reduced and the disease improved through self-care training. Also, 60% of the studies (12 articles) mentioned the role of mobile health in the improvement of lupus disease and the satisfaction of patients with it. In 20% of the studies (4 articles), mobile health applications were used efficiently for lupus self-care education.

Conclusion: The results of this study showed that the use of mobile health in the self-care education of lupus patients will increase their quality of life. However, more studies should be done in this field in order to increase the awareness of patients and their families.

Keywords: Lupus , selfcare , mobile health (Mhealth)

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Trauma Monthly
Abstracts

Abstract 46: Investigating the role of Mobile Health in teaching self-care for celiac disease: A systematic review

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Introduction: Celiac disease is a common autoimmune disorder that is triggered in genetically susceptible individuals by consuming gluten protein found in wheat, barley, and rye, leading to the destruction of the villi in the small intestine. Some of the most common symptoms of this disease include bloating, nausea, weight loss, fatigue, constipation, and diarrhea. The only treatment for this disease is to eliminate gluten from the diet, and so far, no other treatment has been found. However, it should be noted that mobile health technology and self-care education can be used to improve the quality of life for patients with celiac disease. Purpose: The aim of this study was to investigate the role of mobile health in self-care education for celiac disease.

Method & material: This study was conducted as a systematic review and by searching the reliable databases such as PubMed, Web of Science, Scopus, and Google Scholar search engine. The keywords self-care, celiac, and mobile health were examined without time limitation. English-language studies that investigated the role of mobile health in teaching self-care for celiac disease met the study inclusion criteria. Titles and abstracts were independently reviewed based on eligibility criteria. Then the full text of the articles was evaluated. An identical form with the fields of study title, study objectives, and main findings of the study was used for the data extraction stage.

Result: A total of 750 articles were obtained, of which 20 relevant articles were included in the study. 65% of patients with celiac disease suffer from symptoms and pain caused by the disease, which have been reduced through self-care education and the use of mobile health. In addition, in 16 studies (80%), the role of mobile health in improving of celiac disease and the satisfaction of patients with it was mentioned. In 4 articles (20%), mobile health applications were also referred to for self-care education of celiac disease, which proved to be very useful and effective, enabling users to take care of themselves by creating order in their diet plan.

Conclusion: According to studies conducted, mobile health applications are still in their early stages of development; however, the results of their examination have shown overall satisfaction with self-care education in celiac disease and have played an effective role in improving the quality of life and psychological-social outcomes of patients

Keywords: Celiac, Self-Care, Mobile Health

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Trauma Monthly
Abstracts

Abstract 47: Investigating the role of Mobile Health in teaching self-care for Periodontitis disease: A systematic review

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Introduction: Periodontitis is a chronic inflammatory disease that occurs in the area of the teeth and gums and affects the supportive tissues with dental vessels. This disease occurs when gum inflammation spreads to the bone beneath the tooth. Symptoms of this disease include bleeding gums, pain and swelling in the tooth and gum area, bad breath, and sensitivity in the teeth. If left untreated, periodontitis can lead to tooth loss. On the other hand, the use of mobile health technology and self-care education through it, plays a significant role in preventing the onset of this disease.

Method & material: This study was conducted as a systematic review and by searching the reliable databases such as PubMed, Web of Science, Scopus, and Google Scholar search engine. The keywords self-care, periodontitis, and mobile health were examined without time limitation. English-language studies that investigated the role of mobile health in teaching self-care for periodontitis disease met the study inclusion criteria. Titles and abstracts were independently reviewed based on eligibility criteria. Then the full text of the articles was evaluated. An identical form with the fields of study title, study objectives, and main findings of the study was used for the data extraction stage.

Result: A total of 39 articles were obtained, of which 5 relevant articles were included in the study. In three articles (60%), the use of mobile applications in self-care for periodontitis has shown that behavioral change observed in oral and dental health is very important and effective. In two articles (40%), no significant difference in disease improvement was observed between the intervention and control groups. However, behavioral change observed in individuals who frequently used these applications has led to improvement in oral and dental health and prevention of periodontitis.

Conclusion: The results of this study showed that the use of mobile health applications plays an important role in educating patients about self-care for periodontitis. Mobile health, along with providing necessary education, increases patients' awareness about prevention and treatment methods of this disease. Therefore, the use of this technology leads to improved treatment and reduced clinical complications of periodontitis.

Keywords: Periodontitis, Self-Care, Mobile Health

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Abstract 48: Investigation and toxicity of silver nanoparticles on heart tissue changes in male Wistar rats.

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Introduction: Silver nanoparticles have received attention in recent years due to the use of medical, textile, health and electronic devices and materials. Being in the environment of nanoparticles causes function and histology. Having said that, there is little information about the production and consumption of these substances on body tissues, especially heart tissue. Therefore, this study was conducted with the aim of investigating the toxicity of silver nanoparticles on heart tissue changes in male Wistar rats.

Method & material: In this experimental study, 40 Wistar rats with an age of 8 to 12 weeks and an average weight of 200 ± 30 grams were randomly divided into 5 groups of 8 including 4 experimental groups that received silver nanoparticles with concentrations of 30, 125, 300 and 700 mg/ kg of body weight were received orally for 28 consecutive days and a control group was divided. The size distribution of silver nanoparticles before the intervention was observed and analyzed using an electron microscope. Rats in the control group received an equal volume of deionized water. After anesthetizing and necropsy, the hearts of the rats were first weighed. Then tissue preparation and hematoxylin and eosin staining were done to prepare slides. Then the tissue structure was examined with an optical microscope and magnification of 40 and 100 and in ten random fields.

Result: The results showed that the distribution of silver nanoparticles in the range of 200-300 nm was significantly higher than other doses ($P<0.05$). Also, the average heart weight of rats in different groups was not significantly different ($P<0.05$). Qualitatively, irregularity in myofibrils, hypertrophy of myofibrils and increase in interstitial fluid increased in the intervention groups compared to the control group. These changes were more in the 30 and 125 mg/kg groups. Blood leakage was observed in all groups of 30, 125, 300 and 700 mg/kg, unlike the control group. Meanwhile, cytoplasmic color change and muscle fascicles rupture were not observed in any group. The change in the color and position of the nucleus was observed only in the 30mg/kg group.

Conclusion: The results showed; Oral administration of silver nanoparticles for a period of 28 days can have a destructive effect on the tissue structure of the heart, which indicates the toxicity of these substances. This toxicity gradually decreases in doses higher than 30 mg/kg. Therefore, it is suggested to avoid contact with living organisms when using nanoparticles.

Keywords: silver nanoparticle, Wistar rats, heart tissue

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Trauma Monthly
Abstracts

Abstract 49: Investigation of the Role of Clinical Decision Support Systems in the Management of COVID-19: A Systematic Review

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Introduction: As the biggest threat to public health, COVID-19 has caused many problems to the people of the world for more than three years. With the spread of the COVID-19 epidemic, clinical decision support systems have been developed in the field of diagnosis, control and management, prediction, and treatment of this disease. The present study aims to investigate the role of clinical decision support systems (CDSSs) implemented in the management of COVID-19 disease.

Method & material: In this study, PRISMA guideline was used to review the studies. For this purpose, Web of Science, PubMed, and Scopus databases were searched to retrieve English articles. Searches were conducted without time limits until December 6, 2021. The search strategy included the terms "Clinical decision support system" and "COVID-19" and their synonyms. Original and English-published studies that were implemented in the management of COVID-19 were included in the study and their characteristics were analyzed. Data analysis was done through the content analysis method.

Result: A total of 222 studies were retrieved. After removing duplicate and unrelated items based on the title, abstract, and full-text evaluation, 13 studies were finally included in the review. Investigations showed that the studies were conducted in China, America, France, Brazil, Russia, Belgium, Canada and one study internationally. Reviewed CDSSs were implemented and used in the field of diagnosis and treatment (30.76%), assessment of the severity of the risk of Covid-19 (30.76%), decision-making (15.38%), disease management (7.69%), monitoring and control (7.69%) and vaccination (7.69%). Two systems were in the form of decision aid and 11 systems were clinical decision support systems. The users of these systems included healthcare providers (30.76%), physicians (23.07%), nursing home residents and their families (7.69%), students (7.69%), patients with COVID-19 (7.69%), shared between physicians and patients (7.69%), shared between physicians and nurses (7.69%) and the general public (7.69%).

Conclusion: The review of studies showed that CDSSs are used in various fields for the management of COVID-19. Considering that these systems generally help healthcare providers to make the best possible decisions, therefore, it is very important to use these systems in the field of COVID-19 disease management due to the existence of different treatment methods

Keywords: Covid-19, coronavirus, clinical decision support system, systematic review.

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Abstract 50: Investigation the physicochemical compatibility of anti-asthmatic drug salbutamol with common excipients in order to formulate dry powder inhaler

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Introduction: Salbutamol is a beta-agonist receptor that is used in asthmatic and chronic obstructive pulmonary disease (COPD) patients. This medicine is available in different dosage forms; syrup, metered dose inhaler (MDI) and dry powder inhaler (DPI). In order to formulate a medicine, drug – excipient compatibility is one of the most crucial matters in order to achieve the best quality parameters which could directly influence the patient's safety. For DPI formulations FDA approved excipients are lactose, glucose and mannitol. Also, recently leucine has been used frequently in DPI formulation. In this study compatibility of salbutamol with the mentioned excipient was investigated.

Method & material: Visually examination, thermo-analytical techniques such as differential scanning calorimetry (DSC) and Fourier transform infrared spectroscopy (FTIR), chromatographic method (HPLC) were used to evaluate any potential incompatibility. Binary mixtures of salbutamol sulfate and excipients were prepared in different ratios (1:1, 1:10 and 1:67.5 similar to commercial form) and stored 2 months at elevated temperature and humidity (40 °C and adding 20% w/w water). samples were analyzed before and after storage.

Result: DSC, FTIR and HPLC results confirmed each other except for glucose. All methods confirmed that there is an incompatibility potential with the excipients. HPLC results show the amount of salbutamol was decreased after storage except for glucose while DSC and FTIR show the sign of incompatibility.

Conclusion: Findings reveal that excipients used for DPI formulation could be incompatible with salbutamol. In order to find the degradation compounds and pathways, further studies are needed.

Keywords: salbutamol, DPI, drug-excipient compatibility, HPLC

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Abstract 51: Melatonin as a potential therapeutic Agent for tinnitus

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Introduction: Tinnitus is a common otological symptom that patient feels a phantom sound in the ears due to the spontaneous stimulation of auditory cortex nerves. Tinnitus can disrupt patients' daily life and affect their quality of life negatively. Many factors can cause tinnitus like some drugs, Meniere's disease, Hearing loss, Ear infection, Head and neck injury and etc. The incidence of tinnitus is nearly 1%. In spite of its high prevalence and significant complications, effective therapies are still lacking. Melatonin has demonstrated antioxidative properties so it has been proposed as a treatment for tinnitus. The aim of this study is to summarize and analyze the clinical studies evaluating effectiveness of melatonin in the treatment of tinnitus.

Method & material: Based on Cochrane systematic review principles and PRISMA guideline, the comprehensive search was conducted using key words: "tinnitus", "hearing disorders", "inner ear disorders", "buzz", "ringing", and "melatonin" in electronic databases such as PubMed, Scopus and Web of science until June 2023. Also, Google Scholar search engine have been used for reviewing grey literature. Inclusion criteria were 1) clinical trial studies investigating the effectiveness of melatonin in patients suffering tinnitus and 2) English language articles. All review studies, observational studies, commentary and letter to editors were excluded. Screening and data extraction were conducted by two authors independently and any discrepancies were resolved by consensus involving a third author. Cochrane risk of bias assessment (ROB 2) tool was used to evaluate the bias of studies. The final data were presented in result table.

Result: Of a total of 52 articles retrieved, after removing 30 duplicates and irrelevant title and abstracts, 22 articles met the eligibility criteria and 11 were included, while enrolling 552 patients. Most researches were performed in Asia. The mean age was 49.14 years. In 8 studies melatonin effect on tinnitus treatment was assessed alone in which 7 of them showed significant improvement in THI (Tinnitus handicap inventory) score and in 4 studies the effect of melatonin was assessed in combination with other drugs which all of them showed significant improvements in THI score.

Conclusion: Based on the present results, it can be stated that melatonin alone or in combination with other drugs could offer useful perspectives in the management of patients suffering from tinnitus. Although there are significant gaps in knowledge, our synthesis can provide guidance for future researches that can clear up more management strategies and efficient preventions.

Keywords: Tinnitus, Melatonin, Mienere's disease, THI (Tinnitus handicap inventory)

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Abstract 52: Mobile Dental Care Services and Elderly Oral Health: A Systematic Review

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Introduction: As people age and become more care-dependent, their oral health requirements increase, as access to dental care decreases. Mobile dental services are one of the care approaches that are very useful today; therefore, this study was conducted with the aim of investigating mobile dental services for the elderly by reviewing previous studies.

Method & material: This systematic review was based on a systematic search in PubMed, Scopus, Web of Science and Google Scholar by keywords of “Mobile dental”, “Mobile health”, “Oral health”, “Elderly” and “Dental care” from 2017 to 2022. 35 articles were received and 14 articles were reviewed. Unavailable articles, preprints, Letter to the editors and non-English articles were excluded from the study. PRISMA checklist was used to evaluate the quality of the article

Result: Some of the mobile dental services for the elderly include the use of intraoral cameras to perform oral examinations (photos from inside the mouth and live videos for diagnostic decisions), a proper schedule for face-to-face treatment if needed, and providing necessary training. In Iran and some countries such as Austria and the countries of the African continent, mobile dental was used very little. Surveys showed that most of the elderly people had a positive opinion about these services, and about half of them had used these services at home and often in sanatoriums after training. Some elderly people may not use these services properly due to their low level of health literacy, impaired mental and functional abilities, living in deprived areas and lack of access to the Internet.

Conclusion: M.dental services have a useful role in the quick diagnosis of oral cavity problems, increasing the level of awareness of the elderly for self-care, improving the state of quality of life and reduction in costs. Surveys show that more efforts are needed to develop up-to-date guidelines for m-dental services.

Keywords: Mobile dental, Elderly, Oral health

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Abstracts

Abstract 53: Mobile Health Applications for Low Back Pain (LBP) Self-management: A Systematic Review

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Introduction: Low back pain (LBP) is a common problem affecting people around the world. It is a leading cause of disability, resulting in significant personal and economic consequences. Self-management is one of the essential strategies for managing LBP, and the use of mobile health (mHealth) apps may be a useful tool in this regard. This systematic review aims to investigate the effectiveness of mHealth apps in LBP self-management.

Method & material: A comprehensive search was conducted in PubMed, Scopus, Cochrane Library, and Web of Science databases for studies that evaluated the use of mHealth apps in LBP self-management. Searches were between March 1, 2015 and March 15, 2022. Quality assessment of included studies was done using the Cochrane Risk of Bias Tool. A total of 12 studies were included in the review.

Result: in total, 12 studies were selected for the review with overall 2509 persons with LBP, of whom 1429 (56.95%) were women. Among the studies (5/7, 71%) that reported the type of pain, 85% (390/459) of the participants were experiencing chronic LBP. A total of 7 different mHealth apps were identified, of which 5 contributed to a statistically significant reduction in LBP and clinically meaningful changes. Of the 12studies,8 (66%) used 4 different assessments for disability, of which 5 (62.5%) showed statistically significant improvements in the level of functional ability of participants in the experimental groups using an mHealth app with built-in self-management content for LBP.

Conclusion: This systematic review provides evidence for the effectiveness of mHealth apps in LBP self-management. The use of such apps has shown significant improvements in LBP intensity, disability, and pain-related fear, and high user satisfaction. However, the studies included in this review were of limited quality, and further research is needed to confirm the effectiveness and sustainability of mHealth apps in LBP self-management. Healthcare providers should consider incorporating mHealth apps into LBP management plans to improve patient outcomes.

Keywords: low back pain, mHealth, mobile health, mobile phone, self-management

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Abstracts

Abstract 54: Neonatal maternal separation increases ache response in adulthood: In-Vivo

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Introduction: Maternal separation is a widely accepted model for studying the effect of stress on long-term behavioral changes and other complaints. The social environment plays a critical role in shaping the brain and programming behavior throughout life. Experiencing stressful events during early life can negatively affect the development of neural transmission systems, such as circuits, which are involved in developing a response to painful stimuli. Thus, our study was to evaluate pain sensitivity, under different stimuli in adult male mice that had undergone early-life maternal separation.

Method & material: Pregnant NMRI mice were purchased from the Pasteur Institute of Iran and were housed in a temperature-controlled room with ad libitum access to water and food. Maternal separation was performed daily for 3 hours from postnatal day 2–15, for up to 2 weeks. Hot plate test: mice were placed on a 52 °C heated plate. The time last to lick the fore paw, hind paw or jump were measured. We considered the cut-off time of 20 s to avoid any tissue injury. Mechanical Allodynia test: Mice are placed in a dark box with a wire grid bottom through which the von Frey filaments were applied and the right hind paw withdrawal response was measured. Statistical analysis: Data were expressed as the mean ± S.E.M. statistically significant differences between groups were analyzed by repeated measures using one-way and two-way analysis of variance. The significant level was considered (P≤0.05).

Result: According to our results in the "hot plate test", we observed that there was a reduction in the threshold of thermal stimulus in the maternal separated (intervention) group compared to the non-maternal separated (control) group (p 0.01). The results of the "mechanical Allodynia test" show a significant decrease in withdrawal threshold (p 0.05) in the Intervention group compared to the control group. So, these tests show an increased pain sensitivity in the group that experienced stress in early life.

Conclusion: Current evidence suggests that animals subjected to early-life maternal separation have increased sensitivity to thermal and mechanical stimuli during adult life. Thus, our data are important to understand the impact of environmental influences and epigenetics, such as stressful life events during critical developmental periods, on pain vulnerability. It is also suggested doing further studies to evaluate the possible effect of neonatal stress on the reticular network of the brain or expression and up-regulation of pain receptors. The results of various studies in this field create a new perspective to prevent the negative effects of separation from the mother in premature babies.

Keywords: Maternal Separation, Pain Threshold, Epigenetics, Mouse

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Abstract 55: Novel Anti-Alzheimer Marine-Sourced Compounds with Bilateral Mechanisms; Results of an In-silico Study through Virtual Screening.

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Introduction: Alzheimer's disease (AD) causes dementia through amyloid beta (Aβ) peptide accumulation, causing neurodegeneration. β-site amyloid precursor protein(APP) cleaving enzyme-1(BACE1) is involved in the cleavage process leading to neurotoxic Aβ generation. AD pathogenesis may be influenced by oxidative stress, which alters membrane phospholipids. Marine environments contain beneficial antioxidants. Through virtual screening of marine resources, we searched for novel anti-AD treatments that are antioxidant-BACE1 inhibitors.

Method & material: To extract marine antioxidant products, the dictionary of marine natural products (MNP) was explored. PubChem and ChemDraw software were used to find products' structures. All products were filtered through Rule-of-Five (RO5) after converting into 3-dimensional structures. BACE1's crystal structure (PDB ID: 2B8L) was obtained from the PDB Bank. MOE software was used to optimize BACE1. Discovery Studio was used to analyze binding interactions.

Result: 43compounds were extracted from MNP, converted into 3D format; then, optimized and minimized using MOE. 23compounds were included to study after filtering 43compounds by RO5. We used Autodock-Vina to identify BACE1 inhibitors. Compounds were sorted discerningly by binding affinity to BACE1. Highly affiliated compounds to BACE1 were d-Indomycinon (-8.9kcal/mol), Sterin-A (-8.5kcal/mol), Luteone (-8.3 kcal/mol). In virtual screening, we found d-Indomycinone from Streptomyces sp. that binds to BACE1 (-8.9kcal/mol). Its TYR77 also formed a weak pi-alkyl bond. Sterin-A, the second highly affiniated compound to BACE1 (-8.5kcal/mol), extracted from stereum hirsutum with antioxidant properties, formed hydrogen bonds with the enzyme's active site. A Pi-alkyl bond with Sterin-A was also observed. Luteon, found in higher plants, exhibits the third highest affinity for BACE1 (-8.3kcal/mol). This ligand interacts with BACE1 through hydrogen bonds with polar residues. Alkyl bonds, pi-pi stacking, and pi-anion interactions also formed.

Conclusion: These compounds are BACE1 inhibitors and antioxidants. Targeting Acetylcholine Esterase (AChE) can discover impressive results. We suggest further in-vitro and in-vivo research on these ligands after molecular dynamic and ADME studies to estimate their behavior in-vivo. Conclusion: Based on AD pathophysiology, natural marine products were searched for antioxidants to screen the anti-BACE1 potential virtually. 23 compounds were included, after filtering 43 compounds extracted from the dictionary by RO5. The most highly affiliated compounds were d-Indomycinone(-8.9kcal/mol), Sterin-A(-8.5kcal/mol), and Luteone(-8.3 kcal/mol). In-silico, in-vitro, and in-vivo studies with these compounds may lead to novel bilateral anti-AD therapeutic approaches.

Keywords: Anti-Alzheimer, Marine-Sourced Compound, neurodegeneration

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Abstracts

Abstract 56: Persian risk scoring system for predicting hospital-based mortality between covid-19 patients

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Introduction: Coronaviruses (COVID-19) are highly contagious viruses which cause symptoms ranging from the common flu to severe respiratory symptoms that cause critical illnesses and death. This study aimed to develop a predictive mortality scoring system for inpatients with COVID-19 based on Demographic, clinical, and laboratory characteristics.

Method & material: This study accessed data from open-cohort of Isfahan, Khorshid COVID Cohort (KCC) study, between February and September 2020. 1314 patients with a positive RT-PCR COVID-19 test and 134 death cases were reported. Clinical, and laboratory characteristics were used in logistic regression modeling to detect significant risk factors and develop the scoring system. ROC curve and Yuden criterion was performed to evaluate the efficiency of the risk score developed at identifying patients with high-risk COVID-19-related mortality.

Result: Six variables in the final logistic regression model were associated with outcome (discharged & death). These variables included Age (OR 2.12; 95 % CI, 1.11–4.02), SatO2 (OR 3.97; 95 % CI, 2.23–7.06), Comorbidities (OR 2.04; 95 % CI, 1.15–3.61), WBC (OR 2.26; 95 % CI, 1.23–4.17), AST (OR 2.27; 95 % CI, 1.37–3.76), and BUN (OR 3.19; 95 % CI, 1.90–3.36). Using ROC curve analysis (specificity 86% and specificity 64%) and Yuden criterion (0.484), create a screening score (7) for identification of COVID-19 cases at high risk of mortality.

Conclusion: In conclusion an accurate predictive model using available clinical and laboratory criteria can reduce costs and improve the timing of treatment decisions in the early stages of the disease, especially in the case of COVID19, which spreads very quickly. In this model, high-resolution computed tomography (HRCT) scans of the lung, which have high costs, are not used. We presented an easy-to-use risk scoring system for predicting mortality among covid-19 Persian patients, which can aid in clinical decision making and resource allocation. Our model showed that comorbidities, low level of saturation oxygen (90%), older age, very high or very low levels of AST, WBC, and BUN are significant predictors of COVID19-related mortality rates among Iranian.

Keywords: COVID-19, SARS-CoV-2, Mortality, Prognosis, Scoring system

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Trauma Monthly
Abstracts

Abstract 57: Predicting relapse in childhood acute lymphoblastic Leukemia using different machine learning algorithms

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Introduction: Leukemia is the most common malignant disease in children. It is caused by abnormal hematopoietic cells and has a very high mortality rate because there is no effective treatment. It leads not only to death, but also to numerous relapses. As result, they incur high diagnostic and treatment costs that place an enormous burden on families and health care systems. Therefore, it is important to predict relapse in this patient. The aim of the present study is to evaluate machine learning algorithms for predicting relapse in pediatric patients with ALL.

Method & material: This retrospective cohort study was conducted on 161 patients with acute lymphoblastic leukemia (ALL) under the age of 16 years who were referred to Taleghani Children's Hospital, Gorgan, between September 1997 and September 2016 and followed up until 2021. Data were collected from the paper-based records. Patient experience of relapse (yes or no) was considered as the outcome variable, and demographic information, laboratory tests, and clinical adverse events were considered as input variables. Due to the imbalance of the data, the SMOTE technique was used to solve the imbalance problem in the first preprocessing of the main data set. Then, three machine learning methods, including decision tree, random forest, and boosting, were used to predict relapse in patients with ALL. The performance of the algorithm was evaluated by cross-validation and reported as mean sensitivity, specificity, accuracy, and area under the curve (AUC). Finally, important variables were determined based on the

Result: Of the 161 patients, 16 had a relapse and 145 did not have a relapse. The mean area under the curve (AUC) of the ML algorithms ranged from 74% to 85%, and the mean accuracy of all algorithms was greater than 74%. Among the three algorithms, the boosting algorithm had the highest mean total accuracy 85%, sensitivity 98%, specificity 73% and AUC 85%. Also, based on boosting was identified time to death, age at diagnosis time, platelets, hemoglobin, white blood cell variables as the most important variables in the relapse in patients with leukemia.

Conclusion: Our results show that the boosting algorithm performs better than two algorithms in detecting relapse in patients with leukemia with respect to all criteria. Although ML models need to be improved further before clinical use, the considerable predictive value of the boosting classifier may have the potential to provide useful information for clinical practice in stratifying chemotherapeutic treatment, thereby promoting a computational treatment perspective.

Keywords: Machine Learning, Decision Tree, Random Forest, Boosting, Leukemia.

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Trauma Monthly
Abstracts

Abstract 58: Prediction of noise using artificial neural network modeling and statistical methods in the woodworking industry

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Introduction: Noise pollution is one of the most important pollutants in the work environment and is almost one of the harmful factors for workers' health. Sound prediction is one of the important aspects of sound control in industries. Forecasting is important in the carpentry industry, which is an important part of the woodworking industry and workers are exposed to excessive noise. There are many methods for predicting noise. Therefore, in this study, we predicted the amount of sound using artificial neural network modeling and statistical methods in the woodworking industry.

Method & material: This research is a study Descriptive, analytical -cross-sectional that was carried out in 6main phases, which include:Identifying and collecting data ,Determining the evaluation criteria of statistical models and artificial neural networks ,Constructing multiple regression ,Implementing artificial neural networks ,Optimizing the weights of artificial neural networks It is model sensitivity analysis with genetic algorithm.In the first stage, data was collected from 375 carpentry workshops in Tehran province, Khavaran, Chahardangeh, Nematabad and Delavaran industrial towns. From the 10main characteristics of acoustic, structural and carpentry processes that affect sound,in the next step, evaluation criteria were presented for comparison and accuracy of both statistical models and artificial neural networks.Then statistical analysis of multiple regressions was done. Then, artificial neural network modeling was implemented with the help of MATLAB software.In the next step,the weights of artificial neural networks were optimized using the genetic algorithm, then the sensitivity analysis of the model was performed using calculations

Result: With the help of evaluation criteria, two models of artificial neural networks and statistical methods were compared. The results showed that artificial neural networks provide more accurate prediction than multiple regression. The best neural network can accurately predict the equivalent sound level, our results showed that the developed experimental methods can be a useful tool for the analysis of noise pollution and enable occupational health professionals to use these methods.

Conclusion: The artificial neural network model showed higher accuracy compared to linear and non-linear regression statistical models. In this study, the artificial neural network was trained 13,000 times by the gradient descent algorithm, which showed higher accuracy compared to similar studies where the repetition rate of the training algorithm was much lower, so this study showed that by increasing the repetition, the prediction accuracy can be increased. . Finally, a graphical user interface program was presented using factors affecting sound to predict noise in the woodworking industry.

Keywords: noise, artificial neural network, woodworking industry

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Abstracts

Abstract 59: Preparation and in vitro evaluation of self-nanoemulsifing Sustained release pellets of gliclazide

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Introduction: Gliclazide belongs to biopharmaceutical classification system (BCS) class II drugs, which is poorly water soluble. The aim of this study was to design and formulate self-nanoemulsifying sustained - release pellets of gliclazide in order to improve its low solubility and bioavailability while avoiding the limitations of liquid Self-nanoemulsifying drug delivery system (SNEDDS).

Method & material: At first, primary screening studies was done in order to select the components of (SNEDDS). Liquid SNEDDS formulations were designed and prepared using different percentages of oil, surfactant and cosurfactant. Physicochemical characteristics of SNEDDS formulations including droplet size, poly disparity index, zeta potential and transmittance were evaluated. A Response surface experimental design was applied to explore the effect of variables (amount of oil, surfactant and cosurfactant) on responses and the optimization process predicts the amount of each component for yielding an optimized formulation. The physical stability of SNEDDS formulations was evaluated in different conditions. The optimized liquid formulaons (L-SNEDDS) was converted to solid formulations (S-SNEDDS) as pellets. SNEDDS pellets were evaluated for their size, PDI and transmittance after dispersion in aqueous mediums, and characterized using scanning electron microscopy. Release behavior gliclazide from liquid SNEDDS formulations and three different SNEDDS pellets were determined and compared with the release of free drug.

Result: The optimized composition of liquid gliclazide SNEDDS was 15.38% oleic acid, 61.53% tween 80 and 23.07% PEG 400. The mean hydrodynamic diameter, polydispersity index and zeta potential of optimized liquid SNEDDS formulation were about 171 nm, 0.278 and -27 mV. SEM images showed that the prepared pellets have a spherical shape with a diameter of 2 mm. In vitro dissolution of SNEDDS pellets exhibited slower drug release compared to optimized liquid SNEDDS. All of SNEDDS formulations including the liquid one and pellets showed a significant increase in gliclazide dissolution compared to plain drug. Increasing the amount of hydroxyl propyl methyl cellulose in the SNEDDS pellets were resulted in the slower release of drug.

Conclusion: Results of this study showed that gliclazide loaded L-SNEDDS and pellets can enhance the solubility and dissolution rate of this drug. The release of gliclazide from HPMC- containing SNEDDS pellets was found to be sustained. So SNEDDS pellets considered to be able to serve as a promising tool in sustaining the release of gliclazide while increasing its solubility.

Keywords: self-nanoemulsifing, gliclazide, biopharmaceutical classification system

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Trauma Monthly
Abstracts

Abstract 60: Speaking and its effect on SpO2, Corona disease and the missing SpO2 ring

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Introduction: COVID-19 is a viral disease that spread from Wuhan, China. On January 30, 2020, the WHO Emergency Committee announced a global health emergency based on the rising infection rate in East Asia and elsewhere. This disease can cause a wide range of clinical symptoms, including respiratory, gastrointestinal, and neurological disorders for patients. One of the criteria measured in COVID-19 patients is oxygen saturation (SpO2) using pulse oximetry. Although pulse oximetry provides reliable information on arterial blood oxygen saturation, items such as low tissue perfusion, carboxyhemoglobin, methemoglobin, edema, nail polish, especially dark colors such as green, black and blue, black skin, increased blood bilirubin, low temperature, hypotension, carbon monoxide poisoning, and cardiovascular disease can cause errors in measuring arterial oxygen saturation. However, do other factors affect oxygen saturation (SpO2)?

Method & material: In this simple randomized study, 40 hospitalized patients with COVID-19 in one month from 5/12/2021 to 12/6/2021 were selected. Their blood oxygen saturation was measured twice, before and after speaking with 10 minutes apart, by pulse oximetry device.

Result: Out of 40 patients participating in the study, 26 (65%) were female. The mean age of participants was 54.45 ± 15.19. The youngest patient was 21 years old, and the oldest was 78 years old. The mean percentage of oxygen saturation in these 40 patients was 98 ± 8.4. The nonparametric Wilcoxon test was used based on the number of participants in the study and the abnormality of the data. The Wilcoxon test showed a significant difference between blood oxygen saturation in patients before and after the intervention (Speaking). This significant difference was observed in the index fingers of both hands so that the mean percentage of blood oxygen saturation in the right hand before the intervention (94.30 ± 2.793) was changed to (95.55 ± 2.58) after the intervention (P=0.000, Z= –4.468). Also, the mean percentage of blood saturation in the left hand before the intervention (94.2 ± 2.791)

Conclusion: Also, the results of this test showed that the average percentage of blood oxygen saturation while talking in the right hand (14.31) is higher than the amount in silence (6). Also, the average percentage of blood oxygen saturation while talking in the left hand (16.73) is higher than the amount in silent mode (7.5). According to the results of this study, it can be concluded that another factor affecting the rate of oxygen saturation (SpO2) is talking while measuring it. This effect was observed as an increase in oxygen saturation (SpO2) in patients, statistically and clinically meaningful.

Keywords: SpO2, Corona disease, blood oxygen saturation

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Trauma Monthly
Abstracts

Abstract 61: Strategies to improve of enzymes thermostability

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Introduction: Enzymes are the main catalysts that carry out chemical reactions in cells. The function of enzymes is not limited to cells, but due to their desirable properties such as high activity and stability. Enzyme stability is an interested sized challenge for protein engineers due to its splendid industrial importance. Protein thermostabilityis a topic of major notice for the biotechnology, pharmaceutical and food industries, in addition to being a consideration for academic researchers studying proteins and is a critical factor for the applicability of a protein. Protein stability plays a critical role during protein evolution both in the laboratory and in nature.

Method & material: This work can be determined by many important structural features, including hydrogen bonds, salt bridges, aromatic π–π interactions, and cation–π interactions. Over the past decade, our understanding of what determines protein stability has drastically increased, resulting in large improvements in the ability to optimize protein stability in silico.

Result: In this review, discussion will focus on factors affecting protein thermostability, strategies to increase temperature stability, Structure level comparison and methods to rigidify flexible sites.These strategies have discovered that enzymes keep their structural stability through numerous forms of non-covalent and covalent interactions.

Conclusion: In the future, with better understanding of protein structure-function relationships and rapid development of in silico bioinformatics and systems biology techniques, we are more likely to see an increased synergy between protein engineering and design strategies to boost thermostability.

Keywords: Protein thermostability, Enzymes, biotechnology

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Trauma Monthly
Abstracts

Abstract 62: The association of pro-inflammatory diet with Diabetes in PERSIAN Cohort of Fasa: A Cross-sectional Study

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Introduction: A healthy diet is one of the leading lifestyle controls in the prevention and treatment of diabetes. In recent years, several studies investigated the negative effects of a pro-inflammatory diet (PID) on healthy metabolism. The present study aimed to investigate the association of PID with diabetes.

Method & material: This cross-sectional study included the eligible participants (n=10138) of the PERSIAN Cohort of Fasa. After excluding participants with missing related data and pregnancy, the data from Food Frequency Questionnaire were used to calculate the Dietary Inflammatory Index (DII), conducted by Shivappa et al. Then, the participants were divided into 4 quartiles (Q1, the most anti-inflammatory; Q4, the most pro-inflammatory). The participants with a history of medication for diabetes or fasting blood sugar ≥ 126 mg/dL (in participants with no history of Diabetes). The quantitative and qualitative variables were reported as mean (standard deviation) and frequency (percent). The mean of DII The unadjusted and adjusted association of PID with diabetes were evaluated using Logistic Regression (Significant level: p-value 0.05). Demographic features (age, years; gender; ethnicity; body mass index, kg/m2; socioeconomic status, Assert index; educational level; physical activity, metabolic equivalent of the task; energy intake, Kcal; marital status, occupational status), medical history.

Result: The mean age of the final studied population (n=9997) was 48.6±9.6 years, including 4502 men (45.0%). Approximately 13.3% of participants had diabetes (n=1331). The mean of DII was significantly higher in the diabetes group (-0.76±1.80 vs. -0.91±1.74; Pvalue=0.007). Also, unadjusted logistic regression indicated that PID had a significant positive association with diabetes (Odds Ratio, 1.192; 95% Confidence Interval, [1.062, 1.338]; Pvalue=0.003). But this association was insignificant (Odds Ratio, 0.956; 95% Confidence Interval, [0.842, 1.085]; P value=0.498), adjusted for age, gender, Ethnicity, body mass index, physical activity, smoking, cardiovascular disease, hypertension, non-alcoholic fatty liver disease.

Conclusion: Like the previous studies, our findings showed that PID has a positive association with diabetes. However, our adjusted model (considering a wide range of covariates in a big sample size, compared with the other studies) indicated that the pure association was insignificant. Therefore, further studies are required to address the association of DII and energy-adjusted DII with diabetes in the future.

Keywords: Diabetes, diet, inflammation, prevention

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Trauma Monthly
Abstracts

Abstract 63: The effect of chamomile supplementation on lipid profile in adults: A systematic review and meta-analysis

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Introduction: Chamomile and its products have been considered as potential herbal remedies for several conditions, such as cardiovascular, hepatic and gastric diseases, among others. Until now, the effects of chamomile administration on lipid profile have not been sufficiently appraised. The present study evaluated the effects of chamomile administration on the lipid profile such as total cholesterol (TC), triglycerides (TGs), high density lipoproteins cholesterol (HDL-C), and low density lipoproteins cholesterol (LDL-C).

Method & material: Following databases were searched for eligible randomized controlled trials (RCTs) published from inception to April 2023: PubMed, EMBASE, Web of Science, Google scholar, and Cochrane Library. Medical subject heading terms and keywords used to identify studies included: Chamomile AND lipid control OR total cholesterol OR TC OR triglycerides OR TG OR high density lipoproteins cholesterol OR HDL-C OR low density lipoproteins cholesterol OR LDL-C. Weighted mean differences (WMD) were pooled using a random-effects model. Heterogeneity, sensitivity analysis and publication bias were reported using standard methods. The present study has been performed by a grant from the Student Research Committee, Isfahan University of Medical Sciences (grant number: 1402175).

Result: 349 studies identified, four trials, comprising 234 were included in the meta-analysis. Pooled analysis of seven RCTs, demonstrated that the administration of chamomile led to a significant reduced TC (WMD: -22.15 mg/dl, 95% CI: -36.72, -6.84; p=0.039, I2 = 56.3%). However, other serum lipids including HDL-C (WMD: 0.79 mg/dl, 95% CI: -1.73, 2.68; p=0.593, I2 = 16.2%), TG (WMD: -16.82 mg/dl, 95% CI: -43.55, 8.68; p = 0.325, I2 = 75.7%), or LDL-C (WMD: -11.59 mg/dl, 95% CI: -24.37, 2.57; p=0.085, I2 = 72.5%) did not alter after the administration of chamomile. Subgroup analysis revealed that the sample size, and duration of chamomile supplementation could be sources of between-study heterogeneity.

Conclusion: The supplementation of chamomile can significantly reduce the TC concentrations in humans. Further RCTs with prolonged durations and powerful design are needed to specify the exact mechanism, optimal dosage, and duration of chamomile supplementation to obtain a beneficial effect on lipid profile.

Keywords: momile supplementation, lipid profile, systematic review, meta-analysis

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Trauma Monthly
Abstracts

Abstract 64: The effect of glycemic load on the plasma glucose level among healthy individuals: A prospective Cohort study, PERSIAN Cohort of Fasa, 2016-2021

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Introduction: Diabetes mellitus is one of the most leading non-communicable diseases that results in multiple complications and economic burdens. Controlling the glycemic load of diet is a promising protection for patients to prevent further complications of diabetes. The present study aimed to compare the change of plasma glucose level among healthy individuals with low- and high-glycemic load (LGL, HGL) in a 4 year follow up. Methods and Materials. In present prospective cohort study, all participants (n=3031) of PERSIAN Cohort of Fasa who were followed up in the second phase of study were included in the study. The participants with missing related data, any diagnosed chronic diseases, or pregnancy during study were excluded. The glycemic index was calculated based on the Food Frequency Questionnaire and categorized into LGL and HGL based on its median.

Method & material: The fasting blood sugar (FBS, mg/dL) from 2016 to 2021 were collected and reported from recorded database of PERSIAN Cohort. The quantitative and qualitative variables were reported as mean (standard deviation) and frequency (percent). The change of FBS were calculated for each participant. The mean of FBS-change was compared between LGL and HGL groups using independent T-test. Age, gender, body mass index, smoking, opium, alcohol, educational status, occupational status, physical activity, marital status, and energy intake were considered as potential covariates (selected based on Stepwise Linear Regression). The association of glycemic load and the change of FBS was evaluated using unadjusted and adjusted linear regression. Significant level was considered as P value 0.05. Results. The mean age of final studied population (n=1194) was 48.5±year, including 597 men (50%). The mean baseline and followed up FBS was 86.5±9.4 and 95.5±22.2 mg/dL.

Result: The mean of FBS change was significantly higher in HGL group (10.4±22.7 vs. 7.6±17.9 mg/dL. The crude linear regression indicated that Glycemic load had a significant positive association with change of FBS (B, 0.014; 95% Confidence Interval, [0.004, 0024]; p value= 0.025). The adjusted linear regression for obesity showed (B, 0.009; 95% Confidence Interval, [0.001, 0.018]; p value= 0.037).

Conclusion: Our longitudinal findings showed that having an uncontrolled high glycemic load in healthy individuals increased the raise of FBS during 5-year follow-up. Therefore, decreasing the glycemic load of healthy individuals would prevent the elevation of plasma glucose and the incidence of diabetes. Further dietary interventions in future studies are required to administrate plasma sugar-lowering diets for healthy individuals and protect them from becoming pre-diabetes or diabetes.

Keywords: diabetes, glycemic load, nutrition, prevention

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Trauma Monthly
Abstracts

Abstract 65: The Effect of L. Cuminum cyminum Vaginal Cream on Vaginal Atrophy in Postmenopausal Women residing in Gonabad, Iran in 2023

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Introduction: Vulvovaginal atrophy is a common complication among menopausal women and is caused by decrease in the level of estrogen secondary to lack of ovarian follicular reserve. Therefore, 50-60% of women experience the symptoms of vulvovaginal atrophy worldwide. This study aims to investigate the effect of L. Cuminum cyminum vaginal cream on vaginal atrophy symptomss, sexual dysfunction, sexual distress and descriptive assessment of vaginal mucosa.

Method & material: This two-group, triple-blind, randomized clinical trial study was conducted on postmenopausal women with vaginal atrophy in Gonabad city in 2023. Seventy-six postmenopausal women with the diagnosis of vaginal atrophy (subjective symptoms of atrophy) were included in this study. Participants were randomly assigned to experimental and control groups. In the experimental group, participants received 5% L. Cuminum cyminum vaginal cream for 8 weeks (once at night for the first 6 weeks and once every other night overnight for the next 2 weeks). The day-to-day impact of vaginal atrophy (DIVA) were completed by the participants and the vaginal atrophy score (VAS) was evaluated by gynecological examination at baseline, 4 and 8 weeks after the intervention. Data analysis was performed using the SPSS software version 26. P 0.05 was considered significant.

Result: The results of the study showed that the mean score of DIVA($p=0.91$) and VAS ($p=0.62$) were homogeneous in both groups at baseline. The mean DIVA score was significantly lower in the experimental group compared to the control group after 4 ($p<0.001$) and 8 ($p<0.001$) weeks of intervention. Also, mean VAS score was significantly lower in the experimental group compared to the control group after 4 ($p=0.023$) and 8 ($p<0.001$) weeks of intervention

Conclusion: The results of this study showed that L. Cuminum cyminum vaginal cream improves vaginal atrophy symptoms and sexual function; without causing serious complications. Therefore, it can be useful in women with vaginal atrophy.

Keywords: Vaginal Atrophy, Cuminum Cyminum, Day-To-Day Impact Of Vaginal Atrophy (DIVA), Vaginal Atrophy Scale (VAS)

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Trauma Monthly
Abstracts

Abstract 66: The effect of rapid rehabilitation nursing intervention on patients undergoing laparoscopic surgery: A systematic review

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Introduction: Recently, technological advancements have led to the use of new surgical methods, one of which is laparoscopy. Like all surgical methods, laparoscopy can have complications, and there are several approaches to decrease these complications. Rapid rehabilitation nursing (RRN) is one such approach that has been developed to improve rehabilitation practices and accelerate patients' post-operative recovery. RRN involves the use of preoperative validated strategies through the cooperation of different departments, such as surgery, anesthesia, nursing, and nutrition, to diminish postoperative complications, promote recovery, and decrease mortality. Nevertheless, there is a lack of research analyzing the effect of RRN in patients undergoing laparoscopic surgery. To fill this gap, the present study was conducted to shed light on clinical practice.

Method & material: Based on Cochrane systematic review principles and PRISMA guideline, this study was conducted using scientific databases including Cochrane CENTRAL, PubMed, Web of Science, and Scopus. The Google Scholar search engine was also used for searching grey literature. Keywords, including "rapid rehabilitation nursing," "fast track recovery," "enhanced rehabilitation," and "laparoscopic surgery," and their related synonyms were comprehensively searched without time limitation. The inclusion criteria included interventional studies that focused on examining the results of providing RRN to adults undergoing laparoscopic surgery. The exclusion criteria included not having an abstract and full text, and Review studies and conference papers. Two authors independently conducted screening and data extraction, and any discrepancies were resolved through consensus involving a third author. The ROB2 critical appraisal tool was used for quality assessment of included articles. The final data were presented in an extraction table.

Result: A total of 3,940 articles were found, and after removing 136 duplicates and 3,745 irrelevant articles, the full text of 59 articles were assessed for eligibility. Finally, 12 original research articles including randomized, non-randomized controlled trials were included in the study. The main outcomes were as follows, with a significant difference between intervention and control group: shortened hospitalization length (N=11), earlier time of getting out of bed (N=6), decreased post-operative complication N=9/10 (90% showed significant difference), increased nursing satisfaction (N=7), decreased pain severity (N=4), decreased time of catheter removal (N=3), decreased hospitalization cost (N=2), earlier gastrointestinal function recovery (including: first anal exhaust=10, first time to eat=4, first time to defecation=3, bowel sound=1), operation time N=1/3 (33/3% showed significant difference) and increased quality of life (N=3).

Conclusion: Based on the results of this study, RRN may have a significant effect on the outcomes of patients undergoing laparoscopic surgery, and it would be recommended to be used in clinical practice.

Keywords: Rapid rehabilitation nursing, fast track recovery, enhanced rehabilitation, laparoscopic surgery, systematic

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Abstracts

Abstract 67: The efficiency of Modified Richmond Score (MRS) in prediction of in-hospital and 6-month mortality and favorable outcome in Traumatic Brain Injury patients: A Cohort study in Emtiaz Hospital of Shiraz, 2016-2020

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Introduction: Richmond Acute Subdural Hematoma (RASH) Score is a novel promising scale to evaluate the prognosis and chance for mortality among post-evacuated traumatic brain injury (TBI) with subdural hemorrhage (SDH). The present study aimed to investigate the performance of a new version of RASH (without considering loss of consciousness) in predicting short- and long-term mortality and unfavorable outcome in patients with any kind of TBIs. Methods: This retrospective study included 2243 TBI patients admitted to the neurosurgery ward of Emtyaz Hospital, Shiraz, Iran, from February 2016 to January 2020. After the exclusion of participants with missing data, The RASH score (1) was calculated for the remained population without considering their history of loss of consciousness to obtain our new Modified Richmond Score (MRS) (2). Then, the patients were followed up for six-month after admission or until their death.

Method & material: The six-month unfavorable outcome was considered as an extended Glasgow Outcome Scale score of less than 5. After all, A receiver operating characteristic(ROC) curve was applied to investigate the performance, including Area Under Curve(AUC), Sensitivity(Sen), and Specificity(Spec), of MRS in the prediction of a six-month unfavorable outcome, in-hospital mortality, and six-month mortality. The most optimal cutoff of MRS was applied to define high-risk patients and compare the chance of them with the low-risk group for mentioned TBI outcomes using logistic regression (significant level: P-value0.05). Results: Eventually, 2169 participants with a mean age of 39.5±19.2 years (including 1811 men, 83.5%) were studied. The mean of MRS in the studied population was 1.99±1.47 (ranged from 0 to 7), which was significantly higher in patients with six-month unfavorable outcomes (2.96±1.50 vs. 1.53±1.21). ROC curve revealed that the most beneficial cutoff for MRS is 2.5 while predicting a six-month unfavorable outcome (AUC:76.5%, Sen:56.4%, Spec:83.7),

Result: in-hospital mortality (AUC: 74.3%, Sen: 83.5%, Spec: 45.8%), and six-month mortality (AUC:74.6%, Sen:57.6%, Spec:80.3%). Crude Logistic Regression indicated that the patients with high-risk MRS (scored≥3) have a significantly higher chance for six-month unfavorable outcome (OR: 6.66, 95%CI:[5.44-8.17]), in-hospital mortality (OR:5.49, 95%CI:[4.40-6.85]), and six-month mortality (OR:5.54, 95%CI:[4.50-6.82]). Also, these positive associations remained significant after adjusting for confounders (six-month unfavorable outcome (OR:5.43, 95%CI:[4.37-6.74]); in-hospital mortality (OR:4.24, 95%CI:[3.34-5.37]); six-month mortality (OR:4.40, 95%CI:[3.52-5.48]).

Conclusion: MRS indicated a promising performance in predicting short- and long-term mortality/unfavorable outcomes without using a history of loss of consciousness. Also, the presented optimal cutoff revealed an independent dramatic association with mortality/unfavorable outcome. Therefore, TBI patients with an MRS score of ≥3 are more likely to require further studies to prevent their mortality and ameliorate their neurological recovery. Also, the patients with MRS score = 2 requires more attention to avoid further complications and the patients with score = 0 or 1 have the least chance of mortality or unfavorable outcome.

Keywords: traumatic brain injury, prognosis, prediction model, mortality, neurological outcome

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Trauma Monthly
Abstracts

Abstract 68: The impact of using digital health to control blood pressure in the covid-19 pandemic: A systematic review

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Introduction: Hypertension is an increasingly prevalent disease worldwide and is responsible for the death of one in six adults in the United States each year. Optimal management of this disease includes frequent blood pressure monitoring and titration of antihypertensive medications, but in the traditional office-based care model, patients' blood pressure is measured only intermittently. The COVID-19 pandemic has accelerated the adoption of technology-based solutions for care delivery, while telehealth has emerged as an evolving care management strategy that is playing an increasingly important role. As a result, this systematic review discusses the impact of the use of digital health in blood pressure management during the COVID-19 pandemic.

Method & material: In this systematic review, studies published in English were searched in electronic databases such as Web of Science, Scopus, Medline, Cochrane using Mesh keywords from the beginning of Covid-19 to 2023. Out of 3723 articles identified, 1980 articles were deleted at the repetition and subject review stage. After applying the inclusion and exclusion criteria, reading the abstract and then the full text of the articles, and using the PRISMA checklist, 29 relevant articles were finally included in the study. The process of searching and reviewing the identified sources started on 22 February 2023 and ended on 22 May 2023.

Result: Of the 29 studies included in the systematic review, 11 articles (37.93%) dealt with remote blood pressure control as the main disease and 13 articles (44.82%) as a co-morbidity. From the point of view of health professionals, the possibility of using telehealth systems is useful and they are satisfied with the use of this method. Patients were also satisfied with the use of telemedicine for treatment, follow-up or prevention of their condition. The most important predictor for digital health technologies was ease of use. The main barriers to using this medical method were technological challenges, connectivity issues, low computer literacy, inability to perform a thorough physical examination, and lack of training.

Conclusion: Among the various modern interventions proposed to improve blood pressure control, the use of home blood pressure monitors has been shown to be one of the most effective. Home BP monitoring is particularly suitable for telemedicine and mobile health solutions.

Keywords: Telemedicine, Mobile Health, Hypertension, Blood Pressure, COVID-19

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Trauma Monthly
Abstracts

Abstract 69: The Maturation Time of Arterio-venous fistula in Chronic Kidney Disease Patients Under Antihypertensive Therapy regimes

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Introduction: Arterio-venous fistula (AVF) is the preferred type of vascular access in maintenance hemodialysis. Also, one of the limitations of this method is the need for maturation of AVF to use for efficient hemodialysis. Antihypertensive medications have been considered to affect AVF maturation in some studies. In this study, we investigated the rate and time of AVF maturation in patients with renal failure treated simultaneously with antihypertensive medications.

Method & material: We performed a prospective study for all patients referred to the Vascular Surgery Department of Ayatollah Rouhani Hospital for AVF creation. Finally, 73 patients were enrolled in this study. Demographic information, medication history, underlying diseases, and information about AVF surgery, were recorded in the demographic-clinical questionnaire. After the AVF insertion surgery, the patients were followed up and visited for one week, one month, two months, and then monthly up to 6 months after surgery, if the AVF was not mature, and the examination results were recorded in the questionnaire. If the maturation of the AVF was confirmed by clinical examination, the patient was referred to the dialysis unit for hemodialysis, and after successful hemodialysis, the time of AVF maturation was recorded.

Result: Of the 73 patients enrolled, 38 cases (52.1%) were male and 35 cases (47.9%) were female. The average age of the patients was 53.96±13.65 years. Most of the patients had a history of diabetes (50.7%), hypertension (91.8%), and hyperlipidemia (45.2%). Out of 73 patients studied, 64 patients reached fistula maturity during the study, and 9 patients failed in initial fistula maturation. In this study, the rate of AVF maturation was 64 cases (87.7%), and fistula maturation time was 71.95±32.86 days on average. Having diabetes in patients has been associated with the results of AVF maturation rate (P=0.028). Also, there was a significant association between mean intraoperative blood pressure and AVF maturation time (P=0.033). The use of antihypertensive medications did not affect the results and time of AVF maturation(p0.05).

Conclusion: There was no relationship between the use of antihypertensive medications and AVF maturation rate and time. The AVF maturation rate in diabetic patients was lower. In patients had higher blood pressure during surgery, the AVF maturation time was shorter, and they reached maturation earlier. Due to the significant role of blood pressure in fistula maturation, the necessity of antihypertensive drug modification in the process of maturation is suggested.

Keywords: Arterio-venous fistula maturation, Arterio-venous fistula, Hemodialysis, Antihypertensive medication, Vascular access

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Trauma Monthly
Abstracts

Abstract 70: The Protective Effects of Honey with Different Total Phenolic Content Against Cytarabine-Induced Hematological Changes in Rats

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Introduction: Cytarabine is a well-established treatment for leukemias, but its use is hampered by side effects on healthy cells. Scientists are therefore seeking substitutional options to enhance cytarabine's effectiveness and reduce its toxicity. Honey for its wide range of medicinal properties, considers a well-known remedy in traditional medicine. It also contains plenty of phenolic compounds that could potentially provide anticancer effects. This study aims to assess the protective effects of honey samples classified based on total phenolic content (TPC) against cytarabine-induced hematological changes in rats.

Method & material: Thirty male Wistar rats were randomly allocated to five groups: control, cytarabine, cytarabine + honey (low TPC), cytarabine + honey (moderate TPC), and cytarabine + honey (high TPC). Relevant groups were orally given honey pretreatment (1200 mg/kg) daily for 30 days before cytarabine injection. Subsequently, cytarabine (100 mg/kg) was injected daily for six days through the i.p. route. Afterward, the rats were anesthetized using a standard protocol of ketamine-xylazine combination, and blood samples were collected. Hematological parameters including white blood cell (WBC), red blood cell (RBC), hematocrit (HCT), and platelet (PLT) counts were measured using an automated hematology analyzer. Plus, lactate dehydrogenase (LDH) was also determined in the serum using an autoanalyzer.

Result: The results demonstrated that cytarabine treatment induced significant decreases in WBC, RBC, HCT, and PLT counts, and increased LDH levels in rats in comparison to the control group. However, rats that received orally administered honey with different TPC levels (low, moderate, and high) demonstrated a significant increase in WBC and PLT counts, as well as a decrease in LDH levels compared to rats treated only with cytarabine. No significant changes were observed in HCT levels. Consequently, high TPC honey was more effective than low and moderate TPC honey in LDH levels, WBC, and PLT counts in cytarabine-treated groups. Moreover, honey containing high TPC stimulated a significant increase in RBC counts that was not observed in honey with low or moderate TPC.

Conclusion: It sounds like the classification of honey samples based on the TPC marker could lead to remarkable protective properties against cytarabine-induced hematological alterations; in this way, high TPC honey was more successful than the others. Consequently, honey containing high TPC could be considered a natural prophylactic dietary supplement to protect against cytarabine-induced changes during cancer treatment.

Keywords: Honey, Cytarabine, Hematology, Total Phenolic Content, Chemotherapy.

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Trauma Monthly
Abstracts

Abstract 71: The Role of Blood Pressure in Non-maturation of Arteriovenous Fistulas of Diabetic Patients, North of Iran.

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Introduction: The existence of reliable vascular access is affecting the efficiency of dialysis. Although Many studies have investigated the relationship between diabetes and vascular access survival, had not evaluated its relationship with fistula maturity. This study aims to investigate the duration of maturation of distal forearm arteriovenous fistulas in hemodialysis patients with diabetes.

Method & material: In this cross-sectional study, 90 patients were referred to Ayatollah Rouhani Hospital of Babol.The demographic characteristics, background disease, laboratory measurements and blood pressure of patients, information related to operation and insertion of the arteriovenous fistulas were filled. The patients were followed up at 1 week, 1 month, 2 months, and then monthly up to 6 months with fistula clinical examination in terms of Thrill. The data was analyzed by Chi-square tests, t.test and survival test methods such as the Kaplan-Meier method and Cox regression model in SPSS statistical software.

Result: Most of the patients, 41 cases (53.2%) were male. The hypertension 62(80.5%) and hyperlipidemia 25 (32.5%) were the most common background disease, respectively. Furthermore, it can be seen that there is a 3-day difference between the maturity of fistula in men and women, but this difference was not statistically significant ($p>0.05$). The result showed that there is a reverse and significant correlation between pre-operative blood pressure ($p= 0.013$), during operation ($p=0.004$), post-operation ($p=0.003$) and one week ($p=0.002$), one month later ($p=0.008$) and two months after ($p=0.333$) with maturation time. The key point has an inverse effect on the prediction, so with increasing the mean pressure (except in the period of two months after surgery), the longer duration of maturation has been seen.

Conclusion: There was a significant difference in mean blood pressure before, after, and during operation with the duration of fistula maturation. These times in addition to correlation, can predict value of the time of fistula maturation. Further studies with multicenter and large samples are suggested.

Keywords: Fistula, Blood pressure, Renal dialysis, Diabetes mellitus

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Trauma Monthly
Abstracts

Abstract 72: The Value of Ultrasonography in Diagnosis of Carpal Tunnel Syndrome

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Introduction: Carpal tunnel syndrome (CTS) is the most commonly diagnosed neuropathy caused by the entrapment of a peripheral nerve. The diagnosis is generally based on the patients' history, physical examination, and electromyography (EMG) findings. Ultrasound imaging has been recently employed as a reliable and cost-effective method in diagnosing CTS

Method & material: This diagnostic cross-sectional study was conducted on patients with the history and clinical symptoms of CTS referred to the orthopedic clinic of Shahid Sadoughi Hospital, Yazd, Iran, during 2018-2019. Patients were divided into severe, moderate, and mild groups based on their severity of CTS according to the results of EMG and nerve conduction velocity (NCV) tests. The participants' demographic information and examining their clinical severity of CTS according to the Boston criteria, ultrasonography was performed. The cross-section area (CSA) and transverse diameter of the nerve were measured at the mid-forearm, proximal and distal boundaries of the flexor retinaculum, carpal tunnel cross-section, and carpal bones. Finally, by using SPSS version 16, the results were compared among the study groups.

Result: sensitivity and specificity of the median nerve CSA were 87.5 % and 81.7 % in the right wrists as well as 95.5% and 70% in the left wrists, respectively. The sensitivity and specificity of the median nerve width were 100 % and 74.1 % in the right wrists as well as 79.5% and 58.3% in the left wrists, respectively. An increase of the carpal tunnel CSA was significantly associated with the severity of CTS.

Conclusion: Ultrasonography can be employed as a method with high sensitivity and specificity in the diagnosis of CTS. It also can solve the diagnostic problems due to the weakness of other diagnostic methods, especially EMG-NCV.

Keywords: Ultrasonography, Carpal Tunnel Syndrome, electromyography

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Trauma Monthly
Abstracts

Abstract 73: Bacterial vaccines for older adults, challenges and opportunities for immunization across the life-course; A systematic review

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Introduction: Preventing and treating bacterial infections is a major 21st-century challenge. Vaccination reduces infection costs. Rather than childhood vaccines, aging vaccines are being developed. WHO also prioritizes protecting almost 2 billion elderly individuals by 2050. This study examined elderly immunization challenges and prospective.

Method & material: The protocol of this study was designed based on PRIMSA guidelines, The following databases were searched for published and unpublished studies up to 1 May: Web of Science, PubMed, Google Scholar, and Cochrane. The following terms were used to generate a search: “bacterial vaccines AND older adults”, “bacterial infections AND immunosenescence”, “immunization strategies AND aging”, “vaccine efficacy AND elderly” and “bacterial diseases AND life-course immunization”. This study included all English language studies that report the efficacy, safety, immunogenicity, or cost-effectiveness of bacterial vaccines for older adults. The study excluded articles without reporting any of these outcomes. Study quality was assessed using the appraisal tool: CASP Systematic Review Checklist (ROBIS). Independently, two researchers searched and assessed studies at all stages.

Result: In the present analysis, the data of 41 studies containing from 15 different countries were evaluated. Because of age-related reductions in immune function, older adults are more vulnerable to bacterial infections. A bacterial immunization can prevent disease as well as reduce mortalities and morbidities. However, there are several issues and opportunities for immunization throughout the life cycle. One concern is that elderly persons do not receive recommended vaccines, which could be due to a lack of knowledge, access, or motivation. In older adults, some immunizations have poor immunogenicity or efficacy, which requires higher doses, booster shots, or novel formulations. An option is developing vaccines that target specific pathogens that cause significant illnesses in the elderly, like pneumococcal conjugate vaccines. Another option is to combine vaccination with other preventative measures such as a healthy lifestyle, screening, and chronic condition therapy. As a result, older adults can receive stronger and longer-lasting immune

Conclusion: Due to the need to vaccinate elderly people and accompanying challenges, such as adverse effects and immunogenicity issues, researchers are exploring the efficacy of vaccinations for all ages and immune systems.

Keyword: Bacterial vaccines, older adults, Immunization strategies, Life-course immunization, Immunogenicity

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Trauma Monthly
Abstracts

Abstract 74: Evaluation the anti-proliferative effects of wild-type Newcastle disease virus on lactate dehydrogenase secretion and induction of apoptosis in A549 cells

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Introduction: One of the emerging ways to treat cancer is to use oncolytic viruses. The main oncolytic mechanism of viruses is the induction of cellular apoptosis, which involves both exogenous and endogenous pathways. The aim of the present study was to Evaluation the potency of wild-type Newcastle disease virus on lactate dehydrogenase secretion and induction of apoptosis in A549 cells

Method & material: The present study was performed experimentally under cell culture conditions. Thus, after culturing A549 cell line, it was treated with different titer of wild-type Newcastle disease virus strain. Then, the oncolytic effects of the virus were evaluated using MTT (cell proliferation) tests, ROS production rate, LDH release rate, survival rate and caspase 8 and 9 protein levels to determine the path of apoptosis. In all tests, $p<0.05$ was considered as a significant level.

Result: The results of the present study showed that wild-type Newcastle disease virus caused a significant decrease in proliferation ($p<0.05$), a significant increase in the percentage of apoptosis ($p<0.05$), a significant increase level of ROS production ($p<0.05$) and significant increase in LDH release ($p<0.05$) compared with control group. Also, the evaluation of caspase 9 and 8 activity in A549 cells showed that the wild-type Newcastle disease virus increasing the level of caspase-9 activity ($p<0.05$) and had no significant effect on caspase 8 activity ($p=0.65$).

Conclusion: According to the results of the present study, it seems that the use of wild-type Newcastle disease virus can be considered as a strong candidate for the treatment of Lung cancer.

Keyword: Newcastle disease, lactate dehydrogenase secretion, A549 cells

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Trauma Monthly
Abstracts

Abstract 75: The applications of Chatbots in medicine

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Introduction: In today's world, healthcare professionals face increasing responsibilities due to the growing population, aging, higher rates of illnesses, and overuse of medical services. These challenges, combined with a shortage of medical experts and staff, make accessing healthcare services more difficult and contribute to physician burnout. These issues also lower the quality of medical care and worsen clinical outcomes for patients. Fortunately, technological advancements in artificial intelligence have been integrated into medical care, including the use of patient-centered approaches like chatbots. Chatbots are digital technologies that use artificial intelligence to improve medical care, provide education, and enhance overall health. In this article, we will explore the various applications of chatbots in medicine.

Method & material: This article was conducted by searching these three keywords "healthcare", "artificial intelligence", and "Chatbots" in the PubMed database. Between the years 2019 and 2023, 44 articles were found. After reviewing the articles 10 articles were ultimately selected for this study.

Result: Studies conducted on cancer patients have shown that virtual assistants can provide unbiased evaluations and judgments, leading to improvements in patient's treatment and diagnosis. Virtual assistants have been particularly helpful in the treatment and diagnosis of breast cancer, colorectal cancer, laryngeal cancer, and prostate cancer. For instance, the chatbot PROSTA has been able to diagnose skin cancer by analyzing patients' urination and skin analyses. Additionally, chatbots have been used to screen for skin cancer by examining images of patients' skin. Chatbots have also helped diagnose diseases with the aid of skin sensors attached to smart shirts equipped with artificial intelligence. Studies have found that chatbots increase follow-up and responsiveness by 55% and reduce the workload of healthcare professionals by 23%. A patient with diabetes has described chatbots as the only way to consider all necessary parameters simultaneously for effective diabetes treatment.

Conclusion: Chatbots have benefits, especially for the welfare of healthcare professionals and patients, by changing the way treatment is managed and information is provided to patients. Furthermore, it is expected that chatbots will reduce the workload of healthcare professionals by answering patients' questions.

Keywords: Chatbots, medicine, applications

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Trauma Monthly
Abstracts

Abstract 76: Investigation of 5-year survival of patients with breast cancer and its related factors

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Introduction: Breast cancer is the most common cancer among women all over the world and includes 16% of all cancers in Iran. Hence, Survival time for breast cancer is considered as one of the major criteria for controlling the disease and measuring the effectiveness of treatments. Survival time indicates those patients who live for a specific period of time after diagnosis.

Method & material: A retrospective study was conducted with the aim of investigating a 5-year survival and its related factors in patients with breast cancer. In this research, the intended information of all patients (2508) with breast cancer, who were referred to Omid Hospital of Mashhad and also Reza Radiotherapy Oncology Center during 2001-2013, was reviewed. Firstly, the univariate Cox regression was fitted for each variable and then multivariate Cox regression was fitted for significant variables. Finally, the five-year survival curve was plotted for all significant variables in the multivariate Cox regression.

Result: 5-year survival in this study was 67% and since it was above 50% the median survival was not calculated for patients. Instead, the 75th percentile was computed that was 47 with a standard error of 2.11. Moreover, some variables including subtype of breast cancer, age, marital status, race, stages of breast cancer and Cancer antigen (CA 15-3) were identified as influencing factors on survival in the multivariate Cox regression.

Conclusion: According to the results of this study and the patients' survival, breast cancer diagnosis at an early age and in the early stages of the cancer by using screening methods for high-risk individuals seems to be necessary in order to prolong the survival time.

Keywords: breast cancer, factors, 5-year survival

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Abstract 77: Acute Coronary Syndrome Referred to Imam Hossein (PBUH) Hospital, Shahroud, 2022: A Cross-sectional Study

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Introduction: Individuals with Acute coronary syndrome (ACS) experience a tremendous psychological burden, typically in the form of death anxiety due to acute medical conditions and the possibility of mortality. The unfavorable conditions of these patients cause them to reconsider the meaning of life and their spiritual well-being. This study evaluated the association between death anxiety and spiritual well-being in patients with ACS.

Method & material: A total of 241 patients with ACS were assessed using an accessible sampling technique in Shahroud, northeast of Iran. The data were collected using the Templar Death Anxiety Scale (TDAS), and the Ellison and Paloutzian Spiritual Well-being Scale (SWBS). The data were analyzed by descriptive and inferential statistics (Multivariate regression method). The significance level was considered equal to 0.05.

Result: The patients' average age was 63.72±13.23 years. All patients indicated a high degree of death anxiety, and roughly half reported a moderate level of spiritual well-being. There was a significant and direct correlation between death anxiety and spiritual well-being levels. In addition, older age, single status, and nonsmoking were markers of good spiritual well-being.

Conclusion: According to the findings, calming these individuals' fears of death must be a priority if they are to experience a rise in their sense of spiritual well-being. A multidisciplinary health team should identify and implement approaches to promote spiritual well-being and reduce mental suffering.

Keywords: Acute Coronary Syndrome, mortality, death anxiety

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Trauma Monthly
Abstracts

Abstract 78: Investigating the effect of telemedicine services on the rehabilitation of autism patients: a systematic review

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Introduction: Autism is a neurotypical disorder that is associated with problems in social communication, motor skills, limitations in social interactions and the inability to understand emotions and feelings. This disorder is currently one of the most common neurotypical disorders in society. So far, many researches and trials have been conducted and are ongoing for the rehabilitation and treatment of people with autism. One of the ways that has recently received a lot of attention is telemedicine. In this regard, this review study was conducted with the aim of investigating telemedicine services on the rehabilitation of autism patients.

Method & material: his study was conducted by systematic review method by searching the keywords telemedicine, rehabilitation, autism in Pubmed, SID, Scopus, Sciensce direct, Magiran, Sid, Irandoc and Google Scholar search engine and after applying the entry criteria and 25 articles that were researched in this field between 2017 and 2023 were included in the study.

Result: Telemedicine services have an important effect on improving the cognitive and communication skills of autism patients and can significantly improve their social and movement abilities. These services are provided remotely and include psychological treatments, movement, speech and cognitive rehabilitation. The use of telemedicine brings the possibility of communicating at the right time and place, access to specialists with expertise in autism without space and time restrictions, increasing the participation and interaction of people with autism in treatment and rehabilitation sessions, and increasing the satisfaction of patients and families. The results of these studies show that the use of telemedicine services can significantly improve the quality of life and rehabilitation of autism patients. Telemedicine services are a new method in managing this disease, which helps patients' ability to interact with the world around them by using new technologies such as virtual reality and robotics.

Conclusion: Considering the positive effect of telemedicine in improving the communication and social cognitive ability of these patients, it is recommended to be used as an effective and innovative solution in the rehabilitation of these patients. Therefore, telemedicine services can help improve motor abilities of autism patients. As a result, further research in this field can improve the best practices and promote telemedicine services through quantitative and qualitative evaluations.

Keywords: Autism, telemedicine, rehabilitation

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Trauma Monthly
Abstracts

Abstract 79: The Effectiveness of Simulation-Based Training in Nursing Education: A Systematic Review and Meta-Analysis

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Introduction: Simulation-based training in nursing education has been considered as a valuable approach to improve clinical skills and increase patient outcomes. This systematic review and meta-analysis aims to evaluate the effectiveness of simulation-based training in nursing education.

Method & material: A comprehensive search was conducted in electronic databases including PubMed, CINAHL and Scopus. The search included studies published between 2010 and 2021. Randomized controlled trials and quasi-experimental studies that evaluated the effect of simulation-based training on clinical competencies and functional outcomes of nursing students were included in the review.

Result: A total of 25 studies met the inclusion criteria and were included in the meta-analysis. These studies used different types of simulations, including high-quality mannequins, virtual reality simulations, and standardized patients. Findings showed that simulation-based training significantly improved nursing students' clinical competencies, including knowledge mastery, technical skills, critical thinking, and decision-making abilities. In addition, simulation-based training had a positive effect on students' confidence, communication skills, and overall satisfaction with the learning experience.

Conclusion: This systematic review and meta-analysis provides strong evidence in support of the effectiveness of simulation-based education in nursing education. The use of simulation allows students to develop their clinical skills in a safe and controlled environment and also improves patient care outcomes. It is recommended to integrate simulation-based education into nursing education programs and prepare practicing nurses for real clinical settings.

Keywords: Simulation-Based Training, Nursing Education, Meta-Analysis

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Trauma Monthly
Abstracts

Abstract 80: The role of α2-adrenoceptors of mPFC on stress-induced analgesia during inflammatory and tonic pain in rat

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Introduction: In chronic neuropathic, the medial part of pre-frontal cortex (mPFC) was found to undergo either structural or functional alterations in pain conditions. Indeed, both gray matter volume and neural firing rate in the mPFC decreased in patients with chronic pain. It is well accepted that intense stress or fear give rise to a suppression of pain termed "stress-induced analgesia," mediated by brainstem pain-modulating cortices, including mPFC. Although there is ample of evidences for the stress-induced analgesia, the underlying mechanism of this effect remains almost unknown. In the present study, we assessed whether α-adrenoceptors of mPFC is involved in the neurobiological basis of stress-induced analgesia in rat.

Method & material: Hear, we assessed the intra-mPFC injection effects of clonidine, as a α2-adrenoceptor agonist, and yohimbine, as a α2-adrenoceptor antagonist, on the tonic pain (using tail flick test) and inflammatory pain in rat with or without swim stress. Animals (Male Wistar rats) were divided into 6 groups (n=6 / each group): control+ clonidine (10 µg/µl), control+ yohimbine (10 µg/µl), swim stress + clonidine (10 µg/µl), and swim stress + yohimbine (10 µg/µl) groups. Swim stress was performed in a swimming tank for 6 minutes. The mean nociceptive scores were measured during phase 1 (1–5 min), and phase 2 (5–90 min) of the formalin test. All drugs were injected 5 minutes before swim stress (single dose). The inflammatory pain model was induced by injection of formalin into the surface of the hind-paw of rats. Formalin test consists of phase 1 (0–5 min) and phase 2 (10–60) in which the animal shows painful behavior.

Result: Intra-mPFC injection of clonidine significantly reduced tonic pain and inflammatory pain. Additionally, intra-mPFC injection of yohimbine significantly increased tonic pain and inflammatory pain. Moreover, intra-mPFC injection of yohimbine significantly reduced stress induced analgesia

Conclusion: Our data suggested that α2-adrenoceptors of mPFC have critical role in both tonic and inflammatory pain. Indeed, stimulation of α2-adrenoceptors of mPFC by clonidine effectively induced analgesia in intact rats. Similarly, application of clonidine markedly increased stress induced analgesia.

Keywords: mPFC, α2-adrenoceptors, Tonic Pain, Inflammatory Pain, Rat

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Trauma Monthly
Abstracts

Abstract 81: 6-Mercaptopurine Monitoring by Smartphone Colorimetric Sensor Based on Silver Nanoprisms Shape Transformation

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Introduction: The thiopurine analog, 6-Mercaptopurine (6-MP), is a cancer therapy medication. It incorporates triphosphate into RNA and DNA and prevents purine nucleotide synthesis. This medication carries notable adverse effects including hepatotoxi-city, immunosuppression, and myelosuppression. Therefore, it is imperative to regularly monitor the dosage of this medication in the human body. Unfortunately, currently used methods are time-consuming and expensive. Hence, the creation of a sensitive, and cost-effective approach for assessing 6-MP would be of noteworthy interest. Nowadays, smartphones play a considerable role in our lives so we can see their footprint everywhere. We developed a cheap and convenient colorimetric method using smartphones to measure 6-MP concentration

Method & material: AgNPrs were synthesized through seed-mediated synthesis method by adding NaBH4 into solution containing, ⟦AgNO⟧_3, sodium citrate, and PVP in ultra-pure water. The formation of AgNPrs resulted in the manifestation of blue color in the solution. To measure 6-MP, 500µL of AgNPrs,25µL Glycine buffer (0.1 M, PH=10) and different amount of 6-MP were incubated in the test tube for 5min. Then, 15 µL I^-0.5 mM was added into the tube and the final volume was reached 1mL. After 5 min, the solution color change was measured via recording RGB amount by smartphone application Colormeter Free and the data was used to draw linear calibration curve.

Result: TEM images reveal the triangular shape of AgNPrs. Additionally, three SPR characteristic peaks of AgNPrs appeared at the absorption spectrum of AgNPrs in the 330, 490 and 752nm. the experimental solution color was changed from blue to purple by adding I^- as a result of shape transformation of AgNPrs. the surface energy and activity of Ag atoms at the corner of AgNPrs is high. Therefore, corner site placed Ag atoms can be easily dissociated by I^-, leading to the morphological transformation of AgNPrs. It was noted that the inclusion of 6-MP in solution returns color to blueish. The solution color alteration from purple to blue was proportional to 6-MP concentration. Indeed, the affinity of Ag atoms to sulfur (in the 6-MP structure) is higher than I^-, resulting in the formation of Ag-S bond at the corner sites and protection of AgNPrs from etching.

Conclusion: Our colorimetric sensor based on smartphones can measure 6_MP concentration ranging from 0.1 µM to 10 µM. Thus, it shows acceptable and cost-effective results. This technique can be used for 6-MP analysis in pharmaceutical and bio-logical samples.

Keywords: Silver Nanoprisms, Smartphone, 6_Mercaptopurine, Colorimetry

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Trauma Monthly
Abstracts

Abstract 82: A meta-analysis on the association of sugar sweetened beverages intake with the risk of kidney cancer

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Introduction: Kidney cancer is known as a rare cancer with a high rate of mortality. Dietary intakes have an important role in the etiology of this cancer. Recently, observational studies have focused on the role of sugar-sweetened beverages (SSBs). However, findings from the observational studies on the association between SSBs and risk of kidney cancer are conflicting. Therefore, the current systematic review and meta-analysis was conducted to summarize available findings in this regard by considering published observational studies.

Method & material: We carried out a systematic review in the online databases of PubMed, Scopus, and ISI Web of Science, up to February 2023, to find eligible articles. We included observational studies including cohort and case-control studies that assessed any types of SSBs in relation to kidney cancer. Also, we evaluated the quality of included studies using the Newcastle Ottawa Scale.

Result: Overall, ten studies including 7 cohort and 3 case-control studies were included. These studies included a total of 2,519,187 participants and 5,560 cases of kidney cancer. By comparing the highest and lowest intake of SSBs, we found no significant association between SSB intake and risk of kidney disease. However, in the subgroup analyses, we found a significant positive association between total juice intake and risk of kidney cancer so that people in the highest categories of juice intake had 53% higher risk of kidney cancer compared with those in the lowest categories (1.53, 95% CI: 1.18-1.99). For other types of SSBs, no significant association was found. The scores of quality assessment for the most included studies were high.

Conclusion: We found a significant positive association between total juice intake and risk of kidney cancer in adults. However, this association for total SSBs and other types of beverages was not significant.

Keywords: sugar, kidney cancer, adults

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Trauma Monthly
Abstracts

Abstract 83: A survey of Dioctophyma renale's frequency and related factors in road-killed canids of northern Iran

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Introduction: Dioctophyma renale or "giant kidney worm" is a nematode species of Dictophymatidae family which its adult form habitats in kidney parenchyma of carnivores throughout the world (1). Due to the vast number of hosts for D.renale in northern Iran with favorable mild and humid weather in Southern shores of Caspian sea, this study aimed to determine the Dioctophyma renale's frequency and related factors in road-killed canids of northern Iran (2).

Method & material: In the descriptive-analytical cross-sectional study, 54 carcasses of road-killed canids which were appeared in car accidents, namely, 22 dogs (Canis familiaris) and 32 golden jackals (Canis aureus) in northern provinces of Iran (Guilan and Mazandaran) were collected by consensus sampling method and transferred to parasitology laboratory of Guilan school of medicine from winter of 2016 to spring of 2023 where samples were dissected. Moreover, kidney parenchymal tissue and abdominal cavity of carcasses were fully analyzed searching for D. renale's worm. Furthermore, statistical Chi-Square test was performed in spss v16.0 for comparing carnivore's sex and species of infected animal to the rate of infection with D.renale. The level of significance was considered 0.05.

Result: In the study D.renale infection was observed in 4.6% of dogs and 21.9% of golden jackals. In this study, cases of infection with D.renale were reported specifically from Guilan province. Although prevalence of D.renale infection in golden jackals was higher than dogs, there was no significant statistical correlation between species and infection rate ($P>0.05$). There was no significant statistical correlation between carnivore's sex and rate of infection with D.renale ($P>0.05$).

Conclusion: This study reports high prevalence of Dioctophymiasis in dogs and jackals of Guilan province. Thus, concerning risk of transmission of this zoonotic nematode to humans, warning doctors and veterans about these infected regions prioritizes.

Keywords: Dioctophyma renale, carnivores, Northern Iran

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Trauma Monthly
Abstracts

Abstract 84: Alcohol, cigarette and IBD; friends or foes? The effect of alcohol consumption and smoking on IBD: A systematic review

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Introduction: Inflammatory bowel disease (IBD) is a group of diseases that are characterized by chronic inflammation of the gastrointestinal (GI) tract and include Crohn's disease (CD), ulcerative colitis (UC) and microscopic colitis (MC). Although IBD is widely associated with smoking in epidemiological studies, there are conflicting results for the association between IBD and alcohol consumption. We aimed to investigate whether cigarette smoking, and alcohol consumption are associated with either CD, UC or MC and how.

Method & material: A literature search for relevant studies from inception to 1 December 1978 on PubMed has been done. The decision for inclusion of each study was made independently by two authors (AM and ME). Disagreements about inclusion of studies or extraction of data were resolved by the third author (MMR). Other systematic reviews were manually searched to identify other potentially relevant studies. Searching strategy was ((((((colitis[Title/Abstract]) OR (IBD[Title/Abstract])) OR (Ulcerative colitis[Title/Abstract])) OR (Crohn's disease[Title/Abstract])) OR (microscopic colitis[Title/Abstract])) AND ((smoking[Title/Abstract]) OR (alcohol[Title/Abstract])) AND ((clinical trial[Filter] OR comparative study[Filter] OR observational study[Filter] OR randomized controlled trial[Filter]) AND (humans[Filter]))).

Result: 225 articles were initially considered. Of these, 20 were included according to the study criteria. 5 studies revealed the association of alcohol consumption and smoking with an increased risk of MC. Past smokers had transient MC whereas current smokers had persistent MC. The results from UC studies seem unclear with 28.5% of studies confirming the association between smoking and increased chance of developing UC, while 28.5% of studies demonstrating the preventing effect of smoking. 14.2% showed no association and 28.5% confirmed the correlation between smoking and UC. 33% of studies showed the aggravating effect of alcohol on UC and 33% denied any relationship between them while 33% showed the preventing effect of alcohol on UC. 25% of studies stated no correlation between alcohol and CD while the rest confirmed the increased chance of developing CD in alcohol consumers. All studies showed an increased rate of CD development in smokers.

Conclusion: While it is clear that Alcohol intake and smoking increase the chance of developing MC and CD, the association between UC and these 2 risk factors seem unknown. Prospective cohorts are needed to determine the correlation between UC and the 2 risk factors.

Keywords: Alcohol, cigarette, colitis, IBD

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Trauma Monthly
Abstracts

Abstract 85: Ameliorative effect of Sildenafil Citrate on the sperm quality during cryopreservation in the asthenozoospermic men

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Introduction: Asthenozoospermia, characterized by decreased sperm mobility, is one of the main indicators of male infertility. Due to the limited longevity of fresh sperm, cryopreservation can provide simultaneous recovery of the sperm and oocyte, but is accompanied with many damages to the cell. Adding an antioxidant to the cryopreservation medium can be an effective strategy to maintain the quality of cryopreserved sperms. Sildenafil Citrate (SC) has a wide range of applications in conditions such as male erectile dysfunction . In addition, the effect of SC in improving semen parameters in infertile men has also attracted the researchers' attention. In this study, the effects of SC as an antioxidant on the quality of sperm during cryopreservation in asthenozoospermic patients were investigated for the first time.

Method & material: This study was approved by the research ethics committee of Qom University (IR.QOM.REC.1399.019). 30 semen samples were collected from 30 asthenozoospermic individuals who had referred to the infertility treatment center of Qom University Jihad in 2021. Each sample was divided into 3 groups: Control (fresh); Freeze, (treated with cryo-protectant); and Freeze+ SC, (treated with cryo-protectant+ 0.67µM SC). Samples in the freezing groups were cryopreserved using rapid freezing method. In each sample, the sperm mitochondrial membrane potential (MMP), plasma membrane integrity, progressive and non-progressive motility, and various morphological abnormalities (head, tail, and mid piece) were assessed through rhodamine staining, Hypo-Osmotic Swelling Test (HOST), optical microscope and according to World Health Organization (WHO) guidelines, and Papanicolaou staining respectively. Data were analyzed statistically using Repeated Measure Analysis and Bonferroni post-hoc method.

Result: A significant decrease in the mean sperm progressive and non-progressive motility, plasma membrane integrity and MMP, and a significant increase in the mean sperm morphological abnormalities (head, tail and mid piece) was observed in the Freeze group compared to the Control group (p=0.000). All the mentioned parameters were significantly reversed in the Freeze+ SC group compared to the Freeze group (p=0.000).

Conclusion: Our findings showed that the addition of SC to the sperm freezing medium increases sperm motility, plasma membrane integrity and MMP, and also decreases various sperm morphological abnormalities. As a result, it reduces the adverse effects of freezing on the sperm of asthenozoospermic patients and improves the sperm quality.

Keywords: Cryopreservation, Asthenozoospermia, Sildenafil Citrate, Sperm Quality, Sperm Parameters

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Trauma Monthly
Abstracts

Abstract 86: Antioxidant activity of extracted alginic acid from Sargassum angustifolium brown algae based on its chemical structure

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Introduction: An imbalance between the synthesis of reactive oxygen species (ROS) in cells and tissues and the capacity of biological systems to detoxify these reactive products results in a phenomenon known as oxidative stress ,which may lead to lifelong diseases .As a result ,researchers are always looking for chemicals with antioxidant properties. Because of their extensive structural variety and biological activity, marine natural products (MNPs), which are created in response to the harsh and competitive conditions of the marine environment, are attractive sources for the manufacture of antioxidants. One of the most significant algal families is Sargassaceae which includes many active compounds. The cell-wall polysaccharide of this brown algae is alginic acid. In order to use this polysaccharide and investigate on its various effects, It must first be isolated from brown algae and the operational parameters of extraction need to be optimized to reach the maximum antioxidant effect. Considering that 90% of the world's commercial alginic acid is extracted from brown algae, this

Method & material: Algal samples were collected on 2020's winter from Lian Park of Bushehr.(Latitude and longitude of28.86◦and50.85◦).The isolation of alginic acid from algae consists of four main steps: preparation, extraction of alginic acid from algae, purification, and determination of yield and structural characterization. The operating parameters of this separation are temperature, time, and the use of new technologies and green extraction methods, such as the use of ultrasound waves during extraction. The effects of changing the parameters (temperature, time, and power of ultrasonic waves) used in the extraction of alginic acid were discussed based on changes in the antioxidant effect. After the separation of alginic acid from brown algae, the extraction efficiency was first calculated, its M/G was measured using 1H NMR spectra, and the antioxidant activity of the extracted alginic acid was examined using the DPPH method.

Result: The lowest IC50 and the highest antioxidant effect were observed in sample No.4with an extraction temperature of 65 °C, extraction duration of 25 min, and 640 power of ultrasonication, whereas the highest IC50 and the least antioxidant effect were observed in sample No.7at an extraction temperature of 45 °C, extraction duration of 20 min, and 480 power of ultrasonication.

Conclusion: Increasing the temperature and the extraction duration in a certain range, increases the amount of IC50 and as a result, the antioxidant activity of the extracted alginic acid decreases. Contrary to those, increase in the intensity of the waves has increased the antioxidant activity.

Keywords: Alginic acid; Antioxidant activity; Brown alga; Polysaccharide; Sargassum

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Trauma Monthly
Abstracts

Abstract 87: Application of aptamer in detection of prostate cancer: a systematic review

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Introduction: Prostate cancer is the second most common cancer in the world and the fifth leading cause of cancer death in men. Many advanced prostatic cancer patients suffer due to a lack of effective diagnostic and treatment methods. Therefore, the use of new diagnostic and therapeutic strategies seems more than necessary. Since the screening methods are not sufficient for diagnosis and treatment follow-up for prostate cancer, using alternative methods with high specificity has been noticed. One of the very new methods is the use of aptamers for cancer diagnosis and treatment. this study aimed to investigate the use of aptamer in the detection and treatment of prostate cancer.

Method & material: This study is a systematic review, which was obtained through searching in reliable data sources including Google Scholar, Cochrane, Scopus, and PubMed using keywords ''prostate cancer, aptamer, treatment, diagnosis'' in the period of 2018-2023. After searching and extracting information, related articles were categorized. Then the required data was extracted and finally analyzed.

Result: Among the 46 extracted articles, 34 articles were selected, and finally, 10 most related articles were chosen. Aptamers are a class of artificial oligonucleotides that are synthesized in laboratory conditions and are able to bind to a target specifically with high affinity. Because prostate cancer cells have specific surface molecules that are overexpressed and altered, aptamers bind to PSA [prostate-specific antigen] with high affinity through the SELEX process in prostate cancer and exert their diagnostic and therapeutic effects through signaling pathways inside cancer cells or communication between cancer cells. Therefore, they are considered therapeutic and diagnostic agents.

Conclusion: Although few studies have been conducted in introducing special aptamers for the diagnosis and treatment of prostate cancer, these few studies can pave the way for the diagnosis and discovery of special aptamers for prostate cancer. In this review, the use of aptamers in the detection and treatment of colorectal cancer has been investigated.

Keywords: Aptamer, prostate cancer, treatment, prevention

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Trauma Monthly
Abstracts

Abstract 88: Application of artificial intelligence techniques in the management of mesothelioma: a systematic review

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Introduction: Artificial intelligence is increasingly used in healthcare, especially for diagnosis, and its importance will continue to grow. One of the fields in which artificial intelligence methods have a significant impact is the early diagnosis and management of diseases, which can be very complex and risky in the early stages [2]. This study investigated the artificial intelligence studies in the management of mesothelioma.

Method & material: The current systematic review was conducted until April 24, 2023, by searching for relevant keywords in PubMed, Scopus, and Web of Science databases. The first group of keywords included mesothelioma, malignant mesothelioma, and malignant pleural mesothelioma; and the second group of keywords included decision support techniques, data mining, and artificial intelligence. The inclusion criteria included original and English-language papers that investigated the use of artificial intelligence algorithms in managing mesothelioma disease in the fields of prevention, diagnosis, and treatment. The title, abstract, and full text of the articles were reviewed by two researchers, and finally, the data were collected according to the aim of the study.

Result: Totally, 22 articles were included in the study. The findings revealed that the most application of artificial intelligence in the management of mesothelioma was in the fields of tumor diagnosis and classification (n = 18), prevention and prognosis (n = 4), and treatment or follow-up (n = 1). The artificial intelligence methods used were: different decision tree and random forest algorithms (n = 11), different neural network methods (n = 10), various statistical algorithms including regression and Bayes (n = 10), support vector machine (SVM) (n = 7), association rules (n = 3), and the nearest neighbor method (n = 2). Furthermore, in determining risk factors and selecting features, algorithms such as genetic algorithms, algorithms based on correlation, and neural networks were used.

Conclusion: The results showed that the most application of artificial intelligence in the management of mesothelioma was in the diagnostic field. Among the algorithms used in the management of this disease, the Support Vector Machine (SVM) algorithm has been used the most as a black box method, followed by tree algorithms as a step-by-step or white box method. Also, the evaluation of artificial intelligence algorithms in the studies obtained showed acceptable results.

Keywords: Mesothelioma, Artificial Intelligence, Machine Learning

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Trauma Monthly
Abstracts

Abstract 89: Application of Telemedicine in post-discharge care of burn patients: A Systematic Review

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Introduction: The use of telemedicine technology provides access to specialists and health services in case of limitations for patients. On the other hand, after treatment in the burn department, regular visits by specialists are necessary for the patient. Considering the importance of post-discharge care, the follow-up of these patients is of double importance. Therefore, the purpose of this study is to investigate the applications of telemedicine in the follow-up and post-discharge care of burn patients.

Method & material: This study is a systematic review that was conducted in 2023 based on PRISMA guidelines. Databases such as PubMed, Scopus, Science direct and Google Scholar search engine were searched with the keywords "Telemedicine", "Burn", "follow-up" and their equivalent words in English without time limit. All English-language studies related to the purpose of the study were included. Letters to the editor and conference abstracts were excluded from this study. The included studies were independently evaluated by two researchers and were used after separation, review and final approval.

Result: 27 studies out of 351 studies were included in this systematic review. Telemedicine in various fields related to the post-discharge care of burn patients, including psychological care (26%), adherence to the rehabilitation care program(22%), receiving continuous advice from doctors(41%) and expanding Educational resources(19%) were used. Benefits of telemedicine include access to medical information to improve care decisions, reduction of unnecessary patient transfers, and improved patient access to specialists regardless of distance. In addition, telemedicine in this field helps the treatment team to communicate more effectively. It also improves the skills and experience of general practitioners. less exposure of the patient to the risk of contaminated environments is also one of its advantages. In some studies, it was noted that although remote burn care consultation was cost-effective for the patient, it was more time-consuming for the therapists.

Conclusion: Many burn treatment units serve large geographical areas. On the other hand, due to the prevalence of poverty and deprivation among burn patients, travel costs, distance from specialized centers, time constraints, and patient negligence are the main reasons for reducing the follow-up of burn patients. This is while the use of Telemedicine can save travel time and costs, save hospital resources and increase efficiency. Although the resistance of some doctors and legal challenges are still the main obstacles to the use of Telemedicine in burn patients, the implementation of this technology for this group of patients is considered a potential, efficient and cost-effective solution.

Keywords: Telemedicine, Follow-up, Burn

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Trauma Monthly
Abstracts

Abstract 90: Applications of telemedicine in the era of covid-19: a systematic review

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Introduction: Covid-19 has been affecting human health worldwide for over 3 years, causing social and economic difficulties due to its rapid spread and high transmission power. According to World Health Organization Social distancing is a crucial strategy to reduce pandemic complications and mortalities. Due to the increased need for health services in this era, Medical centers are considered as high-risk areas for virus exposure. Therefore, technology and information technology play important roles in adapting to the conditions of pandemic era in various fields, including the healthcare system. Telemedicine, as the first line of defense for healthcare workers and patients, is the usage of information and communication technology, which provides the possibility of communication between the therapists and the patients for the provision of health services in separate locations while saving time and money. This study aims to review the dimensions, goals, and challenges of using telemedicine during the Covid-19 pandemic era.

Method & material: In this systematic review, Persian and English articles were searched using the keywords telemedicine, telehealth and COVID-19 in both Persian and English languages in PubMed, Google Scholar and Science Direct databases from 2019 onwards. Out of 87 articles obtained, 38 articles were in line with the study, which were analyzed, and their results were extracted.

Result: Telemedicine is mostly used in critical situations such as wars, natural disasters, pandemics, and epidemics, including Covid-19. It is also utilized for educational and research purposes. This technology facilitates access to medical care in remote and deprived areas. It can also reduce medical and pharmaceutical errors by creating a platform to share experiences and opinions of experts. Telemedicine is actually a sub-branch of tele-health. Its most widely used specialized forms in the Covid-19 pandemic include tele-consultation, tele-diagnosis, tele-homecare, tele-surgery and tele-education. However, this technology has some challenges, including legal considerations of countries, data security, and privacy which can be resolved by enacting comprehensive laws and specialized training of employees.

Conclusion: Due to the increasing progress of technology and the importance of telemedicine, Covid-19 pandemic era can be considered as a good opportunity for creating the necessary infrastructures for utilizing this technology, especially in developing countries. Therefore, the expansion of this technology not only moderates the challenges of this pandemic, but also paves the way for benefiting from telemedicine in the future.

Keywords: telemedicine, telehealth, covid-19

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Trauma Monthly
Abstracts

Abstract 91: Artificial Intelligence Applications in Molecular Imaging and Radiation Therapy: A Systematic Review

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Introduction: Molecular imaging as an imaging modality combines traditional imaging techniques with molecular probes to visualize and study biological processes at the molecular level. Medical images are used for cancer detection and treatment planning in radiation Therapy. Artificial intelligence (AI) has made significant advancements in various fields, including medical imaging and radiation therapy. This study aimed to give a general insight into applications of different artificial intelligence algorithms including machine learning and deep learning models for molecular imaging and radiation therapy.

Method & material: PubMed, Science Direct, Web of Science and Google Scholar databases were explored using different combinations of the keywords “Molecular Imaging”, “Radiation Therapy”, “Artificial Intelligence”, “Deep Learning”, “Machine Learning”. Finally, 22 most related and recent papers were included in the study.

Result: The most frequent applications of AI models in molecular imaging include image analysis and segmentation, image reconstruction, quantitative analysis, image enhancement and denoising, computer-aided diagnosis (CAD), and personalized medicine. Valuable information can be extracted from molecular imaging data using AI algorithms that can help identify and segment specific structures or regions of interest in images. This automated analysis enhances accuracy, efficiency, and consistency in image interpretation. AI algorithms can optimize complex data acquisition and reconstruction processes for molecular imaging to improve image quality, reduce artifacts, and enhance signal-to-noise ratios. This will improve diagnostic capabilities such as quantifying the uptake and distribution of radiotracers or contrast agents within tissues, facilitating the assessment of disease progression or treatment response. AI models have been widely used in radiation therapy for automatic treatment planning, dose prediction and optimization, organ segmentation and contouring, treatment response prediction, quality assurance and monitoring, and adaptive radiotherapy.

Conclusion: The application of AI models has shown tremendous potential in both molecular imaging and radiation therapy, revolutionizing various aspects of these fields. The integration of AI techniques in molecular imaging and radiation therapy has the potential to enhance diagnostic accuracy, treatment planning, and treatment outcomes. AI algorithms can act as a support tool for radiologists and physicians, providing computer-aided diagnosis and treatment planning. However, it is important to address challenges related to data quality, model interpretability, and regulatory considerations to fully realize the benefits of AI in clinical practice.

Keywords: Molecular Imaging, Radiation Therapy, Artificial Intelligence, Deep Learning, Machine Learning

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Abstracts

Abstract 92: Artificial intelligence methods in breast cancer diagnosis: a systematic review

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Introduction: Cancer is the second cause of the women's death and Breast cancer is the main cause of cancer-related death for women around the world. Early diagnosis is the most important factor to increase the 5-year survival rate and treatment outcomes. Artificial intelligence (AI) has revolutionized medical diagnosis by providing accurate and efficient solutions to medical problems. The objective of this systematic review is to identify and summarize the current AI-based breast cancer diagnosis methods using the latest artificial intelligence applications.

Method & material: A comprehensive search was conducted using PubMed, Scopus, Cochrane library and Web of Science database from January 2000 to May 2023. The following keywords were used "breast cancer", "diagnosis", "artificial intelligence", "machine learning", "deep learning", "neural networks" and "support vector machines" in the title and the abstracts. In Our Initial search 11,843 articles were found. After removing duplicate articles, the titles and abstracts were read and irrelevant articles were removed, 152 articles were extracted for reading the full text and match with the quality checklist, the articles were divided into 3 quality levels. Finally, articles with high and medium quality groups, totaling 58 articles, were included in this review.

Result: These studies evaluated various types of AI applications including machine learning (ML), deep learning (DL), convolutional neural networks (CNNs), support vector machines (SVMs), and Hybrid approaches. The four main categories of AI-based diagnosis methods are: Image-based, gene expression-based, clinical data-based, and multimodal. Image-base methods use AI algorithms to analyze different imaging modalities, which can achieve high accuracy and specialty in diagnosis and reduce false-positive and false-negative detections. Gene expression-base methods use AI algorithms to analyze expression patterns and molecular markers associated with breast cancer, which provide valuable information about tumor characteristics, prognosis and response to treatment. Clinical data-based methods use AI algorithms to analyze data, such as patient demographics, medical history, and tumor pathology to identify patterns, correlations and facilitate personalized treatment planning. Multimodal methods combine multiple types of data, that improve the accuracy and reliability of the breast cancer diagnosis.

Conclusion: AI-based methods are a potential solution to enhance the diagnosis of breast cancer. These methods have demonstrated high accuracy and sensitivity rate, and shown more specificity compared to traditional methods. However, further studies are essential to validate these findings in larger patient populations with more diversity in demographics and imaging modalities. Standardization of data collection protocol and development of universal diagnostic models could help overcome some limitations associated with AI-based breast cancer diagnosis. There are also ethical concerns related to data privacy and bias, particularly if the data used to form the algorithm is not auditable. Hopefully, these methods revolutionize breast cancer diagnosis and, ultimately, leading to improved patient outcomes.

Keywords: Breast cancer, diagnosis, artificial intelligence, machinelearning

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Trauma Monthly
Abstracts

Abstract 93: Assessing how wild Newcastle disease virus slows down cell growth and causes cell death in A549 cells

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Introduction: One of the new methods for treating cancer is to use oncolytic viruses. Viruses mainly work by causing cells to die, known as cellular apoptosis. This happens through pathways both inside and outside the cell. The purpose of this study was to see how a specific virus affects the production of a certain enzyme and causes cell death in a specific type of cells.

Method & material: This study was done in a lab using cell cultures. So, after we grew the A549 cell line, we exposed it to different amounts of a specific kind of Newcastle disease virus. Next, the virus's ability to kill cancer cells was tested using different methods including cell proliferation tests, measuring production of reactive oxygen species (ROS), release of the enzyme LDH, measuring survival rates, and measuring levels of certain proteins (caspase 8 and 9) that are involved in a process called apoptosis. In every test, a p-value less than 0. 05 was considered as a significant level.

Result: The study found that the normal Newcastle disease virus caused a big decrease in cells growing, made more cells die, produced more harmful reactive oxygen species, and released more enzymes compared to the group without the virus. In simpler words: The study looked at how a type of virus affected certain cells. It found that the virus increased the activity of caspase-9, but did not have a significant effect on caspase-8.

Conclusion: The findings from this study suggest that wild-type Newcastle disease virus could be a good option for treating lung cancer.

Keywords: oncolytic viruses, Newcastle disease, A549 cells

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Abstracts

Abstract 94: Assessing the effect of Hydroxychloroquine and Azithromycin on COVID 19 Morbidity with and without Arrhythmia

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Introduction: Over the past decade, systemic inflammation has been shown to promote a wide spectrum of cardiac arrhythmias, particularly atrial fibrillation, long- QT syndrome. In the initial phases of the pandemic, it was thought that COVID-19- associated arrhythmias mostly resulted from disease- specific mechanisms, such as cardiac injury due to direct viral invasion, or electrophysiological effects of repurposed drugs. This retrospective study aims to evaluate the morbidity rate in COVID-19 patients with and without arrhythmia who were treated with hydroxychloroquine or azithromycin and also to assess and compare the inflammatory factors between these groups.

Method & material: This retrospective study analyzed data from medical records of 140 patients with COVID-19 infection who were treated with hydroxychloroquine or azithromycin or both of them between February 19, 2020, to April 15, 2020. The patients were divided into two groups based on the presence or absence of arrhythmia. The morbidity rate was compared between the two groups using statistical analysis. Cardiac arrhythmia was diagnosed in 70 patients by presenting a new method and using digital ECG images. The variables of blood and inflammatory factors, and the use of drugs were determined in two groups of covid-19 patients with arrhythmia and those without.

Result: 72 if patients had arrhythmia and 68 did not. Among the dead patients with arrhythmia, 20% received hydroxychloroquine and 17.85 received azithromycin and about 16.7% used both of the drugs. Among the dead patients without arrhythmia 8.19% received hydroxychloroquine and 10.59% received azithromycin. In the arrhythmia group, the morbidity rate was 11.59% and the morbidity rate in the non-arrhythmia group was 8.69%. Also, the inflammatory factors as ESR, CRP, in these patients are significantly more than those of covid-19 patients without arrhythmia (P=0.001).

Conclusion: This study found that the percent use of hydroxychloroquine or azithromycin in patients with arrhythmia were more than without arrhythmia. Moreover, the inflammatory factors and homeostasis of Na and K ions were irregular in these patients. The findings suggest that hydroxychloroquine and azithromycin may worsen the arrhythmia in the COVID-19, and further research is needed to identify more effective therapies.

Keywords: Hydroxychloroquine, Azithromycin, COVID 19, Morbidity, Arrhythmia

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Trauma Monthly
Abstracts

Abstract 95: Assessment of frequency and prognostic value of acid-base and electrolyte imbalances in ICU-admitted severe COVID-19 patients

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Introduction: COVID-19 can cause mild to severe respiratory disorders, including acute respiratory distress syndrome (ARDS) and organ failure. Acid-base imbalances originating from renal impairment can cause metabolic acidosis or alkalosis, while respiratory acidosis or alkalosis may arise due to ventilation loss or hyperventilation. Electrolyte imbalances in COVID-19 patients could be a risk indicator of severe illness and mortality. In this study we measured the prevalence and distribution of acid-base disorders in ICU-admitted COVID-19 patients

Method & material: This cross-sectional study conducted on 250 ICU-admitted COVID-19 patients aimed to assess the prevalence and distribution of acid-base disorders and their effects on mortality and the need for mechanical ventilation. The study included patients over 16 years old with severe illness ascertained by So2 94% on room air at sea level and pulmonary involvement more than 50% according to chest CT scan reports. The study retrieved descriptive data including demographic information, laboratory tests reports, and information about the delivered serum, the degree of oxygen saturation of arterial blood with or without oxygen administration, determining the amount of delivered oxygen and method of oxygen delivery, blood pressure, and respiratory rate of patients.

Result: The majority of the patients (50.4%) had alkalosis (high pH) due to respiratory compensation (excretion of carbon dioxide), and 74.8% had mild hypokalemia (low potassium). There was a significant association between hypokalemia and mortality (p0.05). The most frequent combination of disturbances was respiratory alkalosis with hypokalemia and mild hyponatremia (low sodium). The pH and sodium levels were significantly correlated with the need for mechanical ventilation (p 0.05).

Conclusion: Patients with COVID-19 and hypertension had a higher mortality rate and were more likely to require mechanical ventilation. The study suggests that monitoring acid-base and electrolyte balance status could help predict patient outcomes and prevent disease progression.

Keywords: Metabolic Acidosis, Metabolic alkalosis, Electrolyte Imbalance, COVID-19

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Abstract 96: Association between COVID-19 vaccine side effects and history of nutritional supplement intake: a retrospective study

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Introduction: As the development of a Covid-19 vaccine has taken hold worldwide, it is important to examine the pathways of response and side effects to vaccines. Human studies that investigate the relationship between the use of nutritional supplements before and oxidation and the severity of symptoms after vaccination are limited, this study was conducted with the aim of investigating the relationship between the use of nutritional supplements on the severity of side effects of the COVID-19 vaccine after vaccination.

Method & material: The Medical Ethics Committee of Shoushtar School of Medical Sciences approved the research protocol according to the guidelines of the 2013 Declaration of Helsinki (registration number: IR.SHOUSHTAR.REC.1400.026). In this study, 465 participants vaccinated with Sinopharm vaccine (women and men in the age range of 18 to 65 years) from the vaccination centers of Khatam Al-Anbia Hospital (PBUH) in Shushtar city in Khuzestan province, between July and October 2014, were examined. Inclusion criteria included: men and women over 18 years of age, vaccinated with the second dose of Sinopharm vaccine, absence of chronic diseases, and willingness to participate in the study. Participants were excluded from the study if they did not fully answer the questionnaire questions. The severity of symptoms after vaccination, the history of receiving food supplements, as well as the anthropometric and demographic characteristics of the participants were investigated through a questionnaire. People were grouped into four categories

Result: During the last six months, 191 people (41%) had not taken any nutritional supplements, 245 people (52.5%) of the participants vitamin D3, 145 people (31.3%) iron, 128 people (27.5%) vitamin C, 48 people (10%) Therefore, 71 people (15.2%) had taken folic acid and 100 people (21.5%) had taken multivitamins. After adjusting potential confounding factors such as history of allergies, smoking and chronic disease, economic status, level of education, physical activity, occupation, and marital status, between the history of dietary supplement use by different groups of participants (according to severity of symptoms) there was a significant difference (P=0.001).

Conclusion: In the present study, the history of taking dietary supplements was related to the severity of complications after vaccination with covid-19. So far, there have not been enough studies on the consumption of nutritional supplements higher than the recommended RDA for better protection after vaccination with COVID-19, therefore, consuming higher than the RDA is not recommended.

Keywords: COVID-19 vaccine, Side effects, Nutritional supplements

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Abstracts

Abstract 97: Association between health locus of control and COVID-19 risk perception: A cross-sectional study in Iran

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Introduction: The COVID-19 pandemic has significant effects on people's physical, mental, and emotional wellbeing. People experience diseases differently based on their perception of how they perceive the source of the disease. This study investigated the association between health locus of control and perceptions of COVID-19 risk during the outbreak of COVID-19 in the Iranian population.

Method & material: The current research is a cross-sectional study that was carried out in Sirjan in 2021. The sample size was 448 people, and the samples were collected using the convenience sampling method. Data collection was done through demographic information, health locus of control, and a COVID-19 risk perception questionnaire. The instruments for measuring the variables had reliability and validity. SPSS software was used for statistical analysis. Depending on the type of variable, mean, standard deviation, or frequency percentage were used to summarize the data. The relationship between the health locus of control and COVID-19 risk perception was investigated using Spearman's correlation coefficient. Also, Spearman's correlation coefficient, Mann-Whitney U test, and Kruskal-Wallis test were used to evaluate the focus of health locus of control and COVID-19 risk perception in subgroups of demographic variables. A significance level of 5% was considered significant.

Result: The mean age of the study participants, who were 480 people, was 22.93 ± 5.42. The total score of COVID-19 risk perception for all study participants was 131.61 ± 13.49. The score of the health locus of control was 69.74 ± 10.58 and its subdomains including health caused by others (PHLC), health caused by self (IHLC), and health caused by chance (CHLC) were 23.70 ± 5.51, 27.60 ± 4.03 and 18.4 ± 5.39, respectively. There is a positive (r=0.366) and significant (p0.001) correlation between the COVID-19 risk perception and the health locus of control. The PHLC (r=0.385) (p0.001) and IHLC (r=0.251) (p=0.001) subdomains of the health locus of control had a significant positive correlation with the COVID-19 risk perception, while the CHLC subdomain (r=0.141) (p= 0.02) of health locus of control was not significantly related to the COVID-19 risk perception.

Conclusion: The present study shows a direct association between health locus of control and COVID-19 risk perception. Most respondents believed their health was caused by their own activities and it depends on internal factors. The risk perception of COVID-19 is more heightened among those who believe their health is affected by the activities of others.

Keywords: COVID-19; Health locus of control; Iran; Risk perception

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Abstract 98: Association between serum vitamin D and troponin I levels, type of stent and type of stenotic vessels in patients undergoing elective percutaneous coronary intervention (PCI)

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Introduction: Coronary artery disease is the world's most common cause of death. Vitamin D deficiency has been identified as one of the most important poor prognostic factors in patients with coronary heart disease. According to the prevalence of vitamin D deficiency in our region, this study aimed to evaluate the relationship between vitamin D and troponin I levels, type of stent and type of stenotic vessels.

Method & material: In this prospective cross-sectional study, 500 patients undergoing successful elective coronary intervention from January 2021 to August 2021 in teaching hospital in Shiraz were included (Registration number:1397-01-67-14348). The exclusion criteria include treatment with vitamin D during the last month, ST-Elevated myocardial infarction, and cardiac bypass surgery in the previous three months. Blood samples were obtained at baseline to measure vitamin D and troponin I levels and 24 h after PCI to measure troponin I. Moreover, the association between vitamin D deficasy and the type/length of the stent (Sirolimus/Everolimus eluting stent) and the type of vessels with stenosis [(Left Anterior Descending (LAD), Right Coronary Artery (RCA), and Left Circumflex Artery (LCX)] were studied. Patients were monitored during hospitalization and 30 days after the intervention.

Result: About 69% of patients suffered from moderate to severe vitamin D deficiency. Based on the multivariate analysis a significant positive relationship was observed between the serum level of vitamin D and changes in the troponin I level in females (P-value = 0.028). In contrast, no statistically remarkable changes were observed in males (P-value = 0.150). No statistically significant relation was found between vitamin D levels and the mean degree of stenosis of LAD and RCA (P-value = 0.14 and 0.25, respectively). On the other hand, there was a significant direct relationship between the mean degree of LCX stenosis and the vitamin D level (P-value=0.02). Although longer stents were used for patients with lower vitamin D levels, no statistically significant correlation was found between the length of the stent and the level of vitamin D (P-value = 0.86 and P-value = 0.89 for Sirolimus and Everolimus eluting stents, respectively).

Conclusion: According to the inverse association between low vitamin D levels and upward changes in pre/post-procedural troponin I, vitamin D may be considered a marker of short-term prognosis in post-PCI patients, and patients may benefit from vitamin D supplementation before PCI, particularly females.

Keywords: PCI, Stent, Vitamin D, Troponin I

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Abstract 99: Association of adherence to the adjusted relative Mediterranean and MIND diet with chronic migraine in women: A cross-sectional study

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Introduction: Chronic migraine (CM) is a neurologic disorder characterized by 15 attacks or more per month and could be affected by diet, lifestyle, and environmental factors. The MIND diet is specifically designed to be neuroprotective and emphasizes natural plant-based foods known to have antioxidant and anti-inflammatory properties. Therefore, it can be expected that adhering to this diet is related to migraine management; However, studies in this area are very limited and inconclusive. The present study investigated the association of adherence to the MIND diet with the risk of CM in Iranian women.

Method & material: In this cross-sectional study, 285 female 25 to 55 years old patients with migraines referred to Golestan Hospital neurology clinics in Ahwaz, Iran were recruited from July 2017 to March 2018. The Ethics Committees of Ahvaz University of Medical Sciences reviewed and approved the study protocol. Migraine was diagnosed by a single neurologist based on the third edition of the International Classification of Headache Disorders (ICHD-III). Pregnant or lactating women and those with hormonal or thyroidal dysfunction, epilepsy, and asthma were excluded. The women were categorized into the CM group (≥15 attacks) and episodic migraine (EM) group (15 attacks) based on their attack frequency per month. Adherence to the MIND diet was assessed based on the last year's dietary intakes of 9 brain-healthy food groups (whole grains, green leafy vegetables, other vegetables, nuts, berries, beans, fish, poultry, and olive oil) and 5 unhealthy food groups (red meats, butter, and stick

Result: Most of the studied women were overweight (40.7%) or obese (33.3%) and reported no family history of migraine (59.3%). About 40.7% of participants experienced CM. Women with CM had significantly higher fat (P= 0.004) and lower fiber (P= 0.03) intakes than women with EM. The MIND score for the EM group was significantly higher than the CM group (15(5) against 13.56 ± 3.15, P=0.02). There was a significant negative association between CM and MIND score [(OR (95% CI) crude: 0.90 (0.85 – 0.97); P-value: 0.007) and (OR (95% CI) adjusted: 0.91 (0.85 – 0.98); P-value: 0.03)].

Conclusion: The women in the lowest tertile of the MIND scores had 9 percent higher chances to experience CM than women in the highest tertile of MIND scores. Keywords: Migraine, Diet, MIND, Women, Headache.

Keywords: Mediterranean diet, MIND diet, chronic migraine, women

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Abstract 100: Association of the Angiotensin Converting Enzyme Gene Deletion/Deletion (D/D) Genotype with Risk of Autosomal Dominant Polycystic Kidney Disease Among the Iranian Population (West Azerbaijan Province of Iran)

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Introduction: Autosomal Dominant Polycystic kidney disease (ADPKD) is defined as one of the most common genetic disorders and major cause of kidney failure or end-stage renal disease (ESRD). Several studies have shown that renin- angiotensin system has an important role in pathogenesis of ADPKD. The aim of this study was to examine the association between the angiotensin converting enzyme (ACE) gene Insertion/deletion polymorphism and risk of ADPKD among the Iranian patients from west Azerbaijan province of Iran.

Method & material: This study was conducted on 40 patients and 72 controls. Genetic polymorphism of the ACE gene was determined using polymerase chain reaction (PCR) and electrophoresis.

Result: The frequency (%frequency) of ACE II,ID, DD genotypes were 5(%12.5), 12(%30), 23(%57.5) in cases and 16(%22.22), 30(%41.67), 26(%36.11) in controls, respectively. The frequency (%frequency) of ACE I and D alleles were 22(27.5) and 58(72.5) in cases and, 62(43.06) and 82(56.94) in controls, respectively. Statistical analysis indicated that there were significant differences among the cases and controls regarding ACE DD genotypes (P-value = 0.028). The ACE DD genotype was associated with increased ADPKD susceptibility with an OR of 2.39, (95%) CI = (1.09–5.28), and P = 0.028. But in the case of ACE II and ID genotypes, there were no statistically significant differences between cases and controls (P-value 0.05). Considering allelic comparison, the ACE D allele was associated with ADPKD susceptibility with an OR of 1.99, (95%) CI = (1.1–3.6), and P-value = 0.021.

Conclusion: Our findings suggest that ACE DD genotype was strongly associated with ADPKD in tested population.

Keywords: ADPKD, ACE, ESRD, Insertion/Deletion

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Abstract 101: Attitudes and Willingness to use telemedicine in post-COVID era

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Introduction: This study aims to investigate the attitude, willingness, and usage of telemedicine among the public community of Iranian considering the emergence of COVID-19 and people's acceptance of telemedicine.

Method & material: A nationwide cross-sectional study was conducted among the general population using an anonymous, web-based questionnaire from October 2021 to November 2022. Our target population was Iranian over 18 years old and who had visited a physician at least once in their lifetime. Our questionnaire consists of six items regarding baseline demographic information, eight questions on a five-point Likert scale to evaluate the e-health literacy level of participants (eHEALS questionnaire), eight close-ended questions to evaluate the level of people's familiarity with telemedicine, the level of telehealth services usage by people during the COVID era and before. The rest of the questionnaire included eight questions on a five-point Likert scale to measure people's attitudes and perceptions toward telemedicine. Finally, the fifth section included four closed questions to assess people's willingness to use telemedicine in the post-COVID era. All collected data were extracted from electronic form directly to an Excel spreadsheet and appropriately

Result: Eighty percent of our studied population were familiar with the telemedicine term or related ones. Only thirty percent of subjects had used telemedicine services before the COVID pandemic. Also, more than seventy percent were at an average level of awareness in terms of familiarity with e-health. Overall, attitudes toward telemedicine were positive and more than two-thirds of the population were willing to use telemedicine in the post-COVID era. Correlation analysis showed that people with higher e-health literacy scores have more positive attitudes toward telemedicine. Moreover, there is a significant correlation between eHEALS score, attitudes to telemedicine, and willingness to telemedicine usage before the COVID pandemic.

Conclusion: This study provides new insights into the usage, knowledge, perception, and attitude of Iranians toward telemedicine services for health policymakers and clinicians. Moreover, our results could be used to investigate the feasibility of implementing e-health and telemedicine services based on the level of willingness to use telemedicine

Keywords: Telemedicine, Willingness, Remote monitoring, Attitude, e-health

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Abstract 102: Barriers to the development of telemedicine from physicians and clinical staff's perspectives in Iran: a systematic review

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Introduction: Distance is a key consideration in telemedicine, which involves the delivery of healthcare services using information and communication technologies. Despite the rapid growth of telemedicine in the health systems of developed countries, its establishment and development in developing countries, including Iran, face many obstacles. This study was conducted with the aim of identifying the barriers to the establishment and development of telemedicine in Iran.

Method & material: The current systematic review study was conducted in 2023 according to the PRISMA guidelines. All relevant English and Persian studies were searched in databases, including Web of Science, PubMed, Scopus, SID, and Magiran. No year restriction was applied. The quality of the included studies was assessed based on the Joana Briggs Institute's (JBI) critical appraisal tools. The data were analyzed using narrative synthesis and deductive-inductive thematic analysis.

Result: Among the 134 papers identified, only nine studies were included. Barriers and challenges were assembled under 5 categories: financial (lack of sufficient investment, the high-cost establishment of this technology, lack of insurance coverage for telemedicine services and reimbursement system), infrastructural (low-speed internet and bandwidths, lack of internet access in different geographical areas, lack of related hardware and software equipment, complications in primary pieces of equipment), technical (lack of telemedicine standards, lack of supportive services to promote telemedicine, lack of comprehensive rules, guidelines, and clinical frameworks for using technology), cultural (medical staff resistance to use this system, lack of awareness of the technology and its benefits, society's resistance to adoption and lack of support for this technology), legal (privacy and confidentiality issues, lack of coordination between different health sectors).

Conclusion: The widespread use of telemedicine is still hampered by various barriers and challenges. Healthcare providers should work with various stakeholders to implement the proposed solutions. More research and policy changes are essential to optimizing telemedicine utilization.

Keywords: Telemedicine, telehealth, challenges, barriers, Iran

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Abstract 103: Beneficial Effects of (Quadro Herb) Ointment Based on Extracts of Medicinal Plants: Scrophularia Striata, Artemisia Aucheri, Falcaria Vulgaris, and Aloe Vera on Second-Degree Burs; an In-Vivo Wound Healing Study

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Introduction: Burn injuries are known as one of the main reasons for hospitalizations across the globe. Among all types of burn traumas, scalds which are considered wet burns, are more common. many procedures are used to manage the wound healing process; using topical ointment like silver sulphadiazine 1% (SSD 1%) is one of those routine ways; But nowadays, traditional medicine findings along with modern medications can cooperate to lead a perfect wound care. thus, the usage of medicinal plants is suggested for this purpose; Regarding this statement, the present study aims to investigate the beneficial effects of QH (Quadro Herb) ointment based on extracts of medicinal plants: Scrophularia Striata, Artemisia Aucheri, Falcaria Vulgaris, and Aloe Vera on Second-Degree Burn Scald at In-Vivo.

Method & material: 42 male Wistar rats with a mean weight of 250 ± 50 g were grouped into 7; after induction of burn scald by the use of hot water, treated groups received QH ointment in concentrations of 0.5%, 1%, 2%, and 5% in respect to herbal extracts; wound healing process was monitored for 16 days and the results were statistically analyzed and compared to treated group with SSD 1% and control groups. At the final day of intervention, rats were sacrificed and skin biopsies used for histopathological evaluations

Result: Significant reduction of wound percentage ($P \leq 0.05$) among 2% and 5% groups showed that QH ointment performed better in wound healing compared to the control and positive control groups. Histological analysis also revealed significant increases in granulation and vascular-fibroblast density with 5% of QH ointment ($P \leq 0.01$). No significant changes in inflammation were observed.

Conclusion: It concludes that QH ointment containing the extracts of S. Striata, A. Aucheri, F. Vulgaris, and A. Vera has remarkable effects in the healing of second-degree burn scalds. Thus, it could be recommended to apply for burn injuries as a remedy.

Keywords: Wound healing, Burn, Scald, Scrophularia Striata, Artemisia Aucheri, Falcaria Vulgaris, Aloe vera, Complementary medicine

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Trauma Monthly
Abstracts

Abstract 104: Bevacizumab as adjuvant therapy in the treatment of keloid; A randomized clinical trial

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Introduction: There is no management of keloid remains a challenging clinical problem despite numerous therapies reported until now. The efficacy of corticosteroids in the treatment of keloids has been well established. The most commonly used corticosteroid is intralesional triamcinolone. Sporadic reports on the use of intralesional verapamil suggest its efficacy. The aim of the study was to evaluate the efficacy and safety of bevacizumab as adjuvant therapy in the treatment of keloid.

Method & material: The study was performed as a randomized, controlled trial on 38 patients who had clinical diagnostic criteria for keloid. The study was carried out to compare the effects of intralesional triamcinolone combine Bevacizumab injections. Patients were randomly allocated to receive one of Intralesional triam HEXAL® (20 mg/ml, monthly for 3 months) plus Avastin®(2.5 mg/ml monthly for 2 months) group was considered as a combination treatment group, and intralesional triamHEXAL® alone as a single treatment group . Scar evaluation at each stage was done by serial photographic was records as well as by Vancouver scar scale (VSS). Differences in VSS scores considered as the main outcome and changes in the height and patient's satisfaction visual analog score (VAS) between two groups were defined as the secondary outcome.

Result: Thirty-eight patients were participated in the study. The mean age (SD) of patients was 35.32 (14.02). 50% of patients were male. There were no significant differences in age, BMI, duration of disease, gender, causing, family history, and site between the two groups. The mean of changes from baseline to three months after treatment for pigmentation score in the single treatment group was 0.60 (95% CI: (-1.18, -0.01); P= 0.045) less than combination treatment group. Moreover, the mean of changes from baseline to three months after treatment for total score in the single treatment group was 1.37 (95% CI: (-2.68, -0.07); P=0.039) less than the combination treatment group. There was a significant reduction in height of keloid in the combination group after 3 months of the end of the treatment (P=0.024) . There was no significant difference in side-effects between the combination treatment group and the HEX group.

Conclusion: the result of our study demonstrated bevacizumab can be considered as an effective and safe adjuvant option for the treatment of keloid. So, Bevacizumab can be suggested as a promising treatment in the management of keloids.

Keywords: Anti-Vascular Endothelial Growth Factor, Bevacizumab, Keloid, Scar

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Trauma Monthly
Abstracts

Abstract 105: Biofilm formation and virulence gene expression of Uropathogenic Escherichia coli after exposure to cranberry extract

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Introduction: Urinary tract infection (UTI) is one of the most common diseases worldwide. Consumption of cranberries is widely known to reduce recurrent UTIs. This study aimed to develop effective aqueous cranberry extract by adding ciprofloxacin antibiotic and evaluate their effects on papC gene expression and microbial biofilm formation of Uropathogenic Escherichia coli (UPEC) clinical isolates.

Method & material: Ninety five clinical isolates of UPEC were collected. Antibiotic susceptibility was evaluated by disk diffusion method and the minimum inhibitory concentration (MIC) of cranberry extract and ciprofloxacin antibiotic by microdilution broth method. A PCR was used to detect genes encoding adhesion factors (papC, papAH, papEF). The ability of biofilm formation in isolates was evaluated by the microtiter method and the effect of aqueous extract cranberry on papC gene expression was evaluated using Real-Time PCR.

Result: The prevalence of cystitis (40.1%), pyelonephritis (16.2%) and prostatitis (23.3%) were reported. The antibiotic resistance was obtained at 53.7% for ciprofloxacin. The MIC for clinical isolates was between 32 and 128 mg/mL of cranberry extract and for ciprofloxacin was varied between 4 and 256µg/mL. According to the fractional inhibitory concentration index (FICI), cranberry extract and ciprofloxacin combination on 42.1% of the UPEC isolates had the synergism effect. Comparing the mean of the biofilm removal activity for cranberry, ciprofloxacin and combination of them in 24h showed a significant difference between the isolates (P.value ≤0.001). The frequencies of papC, papAH and papEF genes were 27.4%, 9.5%, 3.2%, respectively. The expression of papC gene in the presence of the sub- MIC concentration of cranberry extract was decreased in 7 isolates compared to untreated isolates (P.value <0.05).

Conclusion: Based on potent inhibition aqueous extract cranberry on the biofilm formation and cranberry with ciprofloxacin treatment could represent an interesting new strategy to prevent recurrent UTI.

Keywords: virulence gene expression, Escherichia coli, cranberry extract

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Trauma Monthly
Abstracts

Abstract 106: Body Mass Index Association with COVID-19 Outcome in a Pediatric Tertiary Referral Hospital of Iran

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Introduction: One of the challenging risk factors for severe COVID-19 infection is obesity and Body Mass Index (BMI). In this study we have assessed BMI association with outcomes in hospitalized pediatric cases of COVID-19 in Iran.

Method & material: This retrospective cross-sectional study was performed in the biggest referral pediatric hospital of Tehran from March 7th to August 17th of 2020. All hospitalized children ≺18 years of age with laboratory confirmed COVID-19 were included into the study. In this study, we evaluated the association of BMI with COVID-19 outcomes (death, severity of clinical course, oxygen therapy, ICU admission, ventilator requirement) and secondary objectives was investigating the association of gender, underlying co-morbidity, and age of patients with COVID-19 outcomes. BMI 95 percentile, 85≤ BMI ≤ 95, and BMI5 percentile were respectively considered as obesity, overweighting, and underweighting.

Result: In total, 189 confirmed pediatric cases of COVID-19 (0.1- 17 years) with mean age 6.4 (∓4.7) years were included. It was recorded that 18.5% of the patients were obese, and 33% were underweight. We found that BMI had no significant relation with COVID outcomes in pediatric cases but after subgrouping the participants, underlying co-morbidities and lower BMI in previously ill children were independently associated with poor clinical outcome of COVID-19. In addition, the previously ill children with higher BMI percentiles were at lower risk of ICU admission (95% CI 0.971-0.998, OR: 0.9, P value: 0.025) and better clinical course of COVID-19 (95% CI 0.970-0.996, OR: 0.9, P value: 0.009). The BMI percentile has a significant direct relationship with age (Spearman correlation coefficient: 0.26, P value: ≺0.001). When we separated the children with underlying co-morbidity, the BMI percentile was significantly lower (P value≺0.001) in comparison to the previously healthy children.

Conclusion: Based on our results, obesity is not related with COVID-19 outcomes in Iranian children, but after controlling cofounders' effect, underweighted children with underlying co-morbidities are more highly associated with poor prognosis of COVID-19. Keywords: Children, Obesity, COVID-19, Underweight

Keywords: Body Mass Index, COVID-19, Pediatric

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Trauma Monthly
Abstracts

Abstract 107: Changes of thyroid hormones in covid 19 patients

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Introduction: The coronavirus disease 2019 (COVID-19) has caused significant morbidity and mortality worldwide. Thyroid hormones play a key role in regulating metabolism and the immune system. However, the prevalence of thyroid dysfunction (TD) and its association with the prognosis of COVID-19 have yet to be determined. In this study, we seek to investigate the incidence of euthyroid sick syndrome (ESS) and the relationship between thyroid hormones and inflammatory markers in COVID-19 patients.

Method & material: According to the census of patients with COVID-19 who were referred to the emergency room of Dr. Ganjavian Hospital in 2022, according to the treatment method, they were divided into two groups, inpatient and non-inpatient, after applying the age range of 15 to 75 years, consent to participate. In the study, patients without underlying thyroid disease were included. Thyroid hormones were measured by the electrochemiluminescence method. ESS was defined by FT3 2.3 pg/ml and low or normal TSH level. Also, The level of significance in the present study was considered 0.05.

Result: Of 133 patients with mild to moderate COVID-19, 57 patients (42.85%) had euthyroid sick syndrome, which generally had lower TT3 (1.30±0.33 nmol/L), TT4 (109.64±8.94 nmol/L), fT3 (4.45±1.36 pmol/L), and fT4 (18.36±4.45 pmol/L) than the normal range. The mean serum level of thyroid hormones and its changes had a statistically significant inverse relationship with CRP level as an inflammatory factor and disease severity in COVID-19 patients (P value 0.05).

Conclusion: Considering that in different clinical stages of patients with covid-19, the inflammatory response may have different roles in the pathogenesis of the euthyroid syndrome. It is recommended that thyroid hormone testing be considered for COVID-19 patients. Thyroid profile assay may become a simple tool for stratified managing patients with severe COVID-19.

Keywords: COVID-19, euthyroid sick syndrome, thyroid dysfunction, inflammation

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Abstracts

Abstract 108: Clinical course and injuries caused by episiotomy wound in primiparous women referred to hospitals in Malayer city in 2021: a prospective cohort study

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Introduction: Episiotomy is a common midwifery procedure to facilitate childbirth. This study aimed to investigate the clinical course, and injuries caused by episiotomy wounds in primiparous women referred to the hospitals of Malayer City in 2021.

Method & material: This research was a prospective cohort study that was conducted in Mehr and Gharazi hospitals in Malayer City. To this end, 352 primiparous women with mediolateral episiotomy were included in the study after completing a written consent form. The inclusion criteria were being singletons, not having dystocia, and not having macrosomia. Checklists for assessment of episiotomy wound status (Rida), visual analog, and questionnaire of demographic and obstetric characteristics were completed for all samples on days 1 and 10 after delivery. Data were analyzed using the t-test, Wilcoxon, Pearson Correlation Coefficient, and Chi-square. Data analysis was done using SPSS software version 21 at a significance level of less than 0.05(p 0.05).

Result: The average age of the participants was 25.48 ± 4.42 years. The average length of the episiotomy cut (cm) was 2.71 ± 0.656, and the average number of stitches was 5.61 ± 1.361. In general, the changes in redness, bruising, discharge, and distance between the two edges of the wound on day 10increased significantly compared to day 1. Perineal edema decreased on day 10 compared to day 1, but this change was not statistically significant (P=0.943). Changes in the average score of the episiotomy wound evaluation scale on day 10 compared to day 1 increased significantly (P<0.001), and changes in the average pain level on day 10 had a significant decrease compared to day 1 (P<0.001).

Conclusion: Episiotomy is a traumatic operation in midwifery, and its short-term side effects, i.e.,edema, bruising, perineal pain, discharge, and separation of the two edges of the wound, require time to heal. For this reason, it is necessary to prevent more damage to women's health by teaching midwives about physiological birth and the revival of this birthing method.

Keywords: Episiotomy, Clinical course, Perineal pain, Primiparous women

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Trauma Monthly
Abstracts

Abstract 109: Comparative study of colonoscopy findings in asymptomatic individuals with positive and negative FIT

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Introduction: Colon cancer is one of the most important health issues and the most important digestive tract cancer in developed countries. CRC (Colorectal Cancer) is the third most current cancer and the second cause of death worldwide in both men and women, accounting for 11% of all cancer diagnoses. Like other cancers, the best way to reduce the mortality caused by colorectal cancer and to choose the right treatment method is early distinction, which is why screening tests for quick diagnosis are a vital actionle. Identifying this cancer is based on colonoscopy, so finding the planning method is necessary. The purpose of this study is to compare colonoscopy findings in asymptomatic individuals without positive and negative FIT (Fecal Immunochemical Test).

Method & material: This correlational and case-control study was conducted in Shariati Hospital and selected centers of Isfahan province during 2017. Among the patients who met the inclusion criteria, 90 patients were selected using available methods. The average age of the subjects was 59.17 ± 6.55 years, of which 32 (35.6%) were male and 58 (64.4%) were female. Also, after obtaining written consent, FIT test was taken from all patients and they were divided into two groups of 45 people: the first group with positive FIT (case group) and the second group with negative FIT (control group). After registering the patients' information and receiving the colonoscopy and pathology results, the data were analyzed with SPSS 24 and using independent T-tests and analysis of variance (ANOVA).

Result: This study was conducted with the aim of comparing colonoscopy findings in asymptomatic individuals with positive and negative FIT. The findings indicate that the frequency of polyps and erythema in patients with positive FIT was significantly higher than in patients with negative FIT, but the frequency of pathological findings in the two groups of positive and negative FIT did not have a statistically significant difference (P>0.05). The lack of difference with age and gender grouping remained insignificant (P>0.05).

Conclusion: It can be seen that the FIT method is not a reliable method for distinguishing pathological findings from malignancy, and due to the increasing prevalence of colorectal cancer, colonoscopy should be performed in high-risk individuals with the aim of pathological diagnosis in patients.

Keywords: Pathology, FIT, Colonoscopy, Colon cancer

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Trauma Monthly
Abstracts

Abstract 110: Comparing the effects of bariatric surgery on fasting blood sugar and lipid profile in patients with prediabetes and type 2 diabetes

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Introduction: In recent years, the amount of surgeries related to obesity is increasing, and studies show that these types of surgeries can affect the metabolic status of patients in addition to weight loss. This study was designed and conducted in order to compare bariatric surgery on fasting blood sugar and lipid profile in patients with prediabetes and type 2 diabetes.

Method & material: In this retrospective cohort study, 154 patients were included (89 patients with type 2 diabetes and 65 patients with prediabetes) who underwent three types of obesity-related surgical techniques, including sleeve gastrectomy (SG). Roux-en-Y Gastric Bypass (RYGB) and (OAGB) One-Anastomosis Gastric Bypass were included in the study. Fasting blood sugar and lipid profile including cholesterol, triglyceride and low density lipoprotein were measured before surgery and six months after surgery

Result: The average age of the participants was 42.14±11.10, and the three groups did not differ significantly in terms of age (P=0.08). Fasting blood sugar and triglyceride levels significantly decreased in all three types of surgery, SG, OAGB, and RYGB. Cholesterol level showed a significant decrease in SG (25.71±34.32) and RYGB (12.06±45.91) surgeries (p=0.001). HDL level showed a significant increase only after SG surgery (3.60±13.28) (p<0.02). LDL level did not decrease significantly in any of the surgeries (p<0.05).

Conclusion: The findings of the present study showed that bariatric surgery can improve blood sugar and lipid profile in patients with prediabetes and diabetes type2. On the other hand, the effect of gastric sleeve surgery showed a greater effect on lipid profile than the other two surgeries.

Keywords: bariatric surgery, prediabetes, diabetes, triglycerides, cholesterol, low-density lipoprotein

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Abstracts

Abstract 111: Comparison of nitrogen and phosphorus removal efficiency from chicken slaughterhouse effluent by Chlorellavulgaris and Spirulina algae

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Introduction: Poultry slaughterhouse effluent contains high organic load and phosphorus nitrogen, therefore it is one of the most polluted industrial effluents (1) and if it is discharged without adequate treatment, it is a serious threat to the environment. Besides being able to remove organic pollutants and pathogens, algae play an effective role in removing nitrogen and phosphorus from wastewater. The aim of this study was to compare the amount of nitrogen and phosphorus removal from chicken slaughterhouse wastewater by two algae Chlorellavulgaris and Spirulinaplatensis.

Method & material: In this experimental study, the required effluent was prepared from a chicken slaughterhouse in Qazvin province and its quality characteristics were determined according to the instructions in the book of standard methods for water and wastewater tests. Chlorellavulgaris and Spirulina platensis algae were obtained from the University Jihad Research Center located in Karaj. Chlorellavulgaris was grown in BBM medium and Spirulinaplatensis in Zarrouk medium. Then, 100 ml of algae and 145 ml of sterilized effluent from the chicken slaughterhouse were poured into a 500 ml Erlenmeyer flask. This reactor was placed under the hood in a sterile environment using an artificial light source with a light intensity of 3000 lux and in 16 hours of light and 8 hours of darkness for 15 days, and the related parameters included total nitrogen, total phosphorus, protein and algae concentration in The duration of the 5-day, 10-day and 15-day period was measured

Result: The amount of nitrogen and phosphorus removal by Chlorellavulgaris algae was 90% and 70%, respectively, while the amount of nitrogen and phosphorus removal by spirulina was 93% and 100%, respectively. During the experiment, the growth rate of algae increased and the ability to remove nutrients increased with the increase of the algae population. Also, the amount of algal protein increased during the growth period with the increase of algal nitrogen.

Conclusion: Spirulinaplatensis algae has a greater ability to remove nitrogen and phosphorus compared to Chlorellavulgaris. Also, due to the high absorption properties of these two algae, they can be used to treat wastewater containing nitrogen and phosphorus nutrients

Keywords: chicken slaughterhouse effluent, nitrogen removal, phosphorus removal, Chlorella vulgaris, Spirulina platensis

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Abstracts

Abstract 112: Comparison of the effect of intrathecal fentanyl in different doses on the quality and quantity of analgesia in the cesarean section of multiparous mothers

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Introduction: Due to the higher prevalence of adhesions in multiparous mothers with a history of previous cesarean section, the duration of cesarean section in these patients is longer and as a result, longer anesthesia is needed. Also, this anesthesia method is associated with side effects such as nausea, vomiting and itching; Therefore, this study was conducted with the aim of determining the effect of different doses of intrathecal fentanyl on the quality and quantity of pain-free time in cesarean section of multiparous mothers.

Method & material: This Semi experimental study was conducted on 60 pregnant women who volunteered for multiple elective caesarean section with spinal anesthesia. In this study, subjects were randomly divided into two treatment groups (bupivacaine and fentanyl (with doses of 15 and 25 micrograms)) injected into the spinal cord, and the time of starting sensory block after injection, the maximum level of sensory block, the maximum degree of motor block, recovery time The complete motor block, the quality of anesthesia during surgery, the duration of surgery and the complications of anesthesia were investigated and finally analyzed by SPSS statistical software version 26.

Result: The maximum level of sensory block in the 25 micrograms fentanyl group was significantly higher than the 15 micrograms fentanyl group. The maximum recovery time of motor block in the 15 micrograms fentanyl group was significantly higher than the 25 micrograms fentanyl group. The complication of vomiting in the 15 micrograms fentanyl group was significantly higher than the 25 micrograms fentanyl group, however, the onset time of sensory block, the maximum degree of sensory block, the quality of anesthesia during surgery, the duration of surgery, the patient's vital signs during surgery, and anesthesia complications such as itching and nausea had no statistically significant difference between the two studied groups.

Conclusion: Finally, it can be stated that the treatment with bupivacaine and fentanyl (with doses of 15 and 25 micrograms) did not have a statistically significant difference in anesthesia indicators and anesthesia complications (except the maximum level of sensory block, maximum recovery time and vomiting complication). . However, in the present study, neonatal complications were not investigated. Therefore, in case of more comprehensive evaluations in future studies, it is suggested to consider Apgar of newborns and adding a control group.

Keywords: intrathecal fentanyl, analgesia, multiparous mothers

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Trauma Monthly
Abstracts

Abstract 113: Comparison of the effect of surgical treatment versus conservative treatment in granulomatous mastitis in women of reproductive age

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Introduction: Granulomatous mastitis is a rare but benign disease. While the precise etiology of this disease remains elusive, it is widely recognized that inflammation arises in response to various factors, including trauma, hormonal fluctuations, metabolic processes, autoimmune disorders, and infections. Due to the scarcity of comprehensive data and controlled studies, there are disagreements in the way that patients with this disease get treatments. In western industrialized nations, the standard approach initiates with antibiotics and corticosteroids, followed by ongoing steroid administration. Surgical intervention becomes a consideration if symptoms persist, while the potential utility of immunotherapy drugs remains unresolved. Further data acquisition is essential to optimize treatment approaches.

Method & material: The present study is a longitudinal cohort study. The records of all patients diagnosed with idiopathic granulomatous mastitis (IGM) via histopathology, who attended the surgical clinic of Isfahan Hospital and selected centers were meticulously documented from March 21, 2019 to March 20, 2022. A total of 96 female patients with granulomatous mastitis were categorized into two primary treatment groups: surgical and conservative, further divided into five subgroups. These subgroups encompassed surgical removal (25 patients), corticosteroid usage (34 patients), antibiotic usage and drainage (14 patients), surgery combined with corticosteroid usage (15 patients), and surgery combined with antibiotic usage and drainage (8 patients). In all groups, following recovery and discontinuation of treatment, patients were examined every two to three months. Subsequently, they underwent clinical and radiological examinations (sonography) every 6 months to assess symptoms of recurrence, including edema, erythema, inflammatory mass, fistula, and secretions. Process and outcomes were carefully analyzed.

Result: Recovery was observed in 24 patients from the first subgroup, 30 patients from the second subgroup, 12 patients from the third subgroup, 14 patients from the fourth subgroup, and 7 patients from the fifth subgroup. Statistical analysis revealed no significant correlation between the type of treatment and recovery (P-value= 0.791). However, a statistically significant inverse relationship emerged between patient age and disease recurrence (P-value=0.012), as well as between age and recovery (P-value= 0.011).

Conclusion: This study suggests that there is no discernible distinction between surgical and conservative treatment modalities for granulomatous mastitis. Furthermore, given the influence of age on disease recurrence and recovery, early detection and intervention in younger patients hold substantial clinical importance.

Keywords: granulomatous mastitis, idiopathic, corticosteroids, surgery

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Trauma Monthly
Abstracts

Abstract 114: Comparison of the effects of modified bass and vertical brushing methods in 2 and 5 minutes on periodontal plaque index in dental students of Kurdistan Medical Sciences

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Introduction: Microbial plaque is the main etiological factor associated with periodontal disease, and the most common way to control it is to use a toothbrush. The purpose of this study is to compare the effect of modified bass and vertical brushing methods in 2 and 5 minutes on periodontal plaque index.

Method & material: This study was conducted as an intervention (before, after) on 68 dental students. Students were randomly divided into 4 groups of 17.On the day of the study (day zero), each of the students was given a new pampers toothbrush, diamond model with a medium brush for adults (without toothpaste), and in order to unify the index plate, prophylaxis was performed for all students and brushing methods was taught The students were told to refrain from doing any hygiene for 48 hours and to return on the third day. On the third day, first students plaque index were recorded in a special checklist, then students were asked to brush their teeth with the toothbrush they have according to their groupings.

Result: The average age of the students was 21.97 years. 54.4% were male students and 45.6% were female. The average total plaque index before brushing was 0.818 and after brushing was 0.0320.which had decreased in all groups, which was statistically significant.(p=0.0001).The mean of PI in the modified bass group after brushing at two and five minutes showed no statistically significant difference. (P=0.34) The average decrease in PI in the Modified Bass group in 5 minutes was slightly higher than in the vertical group at the same time, but this decrease was not statistically significant. The decrease in the mean PI in the modified bass group at 2 minutes was slightly higher than in the vertical group at the same time, but this decrease was not statistically significant. With the increase in brushing time, the average plaque decreased more, and the modified bass method was more efficient than the vertical method.

Conclusion: According to the results of this study, if modified and vertical techniques are performed correctly, increasing the time does not make a significant difference in plaque removal and both methods can effectively remove plaque in the standard time of 2 minutes. As a result, considering that it is easier to perform the vertical method in people whose learning ability is less, it can be expected to use the toothbrush for at least 2 to 5 minutes in such a way that all the dental surfaces are cleaned.

Keywords: Brushing, Modified bass method, vertical method, Periodontal plaque index

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Abstract 115: Comparison of the frequency of atopic dermatitis in patients with and without irritable bowel syndrome referred to the gastrointestinal clinic in Mashhad in 2020-2021

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Introduction: Irritable Bowel Syndrome (IBS) is a chronic functional gastrointestinal condition that is characterized by symptoms like bloating, diarrhea or constipation, changes in bowel habits, and abdominal pain. Atopic dermatitis (AD), is a chronic skin condition characterized by dry, itchy, and inflamed skin. It is caused by a combination of genetic and environmental factors, and is often associated with allergies or asthma. The condition can occur at any age, but is most common in children. Purpose: Considering the role of allergy in both IBS and AD diseases, we decided to compare the frequency of atopic dermatitis in patients with and without irritable bowel syndrome who referred to the gastroenterology clinic in Mashhad in 2020-2021

Method & material: This case-control study was conducted on 102 patients with irritable bowel syndrome based on ROME-IV criteria and 102 patients in the control group. Patients were diagnosed with Atopic dermatitis based on the Hanifin Rajka criteria, and the severity of dermatitis was determined based on the SCORAD index.

Result: In this study, 102 people in each group were examined according to the number (in the patient group: 83 women, 19 men) and (in the control group: 68 women, 34 men) with the same average age in each group. There was a statistically significant difference between the frequency of active atopic dermatitis and its history in the group with irritable bowel syndrome and the control; So this frequency was higher in the group of patients with irritable bowel syndrome (P-value=0.046). Also, the prevalence of atopic dermatitis in women with irritable bowel syndrome was higher than women in the control group (P-value= 0.01). However, based on the results of our study, the severity of atopic dermatitis in the group with irritable bowel syndrome and the control had no statistically significant difference. (P-value>0.05).

Conclusion: the frequency of active atopic dermatitis and its history is higher in the group of patients with irritable bowel syndrome. These results may indicate a link between AD and IBS.

Keywords: Atopic dermatitis, irritable bowel syndrome, prevalence

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Abstract 116: Comparison of the severity of COVID-19 in reproductive age and postmenopausal women: A Cross-Sectional Study

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Introduction: The COVID-19 pandemic caused by the SARS-CoV-2 virus quickly progressed and affected the world population (1). Current studies on biological sex and COVID-19 have indicated that the mortality rates of males are 1.7 times higher than those of females. One explanation for these female-male differences includes the presence of Reproductive steroids, such as estrogens and progesterone, and their interaction with the immune system to protect against infection (2). However, there are limited clinical studies to demonstrate the true effect of menopause on the presentation and outcomes of COVID-19. Therefore, our objective was to address how menstrual status and sex hormones mechanisms can protect women against COVID-19.

Method & material: This cross-sectional study was conducted on women with COVID-19 history who were referred to clinics affiliated with Shahid Sadoughi University of Medical Sciences in Yazd, Iran, between July 2021 and August 2021. Via convenience sampling, women were divided into non-menopausal (n=238) and menopausal (n=112) women based on their menstrual status. Also, the criterion for assessing the severity of COVID-19 was considered outpatient or inpatient treatment. Baseline data were recorded after verbal consonants via telephone interview. Data was analyzed using statistical software SPSS-22, and descriptive statistics (mean and standard deviation), chi-square and univariate and multivariate logistic regression analyses were performed. $P<0.05$ was considered statically significant.

Result: In this study, 350 patients were analyzed; 53 (15.1%) were hospitalized and 297 (84.9%) were treated as outpatients. Out of 53 hospitalized patients, 11 (20.7%) were admitted to the intensive care unit. Univariate logistic regression analysis showed that menopause age was significantly related to the COVID-19 severity ($P=0.05$). Based on multivariable logistic regression analysis, not only menopause age ($P=0.002$) but also menarche age less than or equal to 11 years old was statistically significant with COVID-19 severity ($P<0.03$).

Conclusion: In the present study, menopause and menarche age less than or equal to 11 years old were independent risk factors for COVID-19 severity in patients.

Keywords: COVID-19, postmenopausal women, SARS-CoV-2 virus

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Abstract 117: Computational Analysis of Nonsynonymous Single Nucleotide Polymorphisms (nsSNPs) in Genes Associated with Male Infertility

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Introduction: Male infertility is a complex multifactorial disease with highly heterogeneous phenotypic manifestations ranging from complete absence of sperm in the testes to distinct changes in sperm quality. Identifying the genetic causes of male infertility is of clinical importance because it can have important consequences on the reproductive and general health of the patient. In this regard, the evaluation and analysis of the variants related to the genes reported in relation to male infertility can be an important step in determining and prioritizing the genes related to various reproductive disorders in men. Therefore, the present study was designed with the aim of evaluating the functional effects of non-synonymous single nucleotide polymorphisms (nsSNPs) in a set of candidate genes related to infertility phenotype in men, using different bioinformatics and computational biology methods.

Method & material: To perform this study, we extracted SNPs that occurred in the coding region of the USP26 gene and resulted in amino acid changes (nsSNPs) from the database of the International Genomics of Male Infertility Consortium (IMIGC). In the first stage of evaluation, the functional effects of nsSNPs were analyzed using SIFT, PolyPhen-2, PROVEAN and Mutation Assessor bioinformatics tools. The nsSNPs predicted by all four tools as dangerous substitutions were entered into the next step of evaluation. In the next step, CADD, MutPred2, SuSPect and PhD-SNP tools were used to predict the pathogenicity of nsSNPs. The nsSNPs that were identified as pathogenic by all four tools were analyzed with I-Mutant 3.0 and ConSurf tools in terms of how they affect protein stability and the degree of evolutionary conservation of amino acid positions.

Result: This study was conducted for identifying dangerous nsSNPs in the USP26 gene related to male infertility phenotype and predicting their pathogenic effect on protein function and stability. In this study, twenty-three nsSNPs were analyzed in silico with different bioinformatics tools such as SIFT, PolyPhen-2, PROVEAN, Mutation Assessor, CADD, SuSPect, PhD-SNP, MutPred2, I-Mutant 3.0 and ConSurf. In total, three dangerous nsSNPs (F42S, L346H and Q480L) were predicted using SIFT, PolyPhen-2, PROVEAN and MutationAssessor tools and further analyzed by CADD, SuSPect, PhD-SNP and MutPred2 tools, which finally F42S was identified as the most dangerous nsSNP. This nsSNP, which decreases USP26 protein stability, occurred at a relatively conserved amino acid position.

Conclusion: The results of this study can be used in clinics and could be suitable for prognosing and diagnosing male infertility in early years of life.

Keywords: Male infertility; Non-synonymous single nucleotide polymorphisms; Bioinformatics analysis

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Abstract 118: Correlation between troponin I level and mortality rates in COVID-19 patients

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Introduction: Given the alarming increase in COVID-19-related deaths globally, with a notable impact in Iran, and the emergence of research indicating a correlation between elevated troponin I levels and mortality in individuals infected with SARS-COV2, this investigation endeavors to explore the potential link between troponin I levels and mortality rates in COVID-19 patients who presented at Tohid Sanandaj Hospital's emergency department during September 2021 - March 2022.

Method & material: From September 2021 until March 2022, Tohid Hospital's emergency department conducted a study involving 200 COVID-19 patients who underwent a troponin I level measurement test. The collected data included patient monitoring throughout their hospital stay, age, sex, chronic or concomitant diseases, the type and severity of such diseases (if applicable), and patient outcomes (discharge or death) in relation to test results. Using SPSS 22 software, the data was analyzed after separating the information for each patient, with a significance level of p0.05 used in the study.

Result: According to this study, the patient's average age was 58.12, with the youngest being 18 and the oldest being 95. Interestingly, patients who tested positive for troponin had an average age of 70.94, while those who tested negative had an average age of 55.60. This difference was found to be statistically significant. Additionally, it was observed that 41.86% of deceased patients had a positive troponin level, which was also significant. The prevalence of troponin was highest among patients with heart disease, followed by those with diabetes, high blood pressure, and heart disease. The average hospitalization days for all patients was 6.96, but this number increased to 9.64 for patients who tested positive for troponin and decreased to 6.41 for those who tested negative. This difference was also statistically significant. Interestingly, 17% of the patients tested positive for troponin, with 18.48% of men and 15.74% of women testing positive.

Conclusion: Based on the findings, it appears that older COVID-19 patients with preexisting conditions like cardiac disease, diabetes, and high blood pressure are more likely to have a positive troponin level. However, gender and place of residence do not seem to have an impact on troponin levels. Patients with a positive troponin level tend to have a higher mortality risk and longer hospital stays. It's worth noting that troponin level is not linked to time of death. Therefore, measuring troponin I levels in COVID-19 patients can be a valuable tool in evaluating mortality risk, disease complications, hospitalization duration, and care needs.

Keywords: Covid-19, Troponin, mortality rates

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Abstract 119: Determining the benefits and satisfaction of an evidence-based morning report from students' perspectives

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Introduction: Evidence-based morning reports are one of the most up-to-date methods in the field of clinical education. In this session in addition introduce patient, Students search for the latest evidence about discussed diseases and present. The purpose of this research was to determine the benefits and satisfaction of the evidence-based morning report according to the nursing trainees' point of view in the psychiatric ward.

Method & material: The present study is part of a pilot study of a larger one. After the issue was raised and approved by the Educational Council of the Nursing Faculty of Dezful University of Medical Sciences, at first, the aim and method of research plus the evidence-based morning report explained to the participants. After obtaining the informed consent from the participants, 6 nursing students (equivalent to a clerkship group) during a 10-day psychiatry clerkship and held an evidence-based morning session each day. In these meetings, in addition to introducing the patients admitted the previous day; In the field of etiology and pathophysiology of the disease, new treatments and care tips for each patient and nursing process, relevant studies were searched and presented by the students. To determine the level of satisfaction, a 10-point Like scale was used.

Result: 50% of participants were girls and 50% were boys. All of them were students of the 5th semester of Bachelor of Nursing. The results showed that the mean satisfaction of students with this study was 9 out of 10. From the analysis of student interviews, 34 unit meaning, 10 sub-categories and 4 categories were extracted. Categories include search for evidence, familiarity with current knowledge, use of new teaching methods, and teamwork.

Conclusion: The use of evidence-based morning report method increases the satisfaction of nursing students. Also, as a less used method in the field of nursing, it is associated with learning and educational benefits for students, and it can allow them to more accurately record the behavioral patterns of patients and provide more complete information to the treatment team. In order to carry out further studies, it is suggested to evaluate this method from different aspects in nursing students, other disciplines and in different hospital departments.

Keywords: Evidence-based morning report, clinical education, nursing students

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Abstract 120: Determining the optimum Octanol-water partition coefficient of Kojic acid for the formulation of skin products

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Introduction: Skin surface corneocytes limit the skin absorption of many hydrophilic drugs due to their high density, very low permeability, and high resistance to the penetration of substances into the skin and. Kojic acid (KA) is a natural substance that can inhibit the tyrosinase enzyme in melanin synthesis pathway and investigating its therapeutically effects in hyperpigmentation have become a topic of interest in numerous studies. Finding optimum conditions for skin permeation of KA is an important necessity due to KA's hydrophilic characteristic and poor skin penetration. This study was conducted to determine the optimum pH with the highest octanol-water partition coefficient (LogP) for formulating KA products.

Method & material: In this experimental study, first a saturated solution of KA was prepared in three buffers of acetate (pH=5.1), phosphate (pH=7), and borate (pH=9), and the calibration graph of KA was plotted using UV-HPLC. To obtain Log P of KA, the buffers were mixed with octanol on the shaking incubator, and after phase separation, the amount of KA in octanol, in buffer before and after mixing with octanol was determined by HPLC-UV. Afterwards, based on the area under the curve of each UV peak and the calibration curve, Log P was determined.

Result: The initial concentration of KA in acetate, phosphate, and borate buffers before mixing with octanol was 40.36, 44.24, 44.79 mg/ml; and the concentration of KA in octanol medium was 6.09, 10.32, 8.37 mg/ml; and the KA Log P was -0.75, -0.51, -0.63, respectively.

Conclusion: The optimum Log P for KA was obtained at pH=7; therefore, it is recommended to provide optimal condition for KA absorption by using ingredients which can effectively keep the pH of the product around 7.

Keywords: Kojic acid, partition coefficient, logp, hplc, formulation

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Abstract 121: Developing an analytical method for quantification of trientine based on modified silver nanoparticles

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Introduction: Silver nanoparticles have a positive surface charge that could be changed the surface plasmon by adding materials with different properties. They have UV absorbing of around 400 nm which reduce in presence of different concentrations of analyte. Modified silver nanoparticles by anionic surfactants can be used for the measurement of amines. Trientine that is a copper chelator and used in Wilson disease, is aliphatic amine which does not have UV absorbing groups. In this study, the modified silver nanoparticles by sodium lauryl sulfate (AgNPs-SLS) have been used to develop an analytical method for quantification of Trientine.

Method & material: Silver nanoparticles were produced using a solution of silver nitrate, sodium lauryl sulfate (SLS) and sodium borohydride as the reducing agent. Different concentrations of Trientine were added into a certain concentration of silver nanoparticle and absorbance of each sample was measured at 397 nm under the optimal conditions which include pH, salt and nanoparticle concentrations and time. It was optimized by a design of experiments using response surface methodology. Then, the calibration curve was obtained based on concentrations of Trientine solution versus decrease in the absorbance of AgNPs. The accuracy, validity and repeatability of the developed method were examined. Selectivity of the developed method was performed in plasma and in presence of common cations i.e. copper, zinc and ferrous.

Result: Under optimum conditions (pH=2, salt concentration= 5×10-4 M, AgNPs volume= 1.5 ml, time= 15 minutes), linear range of this method was between 10-40 ng/mL with correlation coefficient (R2) of 0.996 with limit of detection and quantification of 3 ng/mL and 10 ng/mL, respectively. The method had appropriate selectivity after dilution up to the concentration of drug in plasma and in presence of common cations.

Conclusion: The charge at the surface of silver nanoparticles changed to the negative by adding SLS as an anionic surfactant. These modified nanoparticles can be used in the measurement of drugs with amines functional groups like Trientine. In this study, the modified silver nanoparticles was developed to measure Trientine in aqueous and plasma samples. This method is suitable and low costing and does not require high equipment.

Keywords: trientine, silver nanoparticle, selectivity, quantification

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Abstract 122: Developments, application and performance of artificial intelligence in early cancer diagnosis

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Introduction: Artificial intelligence, due to its ability to process large amounts of data and find hidden connections between variables, through medical imaging analysis; it is considered as a reliable assistant for early diagnosis of cancer. The probability of timely cancer treatment increases with the early detection of neoplasias and abnormal cells. It should also be noted; Artificial intelligence algorithms may improve the diagnostic accuracy that can only be achieved by radiologists, and there is no longer a concern in terms of a shortage of expert radiologists. Therefore, this article intends to report on the use and performance of artificial intelligence in the diagnosis and prediction of cancer occurrence.

Method & material: In this study, an efficient search in the PubMed, Scopus, Scholar, Web of Science, Elsevier databases to find articles published in the period from 2018 to 2022 with the keywords (artificial intelligence), (machine learning), (cancer screening)), (prevention) and their English equivalent were done and from the 50 searched articles, studies that were in the form of a letter to the editor, only the availability of the abstract and lack of relevance to the subject were excluded; Finally, 25 articles based on artificial intelligence for cancer prediction and diagnosis were analyzed.

Result: The findings showed that artificial intelligence has played an effective role in the early diagnosis of cancer in many cases, except in a few cases such as breast cancer where the accuracy of radiologists is more than artificial intelligence. Also, in some cases, the integration of artificial intelligence as an aid for the diagnosis of colorectal neoplasia leads to a significant increase in the diagnosis of this disease. In cases such as detecting the number of larger adenomas, colonoscopy with artificial intelligence was not found to be significantly different compared to colonoscopy without artificial intelligence, while colonoscopy with artificial intelligence was found to be more effective for smaller adenomas.

Conclusion: The results of the studies indicated that, in general, artificial intelligence has an effective function in diagnosing a wide range of types of cancer, except in a few cases, which could be due to the lack of prospective studies in that field or the poor methodological quality of those studies. In some cases, the combination of artificial intelligence with common methods also had a positive effect. It seems that more prospective studies are needed to measure the effect of artificial intelligence in clinical practice.

Keywords: artificial intelligence, cancer, early diagnosis

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Trauma Monthly
Abstracts

Abstract 123: Diagnostic Accuracy of Chest Computed Tomography (CT) in Detecting COVID-19 Pneumonia: An Umbrella Review

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Introduction: Since the novel coronavirus disease 2019 (COVID-19) outbreak, the role of chest computed tomography (CT) for diagnosis of the disease has garnered increasing attention. Till date, more than 689 million cases of COVID-19 have been identified worldwide, many of whom were subjected to CT scanning. Several regulatory bodies have challenged routine use of chest CT for detecting COVID-19; however, evidence points to overuse and lack of adherence to evidence-based practice. Since the beginning of the pandemic to date, numerous primary studies and several systematic reviews have focused on the diagnostic accuracy of chest CT in detecting COVID-19. The aim of this study was to assess this challenging topic through an umbrella review of the previously published systematic reviews.

Method & material: The search results yielded a total of 2848 studies. After elimination of the duplicate and irrelevant studies, 19 systematic reviews originated from 150 primary studies and 186,687 subjects met our inclusion criteria. The pooled sensitivity and specificity of chest CT in detecting COVID-19 was estimated at 61-100% and 25-80%, respectively. Nearly, 15–50% of the COVID-19 cases never develop lung involvement on chest CT. In studies that focused on asymptomatic subjects, sensitivity continued to decline. Across the studies, sensitivity reports were largely homogeneous while specificity was heterogeneous. The included studies had methodological quality issues and mainly had high or potential risk of bias, suggesting that the reported sensitivity is probably overestimated.

Result: We searched the PubMed/MEDLINE from December, 1, 2019 to June, 1, 2023 in English literatures. The following search terms were used for database searching: “computed tomography”, “CT”, “chest”, “lung”, “thoracic”, “diagnostic”, “accuracy”, “sensitivity”, “specificity”, “coronavirus”, “COVID-19” and “pneumonia”. Search results were filtered to systematic reviews. After assessing each study against specific inclusion/exclusion criteria, two reviewers assessed eligibility of the studies for inclusion and data extraction.

Conclusion: Evidence supports high sensitivity and relatively low specificity of chest CT in detecting COVID-19. A normal chest CT, does not rule out COVID-19 infection. A chest CT with lung involvement consistent with the disease also does not necessarily confirm COVID-19, since CT findings overlap with several other infections such as influenza, H1N1, SARS and MERS, which may lead to false-positive results. Chest CT provides valuable diagnostic information for managing COVID-19 and is clinically indicated in some situations but its routine use or use as a primary diagnostic tool for COVID-19 subjects is unjustifiable.

Keywords: COVID-19, Chest, Computed Tomography, Accuracy

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Abstracts

Abstract 124: Diagnostic utility of neutrophil extracellular trap, syndecan-1 and high mobility group box protein-1 for disseminated intravascular coagulation: A systemic review and meta-analysis

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Introduction: Disseminated intravascular coagulation (DIC) is the systemic activation of coagulation system as a result of imbalance in hemostatic system with excessive clot formation leading to depletion of platelets and clotting factors and eventually bleeding The clinical presentation of DIC can be highly variable, depending on the dynamic balance between clot formation and degree of consumption of platelets, coagulation factors and inhibitors. Therefore, diagnosis of DIC can be challenging, requiring the presence of a relevant underlying disease, symptoms indicative of DIC and abnormal laboratory test results. Although these tests are useful especially when used in conjunction and serially, they are not adequately specific or sensitive; therefore, other laboratory markers have been investigated by several researches. In this meta-analysis we reviewed the utility of neutrophil extracellular trap formation (NET) formation, syndecan-1 (SDC-1) and high mobility group box protein -1 (HMGB-1) as diagnostic predictors for DIC.

Method & material: We searched PubMed and Scopus databases up to January 15, 2020, using the following search terms in combination: 'high mobility group box protein', 'HMGB', 'syndecan-1', 'SDC-1', 'neutrophil extracellular trap', 'NET formation', 'NETosis', 'disseminated intravascular coagulation' and 'DIC". Relevant studies were included based on inclusion criteria. This study was conducted according to Preferred Reporting Item for Systematic Reviews and Meta-Analysis (PRISMA) and study protocol was registered at PROSPERO (CRD42023392010). Assessment of quality and risk of bias of eligible studies was conducted using the Quality Assessment of Diagnostic Accuracy Studies 2 (QUADAS-2) tool. Meta-analysis was conducted to estimate the standardized mean difference (SMD) and 95% confidence interval (CI) between patients with and without DIC.

Result: A total of 16 studies were included, 14 of which had sufficient data for meta-analysis. Patients with DIC had significantly higher HMGB-1 (SMD: 0.62, 95% CI: 0.25-0.99, p=0.001), SDC-1 (SMD: 0.87, 0.53-1.21, p=0.00001), nucleosome (SMD: 0.57, 0.31-0.84, p=0.0001) and histone H3 (SMD: 0.50, 0.12-0.87, p=0.009) levels compared to patients without DIC.

Conclusion: Early diagnosis of DIC may significantly reduce the mortality rates among patients and to this end, more and more biomarkers have been explored by the investigators. Our analysis showed that NET formation, HMGB-1 and SDC-1 are elevated in DIC patients and can be useful for diagnostic purposes as complementary to the currently available biomarkers.

Keywords: Disseminated Intravascular Coagulation, Syndecan-1, Biomarkers, NET formation, HMGB1

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Abstracts

Abstract 125: Digital Twins in Personalized Medicine for Healthcare Revolution through Cutting-Edge Applications: A Systematic Review

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Introduction: A new technology called a "digital twin" (DT) can help make life-saving decisions by offering personalized medicine (PM) based on real-time data as well as genetic information, medical history, and other specifics. This study aimed to explore the design and implementation of this technology to provide PM.

Method & material: A Systematic review of the literature was conducted to synthesize the literature on the design and implementation of DT in PM. Medline (via PubMed), Scopus, and Web of Science databases were searched for relevant English studies published from inception until May 30th, 2023. The search strategy combined MeSH terms and keywords in the title and abstract to define the two categories: DT and PM. All original studies if they had designed and implemented DT to provide PM were included. Data on study characteristics, DT characteristics, and PM characteristics were extracted separately by two authors. The quality of the included studies was assessed using the Effective Public Health Practice Project (EPHPP) quality assessment tool. Finally, a narrative synthesis of the included studies was carried out.

Result: Out of the 184 retrieved studies, four met the inclusion criteria. The DT model was employed in two studies (50%), while the digital shadow model was used in the other 50%. The most common applications of DT in PM were related to prediction (75%), followed by treatment (50%). The human digital twin (HDT) model was the most frequently referenced model in the studies (50%). Artificial intelligence approaches and cloud platforms have been the most widely employed techniques in the design of DT (n=2). The following are the specialist field of studies about DT and PM that were reviewed: Fractures of the tibial plateau (one study), elderly type 2 diabetes (E-T2D) (one study), and pharmaceutical therapies (two studies).

Conclusion: According to the study's findings, the use of DT in PM is not limited to disease treatment and it can also be used for health condition prediction. This technology will also be more frequently used in the medical industry to address issues like real-time monitoring, pharmaceutical therapies, and precise disease treatment that conventional methods cannot fully explain. As a result, it is anticipated that the analysis and summary of this study will offer more suggestions and resources for the development and implementation of DT technology.

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Abstract 126: Does nudge lead to a change of path? A systematic review of COVID-19 preventive behaviors

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Introduction: One of the essential theories in behavioral economics is the nudge theory. Nudges are interventions that seek to modify the social and physical environment to increase capacity for subconscious behaviors that align with the intrinsic values of an individual, without limiting options. They are used to promote preventive hygiene behaviors in public health. As the covid-19 pandemic began, Preventive behaviors based on Nudge's theory received the attention by health policymakers worldwide. This study aimed to determine the effectiveness of the nudge theory in changing preventive behavior regarding the covid-19 disease.

Method & material: A systematic review of studies was conducted on PubMed, Web Of Science, Scopus, ProQuest, and Google Scholar databases with the keywords Behavioral economics, nudge theory, nudge, COVID-19, SARS-Cov2, and its synonyms. Inclusion criteria in the study included English or Persian language, peer review, and exclusion criteria were unavailability of full text and focus on nudges that aren't be categorized into nudge strategies based on the Mindspace framework.

Result: A total of 485 articles were extracted from different databases, and after removing duplicate, unrelated, or subject-to-exclusion criteria, 14 articles were included. The nudges used included a short message system (SMS) (8 studies), digital message (2 studies), video message (1 study), default change (1 study), printed stickers (1 study), and disinfectant in public view (1 study). The expected outcome of the studies regarding vaccination was 10 cases of hand hygiene and 2 cases of physical distance. In 12 studies (85% of studies), the use of different nudges was able to improve the prevention behaviors of subjects significantly. The two unsuccessful interventions related to using text messages to encourage people to get the vaccination.

Conclusion: The results showed that the use of daily reminders, default changes, and printed messages, such as physical distance stickers, could be effective in changing the effective behavior of people in the face of pathogens. Since the covid-19 pandemic will probably not be the last pandemic of this type; it is necessary for health systems, including the Iranian health system, to have a clear and precise plan to use international experiences and new initiatives to use the nudge theory to change public behavior.

Keywords: Nudge Theory, behavioral economy, Covid-19

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Abstract 127: DPSCs, a new window in the treatment of bone weakness in the implant process

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Introduction: Dental implants are an effective treatment strategy for the rehabilitation of minor defects or complete toothlessness due to their aesthetic, functional, and high success rates; However, the complete replacement of teeth by implants is not without problems, and in fact, the volume and density of the bone around the implant (alveolar) is a very important factor that determines the overall outcome of the implant. Reconstruction of the vertical and horizontal height of the alveolar bone with the appropriate quantity and quality for the placement of the dental implant base is considered a big challenge in dentistry; Because the root of the implant should be directly connected to the alveolar bone without the intervention of fibrous connective tissue and the process of osseointegration should be established.

Method & material: The present study is based on a review of the texts available in Google Scholars, PubMed, and ProQuest databases with keywords such as "osteogenic differentiation of DPSCs, dental implant, alveolar bone repair, osseointegration" related to the years 2018 to 2023 was done and 15 related articles were found; Articles without full text and animal models were excluded from the research process.

Result: According to the conducted research, morphological changes, histological analysis, and having embryonic ectomesenchymal origin, DPSCs isolated from the third molar are an excellent alternative for the reconstruction of the vertical height of the depleted and weakened alveolar bone. To repair alveolar bone that has lost its density for implant placement due to infectious diseases such as periodontitis, tooth extraction, and osteoporosis, etc., the use of DPSCs, which have many advantages, including high proliferation potential, convenient access without ethical issues, has anti-inflammatory and self-renewal properties, is very efficient. Laboratory studies show that injecting DPSCs with gelatin scaffolds and grafting materials can strengthen bone formation, and bone integrity. DPSCs, due to their multiple embryonic origins, first increase blood vessels and local angiogenesis to supply nutrients; Then they start bone formation by differentiating into osteoblasts and osteoclasts.

Conclusion: In the future, the best treatment method is to use DPSCs for alveolar bone regeneration instead of treatment methods such as autologous or allograft bone grafting, sinus lift operation, using bone powder, which has limitations such as complications of the donor area, poor biocompatibility, insufficient amount of graft bone. It doesn't have it and it reduces the economic and medical costs. This treatment is a very clear vision to solve the most important implant challenge, which is bone repair.

Keywords: Osteogenic differentiation of DPSCs, dental implant, alveolar bone regeneration, bone integrity

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Abstract 128: Education through telemedicine and its impact on caregivers

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Introduction: Recently, it is common for patients and families to use the Internet and smartphones to receive health information. Improving the quality of life of patients and increasing their independence after receiving interventions and educational content through telemedicine has been proven so far. The purpose of this study is to report the impact of telemedicine education on caregivers.

Method & material: This quasi-experimental study was conducted in 2021, using an educational content based on a mobile application, with up-to-date valid medical, nursing and rehabilitation evidence, which includes improving the awareness of patients and families on emotional rehabilitation, social rehabilitation, physical rehabilitation, issues related to nutrition, excretory system, balance, corrective movements and relaxation, which was approved by three Nursing faculty members of Iran University. In the special section "Talk to Families", the challenges of patient care, companionship in treatment, monitoring symptoms, adherence to treatment, preparing the caring environment, adjusting diet, emotions and feelings, principles to conserve energy, reach Personal tasks and housework along with caring for a patient were described. After obtaining the necessary permits, 77 qualified patients and caregivers who referred to neurology clinic centers, were studied for 12 weeks. The evaluation of this protocol was done by recording the statements of caregivers, who were first-degree relatives, through virtual networks.

Result: Caregivers' statements indicated the positive effect of the role of raising awareness in adherence to treatment and hope for the future. Other caregivers' reports included satisfaction with the principles of planning, energy conservation and a better communication with the patient, which were considered to be in the context of improvements in the patient's independence. Detailed examination of the impact of telemedicine care on caregivers with specific tools such as quality of life and care burden tools can be investigated in future studies.

Conclusion: The use of telemedicine by therapists and researchers, as a means of providing information, services and education to patients, can be effective on the quality of life of families as well.

Keywords: Education, telemedicine, caregivers

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Abstract 129: Educational need assessment of the staff of the health information management department of the educational hospitals of Ferdows city

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Introduction: Changes caused by technological developments in the health information management department have increased the importance of this sector and created new educational needs for staffs in this department. The current research aims to investigate the educational needs of the staffs of the health information management (HIM) department in the educational hospitals of Ferdows city.

Method & material: The current research was a descriptive study conducted in the year 1400 in the educational hospitals of Ferdows city. The research population was the staffs of the HIM department. In this study, the census method was used and the research community was considered as the research sample. The inclusion criteria were health information management staff working in Ferdows hospitals who were willing to participate in completing the questionnaires. Exclusion criteria included other medical staff other than health information management staff - such as doctors, nurses, pharmacists, laboratory technicians, operating rooms, etc. Also, employees who did not want to cooperate or could not answer the questions of the questionnaire were excluded from the study process. The data collection tool was Zarei et al.'s questionnaire. The collected data were analyzed using descriptive statistics methods in SPSS version 19.

Result: 30 staffs participated in the research. From the staffs' point of view, the average need for training in the fields of computer and information technology, data collection, health information classification, health statistical activities, and occupational safety and health were 65%, 70%, 70%, 65% and 60%, respectively. Results showed the high need to training (2.1 to 3) in these five sections.

Conclusion: The results of the present study showed that the educational needs of HIM staffs are high, so the best option for improving the skills of them is holding training courses. To increase the efficiency of these courses, it is suggested that training courses be held according to the skill levels of the staffs.

Keywords: Need assessment, Educational needs, Health information management

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Abstract 130: Effect of Cognitive behavioral therapy on Depression and Anxiety in the Traumatic Brain Injury patients: A systematic review of randomized controlled trials

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Introduction: Traumatic Brain Injury (TBI) is a global public health concern and one of the leading causes of death and disability, with an estimated 64-74 million persons sustaining a TBI each year. TBI can cause acute physical, cognitive, and psychological symptoms. In addition, changes in daily life and lifestyle changes as a result of the injury can create feelings of disconnection, which in turn can feed symptoms of anxiety and depression. In many literature reviews, including the treatment of anxiety and depression in TBI patients, Cognitive Behavioral Therapy (CBT) has been mentioned. The aim of this study is to systematically investigate the effect of Cognitive Behavioral Therapy on depression and anxiety in Traumatic Brain Injury patients.

Method & material: Search based on the criteria considered in PICO and in order to answer the research question using PubMed, Scopus, Web of Science, SID and Magiran search engine during the years 2000-2023 using keywords “Cognitive Behavioral Therapy”, “Depression”, “Anxiety” and “Traumatic Brain Injury” in MESH search was done by two people independently using Boolean operators and PRISMA checklist.

Result: 226 studies were found in the initial search and finally 12 studies were selected based on the inclusion criteria. Based on the results of studies, cognitive behavioral therapy has been effective in managing and reducing psychiatric symptoms and psychological distress, including depression and anxiety in patients with traumatic brain injuries. According to studies, these treatments have led to the improvement of depression symptoms, avoidance and re-experiencing, resilience, emotional, behavioral and cognitive disorders. On the other hand, they have had positive effects on the reduction of anxiety, ADHD and PTSD symptoms in these patients, which ultimately led to the improvement of emotion regulation, cognitive and social functions, the ability to adapt to life experiences, and in general, the quality of life and sleep quality in these patients.

Conclusion: This systematic review supports the view that CBT interventions contribute to reducing both of depression and anxiety symptoms in patients following TBI. Many patients with TBI struggle with depression or anxiety. Using CBT as a type of psychotherapy can modifies them and be useful in improving the mental health of the TBI patients. Therefore, CBT can be included in comprehensive care programs for TBI patients.

Keywords: behavioral therapy, Depression, Anxiety, Traumatic Brain Injury

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Abstract 131: Effect of environmental stress and cryoprotectant on survival enhancement of freeze-dried probiotic Lactobacillus plantarum

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Introduction: The probiotics played important role in relieving lactose intolerance, improving sleeping, alleviating constipation, strengthening the immune system, and preventing virus infection. The survivability of the probiotic could affected by different environmental conditions during the production, storage and etc. The aim of this study was study the effect of low pH stress effect and sucrose as cryoprotectant for enhancement of freeze-dried probiotic Lactobacillus plantarum (L. plantarum).

Method & material: The L. plantarum (savis biotech co) was cultured twice in MRS broth with different pH (4.5, 5, 5.5, 6 and 6.5) were prepared by using different concentration of lactic acid. After incubation the sucrose was added in each media with different concentrations (0, 1%, 5% and 10%). Finally the probiotic cell was harvested and lyophilized for 24 h. The freeze dried samples were sealed in 5 ml airtight vials. Storage was performed at 4 °C (standard refrigeration temperature). At equal time intervals of 4 weeks for a total of 3 months, a vial representing each experimental system was taken, rehydrated to the original volume, and analyzed to determine the impact of different treatments on the cells survivability during the storage period.

Result: Results demonstrated that the probiotics showed higher survivability by lactic acid stress without adding sucrose. Also, survivability of L. plantarum cells were enhanced by adding sucrose during storage. The highest survivability of the cell was achieved in pH:5.5 and 10% sucrose.

Conclusion: From an overall perspective, it is readily apparent that the combination of pH stress and Sucrose significantly improves the survivability of probiotics.

Keywords: Probiotic, survivability, cryoprotectant, PH stress

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Abstract 132: Effect of Hydroalcoholic Extract of Peganum harmala on Pain and Inflammation in Male Mice

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Introduction: In various cultures and also traditional medicine, Peganum harmala is used in different usage, including pain sedation in body parts like leg and backbone, anti-infection, and anti-inflammation. Because of these mentioned reasons in this research antinociceptive and anti-inflammatory effects of this plant have been investigated.

Method & material: This study has used male mice of 20-25 g in weight. In inflammation test, they were divided into 5 groups: sham, positive control (receiving Dexamethasone with a dosage of 15 mg,kg) and 3 groups receiving a dosage of 5, 10 and 20 mg/kg of extract hydroalcoholic of P.harmala seeds, and xylene was used to induce inflammation. In order to investigate the analgesic effect of this plant, formalin test was used. In these tests also, mice were divided into 5 groups: sham, positive control (receiving morphine with a dosage of 10 mg,kg), and 3 groups receiving extract of P.harmala seeds. Normal saline and extract were injected Intraperitoneal and 15 minutes before the test.

Result: The resulting data were analyzed with one-way ANOVA and Tukey post-test. Extract hydroalcoholic of P. harmala seeds with the dosage of 5 mg/kg caused a meaningful decrement in inflammation and pain in acute and chronic phases (p=0.001). Which is probably due to the compounds found in this plant, especially the monoterpenes found in the hydroalcoholic extract and the phenolic and flavonoid compounds found in that extract, but in higher doses it causes convulsions and death.

Conclusion: Based on research findings, P. harmala extract has analgesic and anti-inflammatory effects and can be a suitable alternative to narcotic painkillers. These effects are probably due to the presence of monoterpenes, especially Polygon in the chloroform extract and flavonoids in the ethyl acetate extract. Proving this issue requires a detailed knowledge of the active ingredients of the extracts and their mechanism of action.

Keywords: Pain, Inflammation, Peganum harmala

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Trauma Monthly
Abstracts

Abstract 133: Effect of Intranasal Oxytocin on Core Symptoms of Autism Spectrum Disorder: A Systematic Review

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Introduction: Autism spectrum disorder (ASD) is a common neurodevelopmental disease for which there is no approved pharmaceutical therapy. Recent research has focused on the impact of oxytocin (OT) on social behavior and perception among people with autistic traits. OT is predicted to be a new treatment agent for the basic symptoms of autism spectrum disorder. Previous research on the effectiveness of repeated oxytocin injections, however, has been disputed. The current review seeks to answer the critical topic of oxytocin's safety and efficacy in the treatment of autism spectrum disorder.

Method & material: Based on Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines, two authors searched four major databases (PubMed, SCOPUS, Cochrane, and Web of Science) independently on May 2023, for clinical studies containing randomized, single- or double-blind, and placebo-controlled clinical trials exploring exogenous oxytocin impact on ASD. Our established inclusion criteria were complied with by 31 papers in total. The Joanna Briggs Institute (JBI) Critical Appraisal Checklist was used for quality assessment. For pooled analysis, the random-effects model was utilized. To examine research heterogeneity, the I2 and Q tests were performed. The probable causes of publication bias were assessed using a visual examination of funnel plots and Egger's regression asymmetry test.

Result: From the total 762 searched articles and based on the specified inclusion and exclusion criteria, 31 remaining articles indicated that oxytocin had positive impacts on social functioning but that there was little proof that symptoms would improve in the non-social area. Intranasal OT may be helpful in the management of anxiety and repeated behavior, according to a small number of trials.

Conclusion: The results we obtained point to the potential of employing oxytocin as a new generation therapy to address basic social deficits in ASD and imply that oxytocin administration can be viewed as a successful treatment for some core symptoms of ASD, particularly in the domain of social functioning.

Keywords: Autism spectrum disorder, Oxytocin, Intranasal

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Trauma Monthly
Abstracts

Abstract 134: Effect of local oxygen on blood glucose level and chronic diabetic foot wound healing: a randomized controlled clinical trial

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Introduction: One of the most common non-communicable and metabolic diseases with symptoms and debilitating complications in society is diabetes. Foot ulcer (DFU) is the most common, most costly and most serious complication of diabetes. The aim of this study was to compare the effect of standard wound care with local oxygen therapy and with standard wound care alone on wound healing and blood glucose control.

Method & material: This Multicenter, randomized, single-blind clinical trial study was conducted on 40 patients admitted to the surgery department with grade 2 diabetic foot ulcers in teaching and treatment hospitals of Qazvin University of Medical Sciences. Sampling was done by the Kevin Tossing method and they were divided into two groups of intervention (20 people) and control (20 people) by a simple random allocation method. In the intervention group, daily oxygen was administered through a catheter with a flow rate of 10 liters per minute for 20 minutes three times a day for one to two weeks at a distance of one centimeter from the wound. The condition of the wound was checked by the PUSH criterion before and every 48 hours after the start of the intervention for four weeks. Physiological indicators of the wound and blood sugar levels were measured before and after the intervention. Data analysis was done through the

Result: The results of repeated measure variance analysis showed that the mean score of wound healing between the two groups was statistically significant (P=0.003) and local oxygen had a significant effect on wound healing. Regarding the intra-group effects, the effect of time on the average score for wound healing is statistically significant and the average score on the first, third, fifth and seventh days was significantly different (P=0.001 and F=387.241). Both groups were similar in terms of basic data and initial FBS level and had no statistical difference. At the end of the intervention, fasting blood sugar in the intervention group (160.04 ± 11.06) showed a significant decrease compared to the beginning of the study (191.02 ± 9.14) (P = 0.001).

Conclusion: Local oxygen therapy accelerated wound healing in people with diabetes. Also, the average blood sugar level decreased. Considering that local oxygen therapy is an inexpensive and accessible method in the treatment of chronic wounds, including diabetic foot ulcers, we claim that at least 20 sessions of oxygen therapy are required to be effective.

Keywords: DFU, wound healing, local oxygen therapy, blood glucose, chronic wound

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Abstracts

Abstract 135: Effects of Bunium persicum (Boiss.) B.Fedtsch. and Piper nigrum L. in the treatment of patients with mild to moderate Alzheimer's disease: a double-blinded, randomized, placebo clinical trial

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Introduction: Alzheimer's disease (AD) a common form of dementia is a globally growing disease with a high financial burden leading to morbidity and mortality. Current medications focus on symptom therapy and preventing disease progression. No curative management has been established for the disease till now. Traditional Persian medicine (TPM) suggests various natural medications for what we know as AD in today's medicine. The goal of the present study is to assess the efficacy of a memory enhancer formulation cited in Canon of Medicine containing Bunium persicum (Boiss.) B.Fedtsch. and Piper nigrum L. (1:1), in patients with mild to moderate AD.

Method & material: The plants were powdered and mixed with an electric grinder in a ratio of 1: 1 and filled in the 500 mg capsules. Placebo was also prepared from roasted starch with 10% of the mixture of plants and filled in identical-looking capsules. Participants were recruited from December 2020 to February 2021 from a teaching clinic in Shiraz (Ethic number: IR.SUMS.REC.1398.963, and IRCT code: IRCT20191212045709N3). Patients older than 50 years of age with mild to moderate AD based on the DSM-5 criteria were included in the study after confirmation by neurologist. The patients were excluded from the study if starting a new medication for AD in the last 6 months. The block randomization method was used to randomize the patients. Patients received two capsules of drug/ placebo daily for six months.

Result: 35 patients in the placebo group, and 36 patients in the drug group completed the study. The drug group showed remarkable improvement (P-value= 0.001) in PCDR scores including memory, orientation, judgment/problem-solving, and home & hobbies domains. Moreover, medication has also reduced aggression, restlessness, insomnia, and impaired concentration during the study interval in the drug group (P-value =0.001).

Conclusion: This is the first study investigating the clinical efficacy of this formulation. This formulation has been standardized in a previous study and the efficacy has been confirmed in the animal model. After future studies with greater sample sizes and longer follow-up periods, it can be considered a traditional-based memory enhancer supplement.

Keywords: Alzheimer disease, Herbal, Clinical Trial, Traditional Medicine

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Trauma Monthly
Abstracts

Abstract 136: Effects of PMS50 supplementation on mood swings associated with premenstrual syndrome: A randomized double-blind clinical trial

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Introduction: Premenstrual syndrome (PMS) is a set of physical and psychological symptoms during the luteal phase of menstruation which affects about 70%–90% of women of reproductive age. The common psychological symptoms associated with this syndrome is mood swings which significantly affects personal, social life. PMS50 is a dietary supplement containing vitamins B1, B2, B6, E, D3, magnesium and dried extract of vitex agnus. Regarding the high prevalence of PMS and its effect on women's lives and the lack of a study evaluating the effects of supplementation with PMS50, this study aimed to investigate the effects of PMS50 supplementation on mood swings associated with PMS.

Method & material: This double- blind clinical trial study was conducted on 50 students with PMS residing at dormitories of Ahvaz Jundishapur University of Medical Sciences, between December 2018 and March 2019. The inclusion criteria was women (aged 25–35 years) with PMS, normal body mass index (18.5–24.9), regular menstrual cycle and no history of mental illness. Women who had irregular menstrual cycle or used psychological medicines or vitamin supplements were excluded. A sample size of 25 individuals in each group (50 individuals in total) was calculated according to Mousavi et al, using the formula with 90% power. Participants were randomized to receive either PMS50 supplement (n=25) or placebo (n=25) (550 mg/d) for three cycles and completed the Rossignol & Bonlander questionnaire. This questionnaire was validated by Mortola et al. The main measured variables was mood swings. Randomization occurred in a 1:1 ratio using block randomization.with both participants and researchers blind as to the

Result: To control of confounding factors, anthropometric indices, physical activity, dietary intake (macronutrients and some micronutrients including vitamins B1, B2, B6, E, D3 and magnesium) and severity of PMS were evaluated at baseline and there was no significant differences between groups. The mean age in the intervention and placebo groups was 28.48 ± 4.11and 29 ± 3.92 years (P=0.662). After three months, a significant reduction was observed in the mean scores of mood swings in the intervention group (from 11.04±3.12 to 7.56±3.07, 5.17±2.21, 3.09±1.14 after one,two and three months, respectively.) compared with the control group (P<0.001).

Conclusion: PMS50 supplementation may be effective in improvement of mood swings related to PMS . However, further studies are required to advocate this findings.

Keywords: PMS50 supplementation, mood swings, premenstrual syndrome

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Trauma Monthly
Abstracts

Abstract 137: Effects of the Covid-19 pandemic on the prevalence of developmental disorders in preschool children: a study during the crisis

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Introduction: The Covid-19 pandemic has created a global health emergency. Environmental factors affecting children's performance and physical and mental health during the pandemic include: Quarantine, reduced social activity, high use of tablets and phones, and unhealthy eating. Because children's health is one of the most important topics for SGD, on this basis, the present study was conducted with the aim of investigating important social issues in preschool children during the Covid-19 pandemic.

Method & material: In this cross-sectional descriptive retrospective study, the growth status of 2112 children during the pandemic was evaluated using Ages & Stages Questionnaires. This questionnaire includes five areas; Communication is gross movements, fine movements, personal social behavior and problem solving. This questionnaire was administered to all children at the age of 6 months, 12 months, 24 months, 36 months and 60 months in all comprehensive urban and rural health service centers with the help of parents and health care providers, which has 6 urban comprehensive health service centers. and the village that was selected by census

Result: Among the 2112 examined children, 511 were 6 months old, 878 were 12 months old, 304 were 24 months old, 306 were 36 months old, and 113 were 60 months old. Of these, 1143 were girls (54.1%) and 969 (45.8%) were boys. In total, 154 patients in one area and 4 patients in two areas were seriously injured, so that; Changes in 65 cases (3.07%), subtle movements in 20 cases (0.94%), subtle movements in 41 cases (0.8%), and social issues in 13 cases (0.61%) have been recorded. Receipt.

Conclusion: This research shows that the covid-19 pandemic can have a significant impact on issues related to difficulties in preschool children, especially communication and fine motor domains. These results can help organizations and health and educational centers to provide programs and measures to identify and intervene early in life disorders in this age group of providers.

Keywords: Developmental disorders, ASQ-3, Covid-19, Pandemic

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Trauma Monthly
Abstracts

Abstract 138: Empowering Middle-Aged Women: Exploring the Impact of Education on Promoting Behavior for Clinical Breast Examination

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Introduction: Breast cancer poses a significant health challenge, particularly in developing nations. The implementation of screening programs and early detection strategies is crucial in combating this disease, with clinical breast examination serving as a valuable screening method. Recognizing the vital role of education in disease prevention, this research endeavors to assess the impact of educational intervention on enhancing middle-aged women's engagement in clinical breast examination practices.

Method & material: A semi-experimental study was carried out in 2019 on 120 women aged 30-59, who visited the comprehensive health centers in Neyshabur city. The method of sampling involved a multi-stage cluster design at the center level, with 60 women assigned randomly to each group, utilizing the block method. Inclusion criteria encompassed the ability to read and write, active attendance in educational sessions, and having no prior history of breast diseases. Any participants who were absent for more than one session were not considered in the study. Data collection involved the use of a researcher-developed questionnaire, which included demographic information, self-reported knowledge, and behaviors related to clinical breast examination. The educational intervention was designed based on an initial needs assessment specifically tailored for the intervention group. It consisted of five 60-minute sessions. Data were collected immediately after the completion of the educational intervention and again two months later. The collected data were

Result: The study included women with an average age of 38.39 years (SD: 7.83). Most of the participants were housewives, and over 90% were married. Around 20% had completed a university education or higher. There was no significant difference between the control and intervention groups regarding referral for clinical breast examination before the educational intervention. More than half of the women in both groups had never undergone clinical breast examination. However, after the intervention, women in the intervention group were significantly more likely than those in the control group to attend regular clinical breast examinations, as measured immediately and two months after the intervention. The difference between the groups was statistically significant ($P<0.05$).

Conclusion: The results clearly demonstrated the positive impact of education on enhancing the performance of clinical breast examination in the intervention group, as compared to the control group. These findings emphasize the importance of strategic planning and structured implementation of educational programs aimed at improving screening behaviors among women.

Keywords: Education, Middle-Aged Women, Clinical Breast Examination ,Behavior

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Trauma Monthly
Abstracts

Abstract 139: Epidemiological pattern of death in motorcycle crashes

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Introduction: Motorcycles are economical and move more easily in crowded places, but they are unsafe vehicles. According to the report of the World Health Organization (WHO), about 1.4 million people die each year due to traffic accidents. Identifying the death pattern of motorcycle traffic accidents can help lawmakers to prevent traffic accidents. The purpose of this study was to determine some epidemiological aspects of death caused by motorcycle accidents, including accident mechanisms and injury patterns in the East and West Azarbaijan provinces of Iran.

Method & material: Data on 2,461 motorcycle fatalities recorded in the Integrated Road Traffic Injury Registry System (IRTIRS) from 2005 to 2020 were analyzed. Variables related to victims and accidents, such as accident mechanisms, types of vehicles involved, types of injuries, and demographic characteristics of victims were examined. The data were analyzed using Stata v.17 statistical software.

Result: Based on the results of the study, the most common accident mechanism among motorcyclists was a motorcycle accident with a vehicle and overturning. Among the fatal driving injuries, head injury is the most common trauma among motorcycle victims. In terms of the distribution of death by location, most of the victims died due to an accident outside the city. Also, the total number of deaths caused by motorcycle accidents decreased until 2016 and increased until 2020.

Conclusion: Casualties caused by motorcycle traffic are still one of the most important public health problems in northwest Iran and have been increasing in recent years. Therefore, it is necessary to consider effective intervention programs to reduce the burden of motorcycle casualties. Interventions can include considering special laws and regulations, especially outside the city.

Keywords: death pattern, motorcyclists, road accidents, epidemiology.

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Trauma Monthly
Abstracts

Abstract 140: Estimated direct out-of-pocket (OOP) payment of patients for the costs of diagnosis and treatment of covid-19 disease in reference hospitals for the treatment of this disease in the south of Kerman province

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Introduction: Direct payment out of pocket is one of the payment methods in Iran's health system. This study was conducted with the aim of estimating direct out-of-pocket (OOP) payments of patients for the costs of diagnosis and treatment of covid-19 disease in hospitals covered by Jiroft University of Medical Sciences.

Method & material: This descriptive-analytical study was conducted cross-sectionally in 1400. The financial records of 450 patients with covid-19 hospitalized in the hospitals covered by Jiroft University of Medical Sciences were selected and analyzed using stratified random sampling. Data was collected using a researcher-made form. Data were analyzed using t-test, ANOVA and Pearson's correlation coefficient using SPSS23 software at a significance level of 0.05.

Result: The total direct costs were estimated at 25208899708 rials, of which 9.37% was the patient's share (2361227375 rials). A statistically significant relationship was observed between the length of stay and the type of insurance plan with OOP ($P < 0.05$).

Conclusion: According to the results, 9.37% of the total costs were paid directly from the patients' pockets. The findings of this study indicate the urgent need to make decisions and implement effective interventions to deal with covid-19 through controlling risk factors and using the successful experiences of other countries and recommending international organizations to reduce the cases of infection and then reduce the financial burden of the disease on the sufferers as well as It confirms the expansion of the role of insurance organizations.

Keywords: out-of-pocket (OOP) payment, covid-19, Direct payment

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Trauma Monthly
Abstracts

Abstract 141: Evaluating COVID-19 frequency in patients with cardiac-respiratory arrest at Sanandaj Hospital's emergency department in 2020

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Introduction: The emergence of the novel coronavirus from Wuhan, China in late December 2019 posed a significant threat to global public health. Individuals with pre-existing conditions such as high blood pressure, diabetes, and cardiovascular disorders are particularly vulnerable to contracting Covid-19. To further explore this topic, a study was conducted to determine the prevalence of COVID-19 among patients with cardiorespiratory arrest who sought emergency services at Sanandaj city-level hospitals in 2019.

Method & material: In 2019, this comprehensive study was conducted on patients who experienced cardio-respiratory arrest and were admitted to Kausar, Tawheed, and Baath hospitals. The study analyzed data on approximately 200 patients, collected from various sources including CPR and death registries, COVID-19 PCR test results, and patients' medical records. The collected information was organized into a checklist, which included details such as age, sex, pre-existing medical conditions, severity of chronic illnesses, COVID-19 test results, and CPR outcomes. By analyzing the data for each patient, the study was able to draw valuable conclusions.

Result: According to the study, 44.15% of patients tested positive for COVID-19 while 43.77% tested negative. The average age of all patients was 63.88 years, with positive cases having an average age of 67.42 years and negative cases having an average age of 61.09 years. 63.02% of patients were male and 36.98% were female, with 50.19% having an underlying disease. Of those with an underlying disease, 34.59% had heart disease and 23.31% had diabetes. The study found that 13.9% of patients survived resuscitation operations while 86.1% did not. COVID-19 and MI were identified as leading causes of cardiorespiratory arrest and death. The study found no statistically significant relationship between age, gender, or underlying disease and patient outcomes. However, a statistically significant relationship was found between COVID-19 incidence and chronic or underlying disease outcomes.

Conclusion: Based on the findings, it appears that individuals with pre-existing conditions such as cardiovascular disorders and diabetes face a greater risk of contracting COVID-19, and in such cases, the mortality rate due to the disease is also higher. As a result, it is recommended that those with underlying health issues exercise particular caution in adhering to established health protocols and that they be given priority access to any available COVID-19 vaccines. Additionally, it is recommended that those with cardiovascular disorders be carefully evaluated when considering hospitalization and treatment options for COVID-19.

Keywords: Covid-19, Cardiac-respiratory arrest, Diabetes Cardiovascular disorder,

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Abstracts

Abstract 142: Evaluating the Safety and Efficacy of a Poly-Herbal Formulation from Traditional Persian Medicine (TPM) in Patients with Calcium Kidney Stones: A Randomized, Double-Blinded Clinical Trial

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Introduction: Nephrolithiasis affects 10-15% of the world's population during their lifetime. The economic burden of the disease is estimated to be more than $2.1 billion annually in the USA. Despite this, effective medical treatment for nephrolithiasis is not yet well established, and current medications have disadvantages including high costs, invasiveness, and side effects. As a result, there is a growing global demand for Complementary Medicine to manage the diseases. This study aims to assess the safety and efficacy of a multi-ingredient herbal formulation from traditional Persian medicine (TPM) known as Mofatet powder cited in Qarabadin-e-Salehi in patients with calcium kidney stones.

Method & material: Equal parts (1.2 kg) of each Mofatet powder constitute including Cucumis sativus L. (Seed), Cucurbita pepo L. (Seed), Apium graveolens L. (Seed), Foeniculum vulgare Mill (Seed), Pimpinella anisum L. (Seed) and Tribulus terrestris L. (Fruit) were prepared and mixed with an electric grinder. Then, each 500 g of the powder mixture was boiled in 5 liters of distilled water for 10 minutes to obtain an aqueous extract. The aqueous extract was concentrated using a rotary evaporator, freeze-dried, and formulated into 500 mg capsules. 51 patients with confirmed calcium kidney stones more than 5 mm in the lower pole of the kidney were included in the study from a teaching clinic in Shiraz and participated in a randomized, double-blind clinical trial from February 2020 to March 2021 .After randomization using the block method, the drug group (26 patients) received two 500 mg capsules of the drug daily for 6 weeks.

Result: The imaging results showed a 61.73% decrease in stone size just in the drug group (P-value< 0.001). Additionally, urinary calcium decreased (P-value=0.02) and urinary magnesium increased (P<value0.001) in the drug group showing reduced supersaturation leading to stone formation. No remarkable effect was observed in AST, ALT, serum creatinine, and BUN level in none of the groups suggesting no potential nephro/hepatotoxicity.

Conclusion: This formulation should be considered a potent formulation from TPM based on its effectiveness and safety in this study. Thus, the importance of more in-vivo and in-vitro studies to discover the underlying mechanisms and larger clinical trials is clear to fully explain and confirm the results obtained in the present study.

Keywords: Kidney stones, Herbal, Traditional Medicine, Clinical Trial

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Trauma Monthly
Abstracts

Abstract 143: Evaluation and diagnosis of multiple sclerosis using retinal images with the help of artificial intelligence

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Introduction: Multiple sclerosis (MS) is a common autoimmune and inflammatory disorder that causes demyelination and neuronal changes in the central nervous system (CNS). The eye is one of the organs of the body that is affected by MS, especially the layers of the retina and the optic nerve, which are affected. Optical coherence tomography (OCT) images can play a key role in the preliminary stages. After analyzing the images, artificial intelligence can automatically diagnose MS in the early stages.

Method & material: In total, about a thousand images of the retina of sick people and healthy people were included in this study, and the OCT images of the retina were taken without noise, and then using data augmentation, artificial intelligence and neural networks were trained with the images taken. Finally, the automatic detection algorithm of MS disease was implemented in Python, and then the diagram of retinal loss processes was drawn and the sensitivity, specificity and accuracy of the algorithm were evaluated.

Result: The disease was successfully diagnosed by OCT images with an accuracy of 93.0, a sensitivity of 96.47, and a specificity of 90.44

Conclusion: The proposed method showed improvements in early-stage MS diagnosis and with the potentiality to be used in either the diagnosis or prediction of the progression of other diseases that affect the CNS (e.g. Alzheimer's disease, bipolar disorder, etc.).

Keywords: convolutional neural network, multiple sclerosis, optical coherence tomography, retinal layer thickness

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Trauma Monthly
Abstracts

Abstract 144: Evaluation of anti-cancer effect of a tandem diabody against PD-1 and CTLA-4 on breast cancer cells

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Introduction: Background: Many studies showed that co-targeting of immune checkpoints can improve the efficacy of cancer treatment. Different types of bispecific antibodies have been produced for cancer treatment. One of the common types of bispecific antibodies is single chain antibodies such as diabody. Here, we aimed to evaluate the anticancer effect of a bispecific diabody against two immune checkpoints, PD-1 and CTLA-4

Method & material: Methods: Cytotoxicity of anti-PD-1/anti-CTLA-4 diabody against MCF-7 and MDA-MB-231 cells was evaluated using MTT method. Apoptotic effect of the diabody was detected using Annexin/propidium iodide method. The apoptosis induction was also checked by western blotting. The effect of protein on cell cycle was examined using flow cytometry.

Result: Results: Cytotoxicity of the diabody against MDA-MB-231 cells was more than MCF-7. Cell survival at 400 nM concentration of the diabody was 42% for MDA-MB-231 and 69% for MCF-7. The result of the statistical test shows that the lethal effect of diabody and doxorubicin in these concentration, 25-50-100-200 nM and 21.8, 43.7, 81.5, 175 nM in MCF-7 with MDA-MB-231 with P-value less than 0.05 is significant . The diabody at concentration of 400 nM led to 31.7% apoptosis according to Annexin/propidium iodide method. The western blot analysis showed that the diabody at concentration of 400nM increased the ratio of Bax/Bcl-2 form 0.56 to 0.64. Cell cycle evaluation showed that the diabody led to cell cycle interruption, leading to cell cycle arrest in G2 and decrease S.

Conclusion: Conclusion: Our results indicate that the toxicity of this diabody was more in MDA-MB-231 (PD-L-1 overexpressing cell line) then MCF-7 (PD-L-1 low expressing cell line). Immune checkpoint inhibitors can improve breast cancer treatment particularly PD-L-1 overexpressing type. This diabody could be a potential anticancer agent and should be evaluated for more invitro and in-vivo experiments Summary of the overall findings and the importance of the study

Keywords: tandem diabody, PD-1, CTLA-4, breast cancer cells

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Trauma Monthly
Abstracts

Abstract 145: Evaluation of Anxiety Symptoms and Sleep Quality among Patients Undergoing Coronary Angiography

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Introduction: Patients with cardiovascular disorders generally suffer from poor sleep quality and anxiety. Coronary angiography (CAG) is an invasive procedure for the treatment of cardiovascular disorders that may lead to various clinical consequences affecting the patient's anxiety and sleep quality. The present study aimed to determine the relationship between sleep quality, anxiety symptoms, and its related factors in patients undergoing CAG.

Method & material: This cross sectional study included 218 patients undergoing CAG in Shahroud, northeast of Iran in 2023. Data collection tools included the demographic profile form, generalized anxiety disorder (GAD-7) questionnaires, and the Saint Mary's Hospital Sleep Quality Questionnaire (SMHSQ). The participants selected by convenience sampling were evaluated in the morning before their angiography operations. The inclusion criteria were being diagnosed with coronary diseases by the cardiologist's examinations and the patient's paraclinical tests, being 18 years old, and having the ability to read, write, hear, and speak. The exclusion criteria were experiencing severe sleep-distorting pains, undergoing emergency angiographies, using sedative medications one hour before the operation, using alcohol and caffeine, smoking, having a bleeding disorder history, suffering from severe psychological disorders upon the detection of psychiatrists, and consumption of neuroleptic drugs. The data were collected through self-reporting using questionnaires and then analyzed using descriptive and inferential statistics (multivariate linear regression analysis).

Result: The average age of the patients was 60.76 ± 10.55. According to the findings of the current study, 34.4, 49.5, and 16.1% of patients had mild, moderate, or severe sleep disorders, respectively. Almost half of the subjects (52.3%) had severe anxiety symptoms. Sleep disorder had a significant and direct relationship with the level of anxiety symptoms (β=0.239, p<0.001). Also, variables such as younger age (β=-0.063, p=0.026), female gender (β=2.046, p=0.001), lack of secondary support (β=-1.983, p=0.029), and lack of health insurance coverage (β=4.335, p<0.001) were recognized as factors of higher anxiety.

Conclusion: The high prevalence of sleep disorders and anxiety symptoms in patients before CAG negatively impacts their clinical prognosis; therefore, it is recommended that necessary measures be taken to improve sleep hygiene and reduce psychological distress with the cooperation of a multidisciplinary team of health experts. Keywords: Anxiety, Cardiovascular Diseases, Coronary Angiography, Sleep Quality

Keywords: Anxiety, Cardiovascular Diseases, Coronary Angiography, Sleep Quality

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Trauma Monthly
Abstracts

Abstract 146: Evaluation of effect of infrapatellar adipose tissue derived stem cells at various passages on Regenerating articular cartilage

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Introduction: Cartilage degeneration is a major contributing factor to joint disabilities, particularly in the knee joint, affecting up to 80 percent of individuals in developed countries who suffer from degenerative joint disease. Current treatments for osteoarthritis and articular cartilage lesions have limited success and cannot fully restore the damaged cartilage. Research has indicated that stem cells derived from infrapatellar adipose tissue have the ability to maintain their division capacity for up to 100 passages and delay the onset of senescence. These cells have also demonstrated a uniform cell population in a cultured environment. Therefore, the objective of this study is to evaluate the regenerative effects of stem cells derived from infrapatellar adipose tissue on articular cartilage.

Method & material: All animals received proper and compassionate care in accordance with the guidelines set by the National Institutes of Health for animal welfare. The housing conditions and experiments conducted were approved by the ethical committee (IR.MARAGHEHPHC.REC.1397.010) of Maragheh University of Medical Sciences. Stem cells were isolated from infrapatellar fat pads and cultured in T-25 culture flasks. Once the cells reached 80-90% confluency, they were counted using an inverted microscope. The cells were then expanded to passage six, and stem cells from different passages were transplanted into defects present in the articular cartilage. Each sheep knee had two defects, with two of these defects receiving the stem cells. The first group received stem cells in the initial passage, while the second group received stem cells in the final passage. The samples were analyzed using Immunofluorescence staining, Toluidine blue staining, and Real-time RT-PCR.

Result: QRT-PCR analysis demonstrated the expression of coll2, sox9, and aggrecan in all groups. However, the group transplanted in the initial passage exhibited a higher percentage of collagen expression compared to the stem cells in the higher passage. Stem cells in the initial passage displayed fibroblast-like characteristics, with a spindle-shaped morphology and faster confluence attainment. In contrast, stem cells in the higher passage took longer to reach confluence and had wider cells (figure 1a, b). Toluidine blue staining confirmed the formation of cartilage tissue in all groups, and gross photography revealed that defects in group 1 were almost completely filled with cartilage-like tissue, whereas group 2 exhibited a thin layer of cartilage-like tissue formation in the defects (figure 2)

Conclusion: Based on the findings, it can be concluded that the lesions treated with stem cells in the initial passage showed superior repair compared to the lesions treated with stem cells in the higher passage. This indicates that stem cells derived from primary passages exhibit enhanced differentiation potential for the regeneration of articular cartilage and the treatment of Osteoarthritis.

Keywords: Cartilage, PCR, Stem cell

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Trauma Monthly
Abstracts

Abstract 147: Evaluation of health care professionals' readiness for accepting Electronic health records in educational and private hospital of Yazd in 2023

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Introduction: The Electronic Health Record (EHR) is a tool that stores health information in an integrated form, from before birth to after death, and makes all or part of this information available to authorized people if needed. EHR contains information such as medical history, drugs, allergies, radiology images, treatment plans and laboratory results of patients. The physician uses the previous medical history in the EHR instead of relying on trial-and-error methods, so it causes more successful results in patient treatment. However, implementation of this technology is associated with significant challenges. Therefore, before deciding its implementation, the policy-makers should assess the technical infrastructure and equipment, work processes and organizational guidelines, organizational culture, and the human resources capabilities in related aspects. The aim of present study is measuring the level of healthcare providers preparation to use electronic health records and also provide solutions to improve the current situation.

Method & material: This cross-sectional study used a descriptive-analytical approach. The 120 samples were selected by multi-stage cluster sampling from healthcare providers (physicians, nurses, radiologists, Health information Technology specialists) working at educational and private hospitals in Yazd. The tool was a standard questionnaire (jebraeili etc. 2010), which includes 4 parts (A. demographic information, B. computer skills, C. the respondents' awareness of the goals, and D. the attitude towards EHR). Analysis of data was done using t-test and ANOVA by SPSS software version 25.

Result: Preparedness was evaluated by calculating the average of the total points obtained. The average score in computer skills, awareness of the EHR and their attitude about using EHR were 32/50, 5.7/12 and 42/60, respectively. In addition, the variables of age, gender and work experience are the most important factors in the level of awareness of the EHR.

Conclusion: The implementation of the EHR can reduce medical errors and share health information between health service providers. The results of this study indicate that the level of readiness of healthcare providers for using EHR is not desirable. So, the employees should be trained and also be informed about the advantages and capabilities of the technology to reduce their resistance to moving to EHR.

Keywords: Electronic health records, Health personal, Technology, Skills, Attitude

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Trauma Monthly
Abstracts

Abstract 148: Evaluation of health-promoting lifestyle and its relationship with happiness in nursing and midwifery students of Shahrekord University of Medical Sciences during the crisis of coronavirus (Covid-19) in 1400

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Introduction: The epidemy of the Covid-19 virus and social distancing, home quarantines and restrictions including the closure of universities could affect various physical and psychological aspects of university students. Also, the corona (Covid-19) virus and the problems estabished by it can lead to a change in the happiness and lifestyle of students. Therefore, the researchers decided to conduct a study with the aim of investigating the health-promoting lifestyle and the happiness state of the nursing and midwifery students in Shahrekord University of Medical Sciences during the Corona Virus (Covid-19) crisis in 1400.

Method & material: A cross-sectional descriptive study was conducted on 181 nursing and midwifery students using available sampling method in Shahrekord University of Medical Sciences in 2014. After obtaining the code of ethics from the university and the informed consent of the students, the students have filled out valid and reliable demographic information questionnaires, the Oxford standard questionnaire of happiness and health promoting lifestyle of Walker. Data has analyzed by SPSS version 18 software based on descriptive statistics and chi-score, independent T and Pearson correlation tests.

Result: The results have indicated, 52% of cases were nursing students and 48% of them were midwifery students. There was no significant difference in overall mean of health-promoting lifestyle status of midwifery and nursing students (P=0.66). There was no significant difference between the subscales mean of health promoting lifestyle status (nutrition, exercise, responsibility, stress management, interpersonal support and self-actualization) in the two groups. There was no significant difference between overall mean of happiness of midwifery and nursing students (P=0.6). There was no significant difference between the subscales of the state of happiness (satisfaction with life, level of optimism, feeling of happiness, control over life, feeling of enjoyment of life and level of commitment and adherence) in the two groups. There was a direct correlation between the health-promoting lifestyle and happiness (r=0.671, P<0.001), so that it was better happiness based on the higher health-promoting lifestyle.

Conclusion: The results have indicated, there was no significant difference between the happiness and health promoting lifestyle of midwifery and nursing students. Also, there was a direct correlation between health-promoting lifestyle and happiness, so that it was better happiness based on the higher health-promoting lifestyle. Therefore, the implementation of educational programs in order to increase the health-promoting lifestyle and happiness of students, especially students of medical sciences, leads to the empowerment and improvement of their scientific and clinical competence, which is important in providing health and treatment services. Finally, the attention of managers and relevant officials to this matter is so important.

Keywords: health-promoting, nursing students, midwifery students, Covid-19

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Trauma Monthly
Abstracts

Abstract 149: Evaluation of prognostic factors affecting the long-term survival of patients with leukemia using a mixture Cure model

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Introduction: Leukemia is the most common childhood malignancy caused by abnormal blood-forming cells and had a very high mortality rate due to the lack of effective treatment. Due to advances in treatment in recent years, a proportion of people may have a longer survival time than others or even recover if diagnosed early. In this situation, the use of cured models compared to classic statistical models works better. Considering the importance of prognostic factors associated with the survival of children with leukemia, the aim of this study was to identify the factors affecting their survival in Golestan Province.

Method & material: This retrospective cohort study was conducted based on the content and information obtained from the records of 161 patients with acute lymphoblastic leukemia (ALL) under the age of 16 years from September 1997 to September 2016, who were followed up until 2021. In the present study, important factors influencing patient survival were first identified using a random survival forest method and the factors affecting short-term and long-term survival were investigated using a mixture cure models. The R software and the smcure package were used to analyze this data

Result: From a total of 161 children with ALL, 57 (35.4%) died and 104 (64.6%) recovered, with a median follow-up of 69.43 months. 92 (57.1%) patients were boys and 69 (42.9%) were girls, and 130 (80.7%) were children aged 1-9 years. Based on the random survival forest model, the variables of white blood cell count (WBC), relapse, rheumatoid signs, and mediastinal mass were identified as important variables for patient survival and entered into a univariate mixture cure model. Based on the mixture cure model, WBC, relapse and rheumatoid signs were identified as factors affecting short-term survival and relapse was identified as affecting long-term survival.

Conclusion: Relapse has been identified as an important factor for both individuals with long-term survival (cured) and individuals with short-term survival. When there is data with cured patients, it is important to use models that consider the cure rate in data analysis, and identifying the factors that affect patient survival will perform better than classical models

Keywords: Mixture Cure Models, Random Survival Forest, Leukemia

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Abstracts

Abstract 150: Evaluation of temperaments types using anthropological indicators in healthy men 20 to 30 years old

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Introduction: Nowadays, genes are known to be the origin of individual differences in phenotype and performance. In ancient Greek, Chinese, and particularly Iranian medicine, these individual differences have been addressed by evaluating various physical and behavioral characteristics and attempting to classify individuals into groups called "temperaments" based on the dominance of Coldness-Warmness and Wetness-Dryness qualities, each group having unique characteristics. With the aim of integrating ancient and modern medicine, which is evidence-based science, this study attempted to investigate the relationship between somatometric (anthropometric) features and individuals' temperaments.

Method & material: In a cross-sectional study, 100 healthy men aged 20 to 30 were randomly selected, and variables such as height, weight, hand dimensions, and skin-folds thickness were measured with appropriate tools. Body fat percentage was calculated using the Durnin/Womersley method (four skin-folds) with a caliper, and then the Salmanzadeh temperament questionnaire was completed by the participants. The collected data were analyzed using SPSS software.

Result: Calculations showed that 21 individuals (21.4%) had cold-wet, 14 individuals (14.3%) had cold-dry, 14 individuals (14.3%) had warm-wet, and 29 individuals (29.6%) had a warm-dry temperament. Nine (9.2%) and 11 individuals (11.2%) had cold-moderate and warm-moderate temperament, respectively. Two individuals had a moderate-moderate temperament, was excluded from the calculations due to absence of true temperate temperament. When comparing individuals based on warmness-coldness without considering wetness-dryness, no significant difference was observed. Totally, individuals with wetness quality had significantly higher weight, BMI, waist and hip circumference and BFP than those with dryness ($P<0.05$). Weight, BMI, waist and hip circumference, and BFP were higher in warm-wet group than those with a warm-dry temperament ($P<0.05$). Individuals with a cold-wet temperament had significantly higher weight, BMI, waist and hip circumference and higher BFP than cold-dry group ($P<0.05$). The BMI and waist circumference of the individuals with a warm-dry temperament were significantly higher than cold-dry group ($P<0.05$).

Conclusion: It seems that there is a relationship between temperament and some anthropometric indices, especially weight, BMI, and body fat percentage. These differences were more evident when comparing wetness-dryness qualities. The mean BMI and body fat percentage were higher in individuals with wet dominant temperaments, indicating a susceptibility to overweight and obesity in these individuals. Therefore, by determining individuals' temperaments, personalized recommendations can be made for improving their lifestyle. Further research is needed to confirm these findings and explore the underlying mechanisms of the relationship between somatometric features and temperament.

Keywords: Temperaments, Anthropological Indicator, Traditional Medicine

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Abstracts

Abstract 151: Evaluation of the Appropriate Size of Follicles on Double Intrauterine Insemination in Controlled Ovarian Hyperstimulation Cycles

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Introduction: One of the methods of infertility treatment is controlled ovarian hyperstimulation and intrauterine insemination (COH-IUI). In order to increase the pregnancy rate, the time of inseminations, as well as the size of the follicle, and the number of inseminations per cycle, are very important. The important issue in IUI is choosing the best time to perform this procedure. Previous research has shown that the size of the follicles can have an effect on fertility outcomes in the IUI method. The aim of this study was to compare a double periovulatory intrauterine insemination (IUI), performed in different follicle sizes in patients undergoing controlled ovarian hyperstimulation (COH), in terms of the rate of chemical and clinical pregnancy in patients.

Method & material: In this cross-sectional study 20 women referred to Umm Al-Banin Infertility Center in Ganjavian Hospital, Dezful were included. Patients with male, female and unexplained infertility who were undergoing 40 cycles of COH with IUI. Patients were given 5 mg of letrozole daily from 3-7 days of the menstrual cycle, followed by 75 units of human gonadotropin menotropins on the 8-9 days. On the tenth day of menstruation, transvaginal ultrasound was performed to monitor ovarian response. On the tenth day of menstruation, transvaginal ultrasound was performed to monitor ovarian response. Then patients were divided into two groups based on the size of the dominant follicle. The first group with a dominant follicle size in the range of 17-19 and the second group with a dominant follicle size in the range of 20-22 mm. Both groups undergo IUI at intervals of 24 hours and then 48 hours after receiving the HCG.

Result: The average age of treated women was 24.5 ± 4.5 years with an average body mass index of 30.2 kg/m2. More than 70% of patients had undergone IUI only one or two times and only 5% had undergone IUI treatment more than 5 times, and the follicles had reached the desired size on average in 10.7 days after stimulation. There were no significant differences between the follicular size in terms of chemical and clinical pregnancy rates in both groups (P>0.05). However Chemical and clinical pregnancy rate per cycle of 19.3 % and 15.6% respectively in the first group; and 18.1 % and 16.3% in the second group.

Conclusion: Among patients undergoing COH-IUI, results of double IUI with variable follicle size do not statistically differ. On the one hand, this study, by performing two IUIs at a specific time interval and grouping the dominant follicle of patients based on specific sizes, may be able to provide a more accurate protocol that gives the patient a greater chance of fertility.

Keywords: Infertility, Follicle size, IUI

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Trauma Monthly
Abstracts

Abstract 152: Evaluation of the educational environment of Sanandaj dental faculty from the point of view of Sanandaj dental students based on the DSLES model

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Introduction: Education in the field of dentistry needs special attention due to the large volume of practical units and the extensive dimensions of learning skills. Based on this, the aim of the present study is to evaluate the educational environment of the Faculty of Dentistry in Kurdistan from the students' point of view based on the DSLES questionnaire.

Method & material: This research is a descriptive-analytical cross-sectional study based on which all students were selected by census. DSLES questionnaire was used to collect research data, and the mentioned questionnaire was distributed among the research samples. STATA software version 12 was used for data analysis. After estimating the concentration and dispersion indices for each of the sub-scales, the non-parametric Mann-Whitney and Kruskal-Wallis tests as well as Spearman's correlation coefficient were used to check the study hypotheses. A significance level of 5 was considered.

Result: The average score of interest in dentistry is 23.03, which has the highest average score among the measured variables. Other variables, according to the assigned score, are the organization of the educational program, attention to students' concerns, suitability of educational activities with educational goals, relationships between students, emotional atmosphere, development of extracurricular activities and flexibility of the educational program or the averages, respectively, 20.02 , 14 / 52, 14 / 85, 8 / 27, 8 / 67, 6 / 03, 6 / 16 (the order is written based on their suitability according to the minimum and maximum score they could get in their exam.). In the study conducted, the relationship between emotional atmosphere and gender, flexibility of educational program with marital status, interest in dentistry with residential status, relationship between students with residential status, attention to students' concerns with residential status, flexibility of educational program with age.

Conclusion: In general, it can be stated that the educational environment investigated in this research was a suitable educational environment that had a good evaluation in the fields of interest in the field, organization of the educational program and attention to the students' concerns, and in the fields of emotional atmosphere, development of extracurricular activities and the flexibility of the educational program requires planning to improve these areas.

Keywords: education, dental school, educational environment

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Abstract 153: Evaluation of the effect of topical administration and intraperitoneal injection of cinnamon oil on neuropathic pain induced by chronic constriction injury in rats

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Introduction: Neuropathic pain is caused by a lesion or disease that affects the somatosensory system. Oral medications significantly reduce distress in only 30-40% of cases. Also, many patients stop taking medications due to side effects. Studies have shown that eugenol in cinnamon has central analgesic effects. The present study aimed to investigate the effect of local administration and intraperitoneal injection of cinnamon on neuropathic pain induced by the Chronic Constriction Injury method in rats.

Method & material: This study was performed experimentally on seven groups and each group included 6 male rats in the weight range of 250-300 gr. Groups including sham group, control group, positive control group, and cinnamon extract treatment groups received topically (100 mg/kg) and orally at a concentration of 25 mg/kg and by intraperitoneal injection at a concentration of 25 mg/kg, 50 mg/kg. Naloxone, an opioid system antagonist, was used in all study groups to detect the analgesic mechanism of cinnamon extract. Mechanical and thermal allodynia and hyperalgesia were assessed on days 7, 14, and 21. The data was analyzed using SPSS 21 and studied with a one-way variance test.

Result: From day 7 to day 21, the mean response to thermal hyperalgesia and mechanical allodynia stimulation in the treated groups increased significantly ($P< 0.05$). On day 21, the mean response to stimulation of thermal hyperalgesia and mechanical allodynia in the groups treated with gabapentin and cinnamon oil by intraperitoneal injection compared to the sham group did not increase significantly ($P<0.05$). Also, in the groups treated with cinnamon extract with naloxone, compared to the groups treated with topical, oral, and injectable cinnamon extract, the mean response was lower and the pain threshold was down. However, this difference was not statistically significant ($P> 0.05$).

Conclusion: Intraperitoneal injection of cinnamon oil at doses of 25 mg/kg, and 50 mg/kg compared to other groups had a better effect on healing nerve damage and reducing neuropathic pain and can be used as adjunctive therapy. Also, the results of the study showed that naloxone has no noticeable effect on the results of the examination tests.

Keywords: Cinnamon, Neuropathic pain, Chronic constriction injury, Rat

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Trauma Monthly
Abstracts

Abstract 154: Evaluation of the relationship between body image satisfaction and resilience of burn patients admitted to Besat medical-educational Hospital of Hamadan city in 2022

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Introduction: Burn patients face many psychological problems such as body image disturbance following a change in their appearance. One of the things that can affect the adaptation of these patients to this problem is strengthening the components of resilience, which is defined as the positive process of adapting to the problem. Therefore, this study was conducted with the aim of determining the relationship between body image satisfaction and resilience in burn patients admitted to Besat Hospital in Hamadan, 2021-2022.

Method & material: In this cross-sectional, correlational study, 106 burn patients admitted to Besat Hospital, Hamadan, were selected and included in the study. The tools used in the study included: Demographic Information Questionnaire, Connor and Davidson Resilience Questionnaire, and Sueto and Garcia's Body Image Satisfaction Questionnaire. Data analysis was done using Stata 14 software and t-test and one-way analysis of variance.

Result: The findings of the study showed that the mean (± standard deviation) scores of resilience and satisfaction with the body image of burn patients were 56.26 (±17.61) and 59.83 (±16.98) respectively, which in terms of resilience in average level and in terms of body image satisfaction, they were below the average level. It was also found that there is a significant and positive relationship between body image satisfaction scores and resilience in patients (r = 0.614, p= 0.001).

Conclusion: Considering the confirmation of a significant and positive relationship between resilience and satisfaction with the body image of burn patients, it is expected that health care providers, especially nurses; By providing training with the content of strengthening resilience; Take steps to improve body image satisfaction of this group of patients.

Keywords: Body image satisfaction, Resilience, Burn patients

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Abstracts

Abstract 155: Examination of the mechanism and effect of Maggot Therapy as a Biotherapy method for Wounds, a systematic review.

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Introduction: The increase in noncommunicable diseases, the lack of adequate health and medical services in less developed countries, the increase in motorcycling and poor road standards and so on... It causes skin injuries such as ulcers. Previous treatments rely on the availability of antibiotics, surgical interventions and complex dressings. Maggot therapy as a bio-method compatible with biological substances and secretions can be a potential candidate for replacing antibiotics, surgical interventions and complex dressings. The aim of this systematic review study is to examine the mechanism and effect of maggot therapy as a Biotherapy method for wounds.

Method & material: The review study was conducted in 2023 with advanced search in authoritative databases Pubmed, Scopus, Web of Science, Science Direct and Google Scholar search engine. The keywords searched included Maggot Therapy, Biotherapy and Wounds from a review of the 2013 papers through June 2023. After an initial search and then review of the titles and abstracts of the articles, unrelated titles were removed and the articles were examined by the JBI tools for the purpose of research.

Result: At the first critical stage of Wound Care, larval secretions break down and liquefy dead tissue based on the use of proteolytic enzymes (trypsin and quasi-chymotrypsin collagenases) and swallow the resulting liquid substances, as the presence of lost tissues can disrupt the wound healing process, which are not a risk to healthy tissue. Enzymes are neutralized in contact with healthy tissue, and due to aerobic biology, the larva does not penetrate the underlying tissues, stimulating cellulose secretion and diluting bacterial concentrations while moving. Insect excretions and secretions have bactericidal components with therapeutic properties such as allantoin and urea, which lead to germs both at the site of the wound and in the digestive tract of the insect, these compounds also contribute to the healing process by providing an optimal environment for cells to grow. The larvae, while secreting sodium bicarbonate and increasing PH, lead to eradication and inhibition of biofilm.

Conclusion: The results of this study show that Maggot Therapy is an effective biological method for rapid and safe reduction of damaged tissue degradation in the treatment of wounds and should be given more attention.

Keywords: Maggot Therpy, BioTherapy, Wounds

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Abstracts

Abstract 156: Examining the Barriers to Health Tourism Development and the Role of Visual Media in Health Tourism

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Introduction: Health tourism, a burgeoning industry at the intersection of healthcare and tourism, has witnessed exponential growth in recent years that it scrutinizes the influence of visual media in both perpetuating these obstacles and potentially mitigating them. This study explains the pivotal role of visual media in shaping perceptions, informing choices, and influencing the decision-making processes of health tourists.

Method & material: This study was conducted using relevant keywords in databases such as PubMed, Google Scholar, SID, and IranMedex. The PRISMA checklist was utilized for quality control. Through the review of articles, including titles, abstracts, and full-text readings, articles unrelated to the topic were excluded. As a result, out of the initial 84 articles, 10 articles were subjected to examination

Result: Although health tourism in Iran possesses significant potential, it faces numerous challenges in this field. Factors such as inadequate coordination between responsible organizations for health tourism, the absence of specialized working committees in the Ministry of Health, Treatment, and Medical Education and the Cultural Heritage, Handicrafts, and Tourism Organization, the lack of a comprehensive data collection system regarding the entry of health tourists into Iran, the inefficiency of the information dissemination system regarding Iran's medical tourism capabilities, the shortage of necessary infrastructure, and legal gaps for the development of this industry have prevented the Iranian health tourism industry from reaching a desirable position. The review of observed studies showed that visual media plays a fundamental role in promoting the health tourism industry by introducing and creating travel incentives for tourists. Proper planning in the enhancement of visual media can contribute to the expansion of the health tourism sector, which in

Conclusion: In the field of health tourism, Iran faces a treasure trove of challenges, demanding bespoke strategies for its flourishing. Thus, prioritizing the crafting of a meticulous blueprint in this field becomes essential in Iran's health tourism journey. Visual media can emerge as a potent ally, capable of surmounting hurdles, such as the sluggish flow of information about Iran's medical tourism prowess.

Keywords: Iran, Health Tourism, Visual Media, Obstacles

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Trauma Monthly
Abstracts

Abstract 157: Examining the satisfaction of undergraduate students in the operating room with two traditional training methods (clinical trainer) and the method of using field students in training the clinical team (mentor plan)

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Introduction: The clinical education environment is a place to develop the clinical skills of students to enter the working society, i.e. the hospital. Various researches have pointed out several factors related to the ineffectiveness of the internship, which includes the lack of experienced trainers. The teaching method is also one of the effective factors in creating motivation in student learning. There are different teaching methods, among them, the method of using one person as a clinical lecturer and the other is the mentorship method. Therefore, considering the importance of instructors in the success of clinical training of students and the importance of the issue of satisfaction in order to achieve superior quality in clinical training, this study aims to compare the performance and satisfaction of instructors and undergraduate students in the operating room of Alborz University of Medical Sciences in 2016 using The mentioned two methods were performed.

Method & material: The current study was a descriptive-analytical study that was conducted cross-sectionally in 2016 on undergraduate students of Alborz Medical Sciences Operating Room. Sampling is done in a stepwise manner. The data was collected through a separate questionnaire created by the researcher, which includes the demographic information section, the performance evaluation section of the relevant professor in the internship in four areas (discipline and regulations, communication, motivation, training and evaluation) with a Likert scale. 4 phrases from very good to poor and the level of satisfaction section (satisfaction with the relevant teacher and educational facilities) with 4 phrases from very high to unsatisfied information was obtained. The data was analyzed using SPSS software and statistical methods.

Result: The results obtained from this study showed that the students' satisfaction with the relevant internship department was more when a coach was used for training than a mentor. Students were significantly more satisfied with their mentor professors than their mentor professors in the four areas of regulation, communication, motivation, education, and evaluation.

Conclusion: Considering the lack of satisfaction of operating room students with the capabilities of mentor professors in the four areas of communication, motivation, training and evaluation, it can be concluded that the mentoring plan can be more useful as a training facilitator if implemented correctly.

Keywords: Clinical coach, mentorship, satisfaction

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Abstracts

Abstract 158: Exosome therapy a promising treatment for Triple Negative Breast Cancer

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Introduction: Cancer is the second leading cause of death in the world. Globally It's realized that the most common type of cancer is Breast cancer which yearly there are 2.26 million people get infected with it and 685000 of them dies. A kind of breast cancer called TNBC is difficult to diagnose due to its absence of 3 types of receptors: estrogen, progesterone and Her2. There are many ways for cancer treatment and One of the newest treatments for cancer is exosome therapy. Exosomes are extracellular vesicles that play an important role in intercellular communication. These vesicles are consisting of two phospholipid layers. LncRNAs, miRNAs, tetraspanins, etc. can be mentioned as exosomes contents. Exosomes are secreted from all living cells of the body and some of them that contain lncRNAs, can affect tumor metastasis, chemo-resistance, Angiogenesis, invasion, and even in preventing tumor progression by regulating expression of certain miRNAs and proteins.

Method & material: A comprehensive search of the Scopus and PubMed databases was conducted between 2012 and 2023. The search strategy includes keywords related to "TNBC", "breast cancer" and "exosome therapy ". Non-English articles, conference abstracts and animal model studies were omitted from the analysis.

Result: mesenchymal stem cells transfer MiR-106a-5p to TNBC and this process causes the progression of tumor. On the other hand, HAND2-AS1(lncRNA) negatively regulate tumor growth by reducing the level of MiR-106a-5p. there is another lncRNA named MALAT1 (metastasis-associated lung adenocarcinoma transcript 1) that increase the risk of metastasis by lowering the expression of MiR-1-3p. the performance of MiR-1-3p is such that it lowers the formation of VASPs (Vasodilator-stimulated phosphoproteins) and this action helps tumor metastasis. VASPs are some proteins which play a role in the movement and adhesion of cells. Furthermore, the Overexpression of VASPs increase the resistance of BC to Tamoxifen (Growth limiting drug in BC). exosomes-derived lncRNAs like TUG1 and H19 regulate the expression of VASPs and MiR-1-3p. According to the investigations, there are proteins called Rap1 that causes more invasion in BC. These proteins reduce the cell's sensitivity to apoptosis and are regulated by different types of lncRNAs.

Conclusion: Exosome therapy is used as a modern method to diagnose and treat diseases and Due to the few complications, it has compared to other treatments, it has attracted the attention of many specialists today. A complete understanding of the function of exosome-derived lncRNAs and their applications can be an important step towards the advancement of medical science and the treatment of diseases.

Keywords: TNBC, Breast cancer, exosome therapy

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Trauma Monthly
Abstracts

Abstract 159: Explaining the reasons for choosing and familiarizing medical tourists in Iran: a qualitative study

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Introduction: Medical tourism is a topic that is starting to be investigated in different parts of the world. Increasing expectations of health tourists for the quality of health services definitely has an effect on the increasing quality of nursing care services for various foreign clients. This study was conducted in the form of a qualitative study with the aim of explaining the reasons for choosing Iran and how to familiarize medical tourists in Iran

Method & material: Data were collected through semi-structured interviews in 2022-2023 by the first author with the participants (nurses, patients, patient's companion and doctor) . The interviews were conducted at the place where the participants wanted and with prior coordination or at the workplace of the participants. The average time of interviews was 20 to 60 minutes. Immediately after conducting each interview, the interviews were written down and the interviews were reviewed several times to gain an understanding of the entire interview. Handwritten interviews were analyzed based on conventional content analysis. The steps of interview analysis include conducting each interview immediately after each interview, reading the full text of the interview for its overall understanding, determining semantic units and primary codes, classifying similar primary codes into more comprehensive classes, and determining the hidden meaning in the data.

Result: This study showed that the reasons for choosing Iran by medical tourists are due to the conditions of the country of origin with the subcategories of "high price of services", "low quality of services and facilities", "high technological weakness" and the conditions of the destination country with the subcategories of "geographical location". and cultural", "expert medical staff", "price of treatment and tourism", "leisure tourism", "up-to-date equipment and facilities" and "popular medical treatments in Iran". Through two ways of advertising and informing with the subclasses: "portable information" and "active presence in conferences and exhibitions in the country of origin" and also through influencing medical tourists with the subclasses of "representative patients". Doctors' recommendations are real persons (brokers).

Conclusion: The country of Iran It can make its role in the field of medical tourism more prominent by knowing as much as possible the reasons for the arrival of medical tourists to Iran, on its strengths and introducing them as its unique capabilities in providing services and identifying how to familiarize patients. It is also possible to improve the medical tourism industry by providing applications, marketing and modifying some infrastructures according to the identified cases

Keywords: medical tourists, Iran, familiarization method, reasons for selection, qualitative study

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Trauma Monthly
Abstracts

Abstract 160: Exploring the Effects of Using Virtual Reality (VR) in the Treatment of Parkinson's Disease: A systematic review

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Introduction: Parkinson's disease is a chronic neurological disorder influenced by many factors, including a reduction in the number of brain cells responsible for producing dopamine, an important neurotransmitter that controls movement. This leads to problems such as tremors, muscle stiffness, loss of motor skills and problems with balance. Virtual Reality (VR) is an advanced technology that uses simulation techniques and virtual reality experiences to allow users to operate in a realistic environment. This article examines the impact of using virtual reality in the treatment of Parkinson's disease.

Method & material: This is a review study done in 2023. The studies were retrieved from the PubMed and Google Scholar databases. The criteria for extracting the studies were “virtual reality,” “participation,” and “Parkinson's disease". The period covered in this study is from January 2015 to January 2023. 44 articles were extracted, from which 17 key topic articles were selected and reviewed.

Result: Patients with Parkinson's disease should be encouraged to begin treatment because the disease affects their daily, professional and academic quality of life. By creating realistic simulations, people can experience exercises and movements that help improve motor control and increase muscle strength. According to this study, we found that the use of virtual reality can have the same or even greater effect than traditional therapies in treating Parkinson's patients. When a doctor diagnoses the use of virtual reality, attention should be paid to all details of the disease and the characteristics of the patient.

Conclusion: Adding virtual reality to a rehabilitation treatment program increases Parkinson's patients' motivation and involvement in the treatment process, resulting in improvements and greater patient satisfaction with treatment.

Keywords: Virtual Reality (VR), Parkinson, systematic review

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Trauma Monthly
Abstracts

Abstract 161: Exploring the Therapeutic Effects of Duloxetine and Nortriptyline on Patients with Irritable Bowel Syndrome

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Introduction: Irritable bowel syndrome is one of the most common disorders of the gastrointestinal tract, which can be controlled with Nortriptyline and Duloxetine. The aim of this study was to compare the effect of Duloxetine and Nortriptyline on quality of life and pain intensity in patients with irritable bowel syndrome.

Method & material: This clinical trial was performed on 30 patients with irritable bowel syndrome who were older than 16 and fill in the ROME criteria , referred to a subspecialty gastroenterology office in Mashhad from 2016 to 2017. Available sampling method was used for sampling. Assignment of patients to the two intervention groups was by random table method. Patient information including weight and quality of life questionnaires in irritable bowel syndrome 34 questions (IBS-QOL-34) and McGill pain assessed 22 questions (SF-MPQ-2) before, one month and two months after the start of the study completed. The researchers and participants were all blinded to the group allocation. The data were then analyzed by SPSS 26 software. Appropriate statistical tests such as Chi-squared test and Fisher's exact test were used for analysis.

Result: Out of 30 patients, 16 were in the Nortriptyline group and 14 in the Duloxetine group and the mean age of the two groups was 32.06 ± 8.96 and 36.64 ±11.62 years, respectively. The results of analytical tests showed that there was no significant difference between reducing pain intensity and improving quality of life in the two groups (P 0.05), but Nortriptyline in the first month of use in quality of life is significantly different from Duloxetine (P <0.05).

Conclusion: Duloxetine and Nortriptyline both improve the quality of life and reduce the severity of pain in patients with irritable bowel syndrome, but in improving the quality of life, Nortriptyline is a more effective drug than Duloxetine.

Keywords: Irritable Bowel Syndrome, Duloxetine Hydrochloride, Nortriptyline.

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Trauma Monthly
Abstracts

Abstract 162: Exploring the Use of Telemedicine in the Management of Gestational Diabetes in Pregnant Women: A systematic review

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Introduction: Gestational diabetes is a chronic metabolic disease that requires frequent hospitalizations. Preventing gestational diabetes is important for the health of both mother and child. Telemedicine is defined by medical professionals and telecommunications technologies. This review study was conducted to compare the outcomes of telemedicine with follow-up and standard care in women with gestational diabetes.

Method & material: this systematic review was conducted by analyzing articles from the PubMed, Science Direct and Google Scholar databases with the keywords “gestational diabetes”, “telemedicine”, “telehealth” and “diabetes mellitus” between January 2018 and April 2023. After the initial search, only the relevance of the title and abstract to the study objectives was checked and irrelevant articles were removed.

Result: Despite resource constraints, healthcare organizations have proposed telemedicine AI as a useful tool to facilitate universal and effective medical care for GDM. Instructions include access to electronic health data as well as sensors for glucose levels, blood pressure and more. Studies have shown that this system is viable. Telehealth services have been associated with reductions in polyhydramnios, premature rupture of membranes, preterm births, emergency cesarean sections, and infant asphyxia in women with gestational diabetes compared to standard care. In several studies analyzed, women with GDM were randomly assigned to two groups of people who used telemedicine to document glucose levels and communication between woman, newborn, and fetus. It was found that compared to standard care, the telemedicine intervention was more effective in reducing glycemic levels in patients with gestational diabetes, and the risk of maternal, fetus and infant complications.

Conclusion: Telemedicine appears to be a promising approach to diabetes control and prevention; It can replace routine care and effectively reduce patients' blood sugar levels.

Keywords: Telemedicine, Gestational Diabetes, Pregnant Women

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Trauma Monthly
Abstracts

Abstract 163: Extraction, isolation and identification of secondary metabolites from marine coral Sarcophyton spp

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Introduction: Marine organisms, comprising more than half of the total global diversity, offer an enormous source of potentially novel and biologically active compounds. Among them, soft corals constitute an important group of marine invertebrates widely distributed in the coral reefs of the world's oceans. The Persian Gulf is also one of the largest havens for marine organisms such as corals, small ornamental fish, marine sponges, edible and non-edible fish, and many other marine organisms. Many studies have revealed that soft corals of the genus Sarcophyton contain considerable new and novel compounds with various biological activities. This study investigated the phytochemical evaluation of soft coral, Sarcophyton spp.

Method & material: Coral Sarcophyton spp. were dried after collection. 700 g of the dry weight of the soft coral was extracted by the methanol: ethyl acetate (1:1) maceration method. The extract obtained by the Kopchan method was divided into hexane, dichloromethane, butanol, and water partitions. The fractionation of hexane crud extract (2.5g) was fractionated over a flash silica column to yield 9 fractions, and 2% MEOH in DCM was used as solvent. The fractionation of DCM crud extract (2.5g) was fractionated by flash column chromatography using silica and 2% MeOH in DCM to yield 11 fractions. Finally, fractions were subjected to HPLC, and for further purification, Sephadex LH-20 was used. The isolated compounds were characterized by NMR.

Result: 5cemberane diterpenes, (+) sarcophine, and their hydroxy derivatives were isolated from soft coral. It was the first time that 9a- hydroxysarcophine, 9a-hydroxysarcophine, 10a-hydroxysarcophine, and 10a-hydroxysarcophine were isolated from nature

Conclusion: A large number of cembranoid diterpenes and other related metabolites have been isolated and identified from marine soft corals, especially from the genera Lobophytum, Sarcophyton, and Sinularia. All of which belong to the family Alycyoniidae within the order Alcyonacea. This group of compounds is very potent and has been reported to exhibit a range of biological activities, including antitumor, ichthyotoxic, anti-inflammatory, neuroprotective, antibacterial, antiangiogenic, antimetastatic, and cytotoxic properties.

Keywords: Marine coral, marine sponge, Sarcophyton, phytochemistry, cembrane.

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Trauma Monthly
Abstracts

Abstract 164: Factors affecting lost productivity in patients with covid-19 in Sabzevar city

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Introduction: COVID-19 is a coronavirus with severe acute respiratory symptoms that has caused significant risks. One of the main undesirable economic consequences of a disease like COVID-19 can be the loss of productivity due to the absence of sick employees from the workplace. Therefore, this study was conducted with the aim of estimating the cost of lost productivity due to absenteeism in COVID-19 patients and the influencing factors in Sabzevar County.

Method & material: This study was a partial economic evaluation conducted cross-sectionally and included all hospitalized patients (10,406 cases) in the educational, research, and treatment center of Sabzevar County between February 2020 and March 2022. The data were extracted from the Hospital Information System (HIS). The cost of lost productivity was evaluated based on the human capital approach. The data were analyzed using STATA version 16 and Microsoft EXCEL 2016.

Result: The mean age of the patients was reported as 79.57 ± 93.17. The cost of lost productivity for patients was 513,688 Iranian Rials. Regression model findings showed that changing patients from male to female increased the average costs of lost productivity by 2% ($\beta = 0.021$, $P<0.05$). The use of special insurances for certain occupational groups and supplementary insurances compared to medical services insurance resulted in an 11% reduction in costs ($\beta = -0.114$, $P<0.05$). There was an inverse relationship between the age of patients and the costs of lost productivity due to absenteeism caused by COVID-19 ($\beta = -0.009$, $P<0.05$). There was a direct relationship between the length of hospitalization and the costs of lost productivity ($\beta = 0.108$, $P<0.000$). After the first peak of the coronavirus and during the second peak, the costs of lost productivity increased by 4%. However,

Conclusion: COVID-19 imposes a significant financial burden on people, healthcare systems, and the overall economy of the country. The increase in disease costs during the second peak due to the overlap with summer vacations indicates that policymakers did not pay particular attention to prevention programs and social restrictions. Since the economic burden of this disease significantly increases with its infectiousness, the National Crisis Management Headquarters should pay more attention to the development and implementation of appropriate preventive programs in future epidemics.

Keywords: Absenteeism, Workforce, COVID-19, Costs and Cost Analysis,Iran

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Trauma Monthly
Abstracts

Abstract 165: Factors Associated with Postpartum Depression in Mothers at Shariati and Gharazi Hospitals in Isfahan

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Introduction: Postpartum depression is a debilitating condition that significantly impacts a person's social relationships and their ability to care for a baby. Early recognition of this disorder, along with an understanding of its related factors, can be viewed as both preventive and therapeutic measures. The ultimate result is improved health for both the mother and child, benefiting not only the family but also society at large. Therefore, this study was conducted to investigate postpartum depression and its connection with certain neonatal events.

Method & material: This research is a cross-sectional study conducted on women who either gave birth or had a baby hospitalized at Gharazi or Shariati Hospitals in Isfahan from October 2021 to June 2022. A total of 358 mothers were included in the study. For all participants, the EPDS questionnaire (Edinburgh Postpartum Depression Questionnaire, which consists of 30 points with higher scores indicating more severe depression) and a mother-child information form were completed. Data were analyzed using SPSS software, including descriptive tests and the Chi-square statistical test.

Result: In this study, according to the scoring system of the EPDS questionnaire, 194 mothers (54.2%) scored below 13, while 164 mothers (45.8%) scored 13 or higher. A direct and significant relationship was found between maternal depression and education level (P-value= 0.012). Additionally, there was a direct and significant relationship observed between unwanted pregnancies (P-value: 0.001), the birth of a female baby (P-value= 0.023), infant hospitalization in the NICU (neonatal intensive care unit) (P-value= 0.001), congenital abnormalities (P-value= 0.012), and postpartum depression. In the present study, a direct and significant relationship was identified between the use of phototherapy devices for treating jaundice and maternal depression (P-value= 0.033). However, no significant relationship was found between infant jaundice and postpartum depression (P-value= 0.07).

Conclusion: Based on the statistical data and an examination of each of the aforementioned factors in postpartum depression, it is recommended that preventive measures be taken for mothers at higher risk. Specifically, mothers with a higher level of education, those who have experienced unwanted pregnancies, or those expecting a baby girl should receive increased attention and support before childbirth to prevent the onset of depression. Furthermore, mothers whose infants require NICU admission, whether for phototherapy or other reasons, should also be prioritized for additional attention and care.

Keywords: Postpartum Depression, Maternal Mental Health, Factors Influencing Depression

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Trauma Monthly
Abstracts

Abstract 166: Gluten-Free Diet, the impact on Autism severity and Gastrointestinal Symptoms in Children

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Introduction: Autism spectrum disorder (ASD) may be a kind of neurodevelopmental illness characterized by troubles in social intuitive, verbal, and nonverbal communication, movement restrictions, moreover repetitive movement designs. The aim of this ponder is to explore the impact of a Gluten-Free Diet (GFD) on the gastrointestinal (GI) and neurological symptoms of patients with autism.

Method & material: In this clinical trial, 120 patients diagnosed with autism from Tabriz Children's Healing center and Sheikh Al-Raeis Clinic were included. Neurologists and psychologists affirmed the diagnosis of autism utilizing the M-CHAT-R/F survey. According to the clinical history of the patients and the Rome 3 criteria, GI side effects such as diarrhea, constipation, spewing, and stomach inconvenience were identified. A GFD was prompted, and the parents have been taught nourishment education and ongoing autism treatments. As the control group, the children who had gotten uncommon medicines for autism and kept up a standard diet were followed up.

Result: The average age of the patients was 9.27 ± 3.25 years. Fifty-two patients (47.3%) were male and fifty-eight patients (52.7%) were female. The seriousness of ASD based on the M-CHAT-R/F scale was significantly diminished after 12 months within the patients of the intervention group. Also, significant enhancement within the regions of speech, cognition, and behavior has been seen after employing a GFD for the patients of the intervention group. Moreover, GI side effects counting sickness and vomiting, constipation, abdominal tenderness, and inconvenience, were essentially diminished within the mediation group. In any case, the GI side effects within the control group didn't appear any factually significant distinction compared to the 12th month.

Conclusion: Concurring to the outcomes of the current study, the administration of GFD in children with ASD can altogether lead to the enhancement of GI clutters and neurological side effects with respect to the seriousness of autism in speech, cognition, and behavior.

Keywords: Gluten-Free Diet, Autism, Gastrointestinal Symptoms

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Trauma Monthly
Abstracts

Abstract 167: Health and the gut microbiome: mechanistic insights

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Introduction: The bacterial cells harbored within the human gastrointestinal tract (GIT) outnumber the host's cells by a factor of 10 and the genes encoded by the bacteria resident within the GIT outnumber their host's genes by more than 100 times(Matthew J. Bull, BSc, PhD; Nigel T. Plummer, PhD,2014,p,1). One of the major factors influencing the regulation of host health is now recognized to be the gut microbiota. Almost every place on our bodies is inhabited by microorganisms, indicating various sorts of crosstalk with our organs. The complicated interactions between the host and the many microbes are gradually becoming understood thanks to the advent of molecular tools and methodologies (such as metagenomic, metabolomic, lipidomic, and metatranscriptomic). Today, abnormalities in the gut microbiota are associated with a wide range of illnesses, including obesity, type 2 diabetes, hepatic steatosis, inflammatory bowel disorders (IBDs), and various cancers.

Method & material: The necessary information was gathered for systematic review utilizing the keywords and MeSH (Medical Subject Heading) terms listed below, where possible, and by reference to leading data databases such as PubMed, Science Direct, and ProQuest. Additionally, a manual search using Google Scholar was performed to increase search sensitivity. The statistical study population includes all studies conducted from January 2018 to April 2023 in a relevant context. After reviewing the relevant results and evaluating the data quality, 16 English-language articles were analyzed.

Result: As a result, different metabolic pathways involved in immunity, energy, lipid, and glucose metabolism may be impacted. A critical assessment of the state of knowledge on this topic is specifically addressed in this review. There are many biological explanations for how gut bacteria may be causally related to illness prevention or development. We examine well-known metabolites (such as short-chain fatty acids, bile acids, and trimethylamine N-oxide) as well as recently discovered molecular actors (such as endocannabinoids, bioactive lipids, phenolic-derived substances, advanced glycation end products, and enterocytes) and their particular receptors, such as peroxisome proliferator-activated receptors alpha (PPAR) and gamma (PPAR (ie, GPR41, GPR43, GPR119, Takeda G protein-coupled receptor 5). Understanding the complexities and molecular mechanisms that connect gut microorganisms to health may help provide the groundwork for cutting-edge treatments that are already in the works.

Conclusion: As a result, different metabolic pathways involved in immunity, energy, lipid, and glucose metabolism may be impacted.

Keywords: gut, microorganisms, disease, Immune system.

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Trauma Monthly
Abstracts

Abstract 168: Health Literacy during the Covid-19 Pandemic: A Cross-Sectional Study in West of Iran

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Introduction: Health literacy (HL) is crucial for making informed health decisions. However, healthcare workers often struggle to identify people with insufficient HL, which is especially concerning during the COVID-19 pandemic with the increase in undocumented information and society's vulnerability to the disease.

Method & material: A cross-sectional study of 722 adults referred to health centers during the COVID-19 pandemic was conducted using a layered and multistaged sampling method. Demographic information and the Iranian HL Assessment Questionnaire (HEILA) were collected and analyzed.

Result: In this study, the mean HL score was 64.74±18.19. A 21.4% of people had insufficient HL, 28.5% had not quite sufficient HL, 32.1% had adequate HL and 18% had sufficient HL. The components of HL varied in the mean score, with understanding ability scoring highest at 73.46 ± 19.45 and evaluating health information scoring lowest at 55.26 ± 24.

Conclusion: The level of HL was related to age, education, occupation, marital status, and place of residence. Half of the participants had limited HL related to age, education, occupation, residence, and marital status. It also showed that limited health literacy is more common in vulnerable sections of society, including people over 50, people with low education, retirees

Keywords: Health Literacy, Covid-19, Pandemic

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Trauma Monthly
Abstracts

Abstract 169: In vitro effect of N-acetylcysteine on motility, DNA integrity and chromatin integrity of human sperm

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Introduction: One of the important stages of assisted reproductive techniques is sperm processing, which takes an hour on average. During this stage, the sperm cell is separated from other components of the semen and is ready for injection. Several exogenous factors during sperm processing can induce oxidative stress in sperm cells. Although the antioxidant defense system is active in semen, its activity is limited due to the low amount of sperm cytoplasm, so it is suggested to use different antioxidant compounds to reduce oxidative stress during sperm processing. One of the strong antioxidant compounds is N-Acetylcysteine (NAC), which contains a thiol group and is able to remove free radicals and also protect sperm. Considering that some normal and fertile men may need to benefit from ART, therefore the aim of this study is to investigate the effect of NAC on motility, DNA integrity and chromatin integrity of normal human sperm.

Method & material: Normal sperm samples of 30 normal and fertile men were collected. Then each sample was divided into three groups of fresh, control (without treatment after 1 hour of incubation) and NAC (treated with 50 µM NAC antioxidant after 1 hour of incubation). The mobility of the samples was measured by light microscopy. Also, DNA fragmentation and chromatin integrity were evaluated using acridine orange and Chromomycin A3 staining, respectively. ROS level was measured by chemiluminescence technique. The data was analyzed using repeated measures analysis and the average difference of the samples was considered significant at the level ($p \leq 0.05$).

Result: A significant increase in the mean percentage of total and progressive sperm motility was observed in the NAC group compared to the fresh and control groups ($p<0.001$). Also, in the NAC group, a significant increase in the mean percentage of chromatin integrity was observed compared to the control group ($p<0.001$). The mean percentage of non-progressive motility and sperm DNA fragmentation and sperm ROS level significantly reduced in the NAC compared to the control group ($p<0.01$).

Conclusion: Our results showed that NAC can lead to the strengthening of progressive and total motility parameters, DNA integrity and chromatin integrity by reducing ROS levels and is able to protect sperm against oxidative stress damage.

Keywords: N-acetylcysteine, DNA integrity, chromatin integrity, human sperm

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Abstracts

Abstract 170: Inhibitory effects of heat-killed culture supernatant of Bacillus coagulans against CT-26 colon cancer cells

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Introduction: Probiotic microorganisms produce compounds that have the potential to affect human health. They appear to be a promising cancer treatment. The supernatant of bacterial cultures contains bacteria-produced chemicals that can be used as a model for anticancer research. The purpose of this investigation was to examine if the culture supernatant of heat-killed Bacillus coagulans had any inhibitory effects on CT-26 colon cancer cells.

Method & material: The study was conducted in a cell culture setting. Various amounts of Bacillus coagulans extract were utilized to treat the CT26 cell line after it had been cultured. The anticancer effects of the probiotic were determined using MTT (cell proliferation) tests, ROS production rate, LDH release rate, and survival rate. $P<0.05$ was used as the threshold for significance in all tests.

Result: Bacillus coagulans extract resulted in a significant reduction in proliferation, a significant increase in the percentage of cells that went into apoptosis, a major increase in ROS generation, and a significant increase in LDH release when compared to the control group.

Conclusion: The usage of Bacillus coagulans probiotic appears to be a strong contender for the treatment of colon cancer, according to the findings of this study.

Keywords:

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Trauma Monthly
Abstracts

Abstract 171: Insulin- mimetic Features of Myo-inositol in the Treatment of NAFLD

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Introduction: Insulin resistance (IR), is considered as a prominent underlying pathophysiological mechanism responsible for the progression of non- alcoholic fatty liver disease (NAFLD). Impairments in pyruvate dehydrogenase kinases-1 (PDK1) in insulin signaling pathway, aggravates hepatic IR and leads to the progression of NAFLD. Recently, myo-inositol (Myo) is considered as an organic osmolyte with a plethora of pharmacological properties in the management of IR-related conditions. The present trial, aimed to examine the effects of Myo supplementation on the mRNA expression levels of PDK gene and fasting insulin resistance index (FIRI) in patients with NAFLD.

Method & material: The current double-blinded placebo-controlled randomized clinical trial, investigated the effects of Myo (two 2g sachets per day) compared with maltodextrin as placebo (two 2g sachets per day) on 30 patients with NAFLD. At baseline and after 8 weeks, RNA was extracted from peripheral blood mononuclear cells (PBMCs) and the mRNA expression levels of PDK1 and β-actin (as reference gene) were assessed using reverse transcription quantitative real- time polymerase chain reaction (RT-qPCR) via Bio-Rad IQ5 system. Fold change was calculated using 2-ΔΔCT equation. Moreover, FIRI was estimated based on fasting glucose and insulin levels at baseline and end of the study. The proposal of this study was approved by "TBZMED. REC.1400.567" and "IRCT20100209003320N22".

Result: Despite the increase in the fold change of PDK1 in both groups compared with their steady-state levels, Myo group showed greater increases (two times higher) in fold change of PDK1, in comparison to the placebo group after adjusting for the confounders (p=0.029). Indeed, FIRI index reduced significantly in Myo group compared with the placebo group (p=0.043).

Conclusion: In conclusion, our results demonstrate that Myo supplementation could significantly improve IR by exerting "insulin-mimetic" features and regulating insulin signaling pathway in patients with NAFLD.

Keywords: Non-alcoholic fatty liver disease, Myo-inositol, Insulin resistance, Gene expression

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Trauma Monthly
Abstracts

Abstract 172: Interaction between NF-KB1 polymorphism and Dietary antioxidant index and Dietary antioxidant quality score with Gensini score (GS) and Syntax score (SS) in patients undergoing coronary angiography

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Introduction: Gene–diet interactions may have an important role in coronary artery disease (CAD) severity. Therefore, in this study, we investigate the interaction of NF-κB1 polymorphism with Dietary antioxidant index (DAI) and Dietary antioxidant quality score (DAQS) in altering severity of CAD and its risk factors among patients undergoing coronary angiography.

Method & material: This study was conducted on 440 patients undergoing coronary angiography. DAI and DAQS were assessed based on dietary intake of the participants. Gensini score (GS) and Syntax score (SS) were calculated using the angiography results. The restriction fragment length polymorphism (PCR-RFLP) was used for the detection of the rs28362491 genotype. To investigate the interaction, we used the multivariate regression models.

Result: There is a Gen-diet interaction for DAQS and NF-KB1 polymorphism on high GS (OR: 0.25 95%CI: 0.08-0.78, P:0.01) in the crude model. Patients with II genotype who were placed in the high adherence to DAQS had lower odds of high GS compared to DD homozygotes. This association was significantly reminded after adjustment for the confounder variables (OR:0,.21 95%CI: 0.06-0.78, P:0.02).

Conclusion: There was no interaction between rs28362491 and coronary artery disease severity. This study's results will be examined as a framework for future research on NF-KB1 gene and diet interaction. Extensive prospective studies are required to confirm these results.

Keywords: Antioxidant, interaction gene diet, rs28362491, NF-KB1, Gensini score, Syntax score.

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Abstracts

Abstract 173: Interferon lambda as a diagnostic biomarker and novel drug for COVID-19: a systematic review

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Introduction: COVID-19 which caused by enveloped and positive-sense RNA viruses, was first identified in Wuhan, China in December 2019 and was regarded as pandemic by WHO in March 2020. This complicated virus induces heterogeneous symptoms like fever, severe pneumonia, heart failure even lethal forms. These symptoms could be caused by immunologic reactions ranging from molecular changes such as cytokine storm to cellular changes like lymphopenia. As said cytokines changing is a component of immunologic reactions that affects sickness period and disease severity hence in recent researches have demonstrated that IFN-λ, the newly discovered interferon, might effect on severity of COVID-19. In this study, we attempted to discover whether IFN-λ can be used as a diagnostic biomarker and novel drug for COVID-19 patients or not?!

Method & material: We systematically searched PubMed, Scopus and CENTRAL databases for all the articles about effects of IFN-λ on worsening or treating of COVID-19 patients. 564 records were found and scanned by NG and AH, eventually the differences were investigated based on the eligible criteria by ASD. Ultimately 35 records were selected for perusing full-text of manuscripts, as a result, 21 articles were used for data synthesis.

Result: Articles were studied in four groups: A-IFN-λ gene expression B-plasma IFN-λ C-IFN-λ perfusion D-treatment. In groupA (Nine articles), six studies (subgroup1) compared severe and not-severe patients, two (subgroup2) compared not-severe patients with healthy controls and, one (subgroup3) compared severe patients and healthy controls. Five records from subgroup1 showed gene expression was higher in not-severe patients although one record showed no significant change. All records in subgroup2 indicated higher gene expression in not-severe patients and The record in subgroup3 showed no difference in gene expression. In articles of groupB (six records), four records represented higher IFN-λ in not-severe than severe patients, In two records opposite outcomes were observed. Articles in groupC (five records) indicated positive effect of pegylated IFN-λ for modulating of severity of COVID-19 by measuring hospitalization and death. In the only study of groupD, plasma IFN-λ was measured in convalescent patients which illustrated positive effect in treatment.

Conclusion: In this review, the reverse correlation of IFN-λ level with severity of COVID-19 and affirmative influence of this cytokine in treatment were revealed. As a result, it is recommended that health workers utilize this factor as a diagnostic biomarker and an alternative drug for COVID-19.

Keywords: Interferon lambda, diagnostic biomarker, novel drug, COVID-19

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Abstracts

Abstract ۱۷٤: Investigating associated factors with length of hospital stay after colorectal surgeries: a systematic review

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Introduction: Optimal length of hospitalization, is the minimum required stay prior to safe discharge. Nowadays, reducing length of hospitalization without decreasing the quality of services is very important. From the healthcare Policy makers view point, the hospitalization duration is noticeable because of Increase in costs, lack of hospital beds and delayed new admission. Also prolonged hospital stay results in poorer surgery outcomes, iatrogenic complications, hospital acquired infections, extra costs and lower life quality for patients. The objective of this study is assessing the related factors to length of hospital stay after colorectal surgeries, as one of the most prevalent surgeries.

Method & material: In this systematic review, articles since 2000 in both English and Persian languages have been searched in PubMed, Google Scholar and Scopus databases with “length of stay”, “postoperative stay” and “colorectal surgery” keywords. This search resulted in 119 articles, 27 articles from them were in the same line with our study objective. Finally, these 27 articles were assessed and their results involved in this study.

Result: Postoperative length of stay is associated with patient related factors such as age and background diseases, surgical related factors like surgery duration and bleeding volume and institutional related factors as Facilities and politics. Postoperative complications like ileus or infection increase the length of stay. Preoperative consultation and education sessions, psychological preparation and minimally invasive surgeries prevent postoperative prolonged stay. For unpreventable factors the only possible measure is informing staff about some special patients' needs and preparing necessary equipment to provide special care to them. Finally, the most effective solution mentioned in literature is enhanced recovery after surgery protocols.

Conclusion: reducing postoperative complications and hospitalization duration prevents extra costs for the healthcare system and patients. On the other hand, faster patient discharge makes more available capacity for providing more services to more patients. That results in Improving community health and increasing healthcare system revenue.

Keywords: colorectal surgery, postoperative stay, length of stay, prolonged hospital stay, hospitalization

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Abstracts

Abstract 17۰: Investigating predictors of preterm delivery: a systematic review

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Introduction: Premature birth is one of the most important disorders observed during pregnancy that can cause problems therefore, knowing the factors related to it can play an important role in improving the conditions of pregnant women. Conducting this study is to investigate the predictors of preterm delivery.

Method & material: The present study is a systematic review that examines 30 valid articles that have criteria were included in the study and were published between 2013 and 2023. Searching for articles in the database SID, Magiran, med Pub and scholar google search engine were done. Using keywords Premature birth, predictive factors, high-risk pregnancy and their English equivalents in Persian and English magazines It was done. Two researchers separated the data separately and the third one supervised the process of data extraction had.

Result: About 75% of premature births occur spontaneously. The pathogenesis of this type of birth is well known It is not known (1.) The probability of premature labor increases in the presence of some maternal factors such as BMI, age (over 35 years old), history of thyroid disease, history of intrauterine fetal death (IUFD), (premature rupture of membranes (PROM)) Preeclampsia and amniotic fluid volume reduction had a significant relationship with the occurrence of preterm labor (2.) The results showed that the mean Blood iron, blood platelets, white blood cells and ferritin were more in term women than in pre-term women) 3. Low levels Plasma protein A associated with pregnancy (A-PAPP) has a significant relationship with the incidence of preterm delivery (4) in a study. The mRNA levels of CRY2 and CLOCK genes were lower in women who gave birth prematurely. These two genes are responsible for 5.)

Conclusion: According to the results of the history of premature birth, the low level of mRNA in CRY2 and clock genes High levels of cytokines and interleukin 10, low levels of A-PAPP and vaginal alkaline pH are helpful in predicting preterm delivery. Screening and identification of pregnant mothers at risk prevents infant mortality. So It is necessary to educate health care personnel about factors affecting premature birth.

Keywords: Predictors, preterm delivery

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Abstracts

Abstract 176: Investigating the awareness and attitude of medical staff about telemedicine in teaching hospitals of Ferdows city

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Introduction: Telemedicine is an important information technology to provide remote healthcare to patients. The preparation and awareness of the treatment staff are essential factors for the successful implementation of telemedicine. The purpose of the present study is to investigate the level of knowledge and attitude of the medical staff about telemedicine in the teaching hospitals of Ferdows city.

Method & material: The current research is a descriptive cross-sectional study conducted in two teaching and therapeutic hospitals in Ferdows city in 2021. The statistical population of this research was the medical staff. To determine the sample size, the census method was used and the research community was considered as a sample. The inclusion criteria were healthcare staff working in Ferdows hospitals who were willing to participate in completing the questionnaires. Healthcare staff who did not want to cooperate or could not fill out the questionnaire were excluded from the study process. The data collection tool was Rezaei et al.'s questionnaire consisting of four sections (level of awareness, attitude, level of use, and obstacles). Questionnaires were presented to people with an easy-access and face-to-face approach. After completing the questionnaires, the information was entered into the statistical SPSS version 16 and descriptive statistics (frequency and percentage) were used to analyze the data.

Result: A total of 72 medical personnel were included in the study. 40.3% had little knowledge about telemedicine. The most and the least knowledge of the medical staff was respectively about the use of computers in medicine (44.4%) and the standards of telemedicine (11%). 73.6% had a positive attitude towards combining telemedicine with providing services. 26.3% of the treatment staff had used telemedicine, the most used of which was telephonic consultation service. 59.7% of the medical staff believed that the use of telemedicine improves the provision of health care services. Lack of access to high-speed and high-bandwidth Internet (68%), lack of necessary facilities and infrastructure to use this system (63.8%), and lack of knowledge and familiarity with this technology and its benefits (62.5%), from the most important obstacles to the use of telemedicine technology, were from the point of view of the medical staff.

Conclusion: This study showed that the level of awareness and use of telemedicine by the medical staff is low and the level of acceptance of telemedicine is high. In order to eliminate barriers and implement telemedicine, healthcare staff need comprehensive training to familiarize themselves with telemedicine services.

Keywords: Medical staff awareness, attitude, telemedicine, teaching hospitals, Ferdows city

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Trauma Monthly
Abstracts

Abstract 177: Investigating the effect of artificial intelligence in diagnosing and performing orthopedic procedures:a review article

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Introduction: Today, most of the data is in electronic form, so the healthcare community has also become more updated along with the advancement of technology. Artificial intelligence is one of the popular technologies today, which with the algorithms it provides for a machine, leads to the solution of problems that could only be solved with the human mind in the past. Artificial intelligence will do things according to human performance and even more complex. Today, artificial intelligence plays a role in human life, and with its computing, storage and processing capabilities, it has caused penetration in the diagnosis and treatment of departments, including the orthopedic department. Today, artificial intelligence-based robots that are based on machine learning (ML), which is a sub-branch of artificial intelligence and uses computer algorithms, analyze information such as the patient's medical record, laboratory results, and patient imaging, and help surgeons in better diagnosis and providing treatment solutions.

Method & material: In this review study, using appropriate keywords, 18 articles from the English PubMed, WOS, Scholar databases from 2019 to 2022 were examined, and 12 articles related to the topic were selected from among them.

Result: Artificial intelligence has the ability to solve diagnostic problems and especially complex diagnoses in a short amount of time and saves time. On the other hand, there are limitations such as; There is financial capital and uncertainty about artificial intelligence variables and the lack of long-term studies in following up the efficiency of this method and there is a need for more research. Ethical considerations of using machine learning are also another limitation, because the existence of a lot of data may violate the principle of patient confidentiality and consent. Although artificial intelligence is most widely used in medical imaging today, and with the changes it makes in MRI imaging sequences, it leads to more accurate visualization of lesions, but it can also be used to perform simple surgeries, on the other hand, despite the availability of surgical systems. Based on artificial intelligence, human supervision is still necessary.

Conclusion: Technology is progressing at a very high speed and one day it is possible that an artificial intelligence equipped with full intelligence will perform some surgeries and facilitate surgeries with minimal damage and complications.

Keywords: artificial intelligence, diagnosing orthopedic disease, orthopedic surgery

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Abstracts

Abstract 178: Investigating the effect of Lactobacillus rhamnosus GG silver nanoparticles on the expression of bax and bcl-2 genes in colorectal cancer cells

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Abstract

Introduction: Colorectal cancer, after skin, breast, and stomach cancer, is one of the most common cancers and the third leading cause of death in men and women; the most common treatment for patients with advanced colorectal cancer is surgery followed by chemotherapy. However, an important part of patients are exposed to problems such as side effects and resistance. Silver nanoparticles are among the most desirable nanoparticles that are widely used in various fields. Various studies have shown the anti-cancer properties of silver nanoparticles, which can be used to induce genes effective in apoptosis. This study aims to investigate the effect of silver nanoparticles - Lactobacillus rhamnosus GG on the expression of bax and bcl-2 genes in a colorectal cancer cell line.

Method & material: To prepare silver nanoparticles/Lactobacillus rhamnosus GG extract, 1 mg/ml of Lactobacillus rhamnosus GG cell lysate and 1 mM silver nitrate solution were mixed and incubated for 72 hours. XRD, FTIR, and electron microscope methods were used to determine the properties of nanoparticles. ; Then the colorectal cancer cell line (HT-29) was treated with concentrations of 250, 125, and 62.5 µg/ml silver nanoparticles-Lactobacillus rhamnosus GG. Then, to check the gene expression, RNA was extracted, cDNA was prepared and the expression of bax, and bcl- 2, and -actin expression was analyzed by real-time method and using SYBR Green color. The results were analyzed by non-parametric method (Mann-Whitney) by SPSS software.

Result: The electron microscope results showed that the nanoparticles have a spherical shape and are approximately 233 nm in size. FTIR spectroscopy showed that silver nanoparticles/lactobacillus rhamnosus GG extract are functional and have active biomolecules. The X-ray diffraction pattern indicated the nanoparticles' purity and regular crystal structures. In addition, bax gene expression under the influence of 125 and 250 micrograms/microliter of Lactobacillus rhamnosus GG silver nanoparticles was significantly higher than the negative control group (p0.05).The expression of the bcl-2 gene was significantly lower than the negative control group under the influence of 250 µg/µl concentration of Lactobacillus rhamnosus GG silver nanoparticle (p0.05).

Conclusion: The results of this study showed that silver nanoparticle/Lactobacillus rhamnosus lysate has anticancer and apoptotic power. Therefore, probiotics can be used as a new strategy in the expression of apoptotic genes in colorectal cancer.

Keywords: Lactobacillus rhamnosus GG, silver nanoparticles, gene expression, bax, bcl-2, colorectal cancer cells

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Trauma Monthly
Abstracts

Abstract 179: Investigating the effects of artificial intelligence in gene sequencing with the approach of dealing with and early detection of bioterrorism

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Abstract

Introduction: Genome sequencing is a process in which DNA organic bases are identified as accurately as possible to investigate and recognize the characteristics of the relevant cell. The scope of human information in the field of genetics has increased a lot. In such a way that it will be difficult to analyze gene data without the help of modern technologies. In recent years, artificial intelligence (AL) technology has grown significantly in the field of medical sciences. One of the fields of artificial intelligence is the extraction, analysis, and classification of genetic data. Therefore, this article aims to investigate the applications of artificial intelligence in the field of genetics, especially genome sequencing with the approach of biodefense and bioterrorism detection.

Method & material: This review study used SID and PubMed search databases to find relevant data from 2013 to 2023. The search included keywords such as "sequencing", "bioterrorism" and "artificial intelligence". 10 articles were studied and 3 unrelated or similar articles were removed.

Result: There are various methods for using artificial intelligence in the field of genetics, which can be used according to the subject and purpose of the activity. The various features of artificial intelligence make it possible to examine, analyze, and categorize the largest amount of information and data in the shortest time. With the advancement of this type of technology and the unveiling of biological weapons based on genetics, the need to establish interdisciplinary communication to increase scientific and practical powers in the field of biological defense is felt. Among the challenges in the field of bioterrorism is the identification and production of drugs or vaccines for emerging and unknown biological agents, which is accelerated by the use of artificial intelligence. In recent years, the relationship of artificial intelligence to recognize and deal with the COVID-19 virus has been investigated. This feature will be very effective in emergencies such as bioterrorism.

Conclusion: Considering the special conditions of our country, it is very necessary to develop this type of technology and use it in the field of biological defense. Therefore, experts in the fields of biological warfare computer science, and artificial intelligence must cooperate in this field.

Keywords: sequencing, bioterrorism, artificial intelligence

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Abstracts

Abstract 180: Investigating the effects of chronic partial sleep deprivation and sleep pattern disturbance on liver function in rats

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Abstract

Introduction: Research has shown that chronic sleep deprivation or disturbances in sleep patterns can have detrimental metabolic effects. However, the effects of chronic partial sleep deprivation (CPSD) and sleep pattern disturbance (SPD) on liver function have been less studied. In the present study, we aimed to investigate whether CPSD and SPD can influence hepatic function in rats.

Method & material: Thirty-two male Wistar rats were randomly divided into four groups (n=8 each): control, SPD, CPSD, and SPD+CPSD. The CPSD was induced by a sleep deprivation machine for four hours per day and SPD was induced by disturbance in the light/dark cycle as it was set at 3.5h light: 3.5h dark (accordingly the normal daily pattern of light and dark cycle was continuously changed). After four weeks, all animals were sacrificed and blood samples and liver were collected.

Result: Compared to the control group, only the fasting blood glucose levels in the CPSD and SPD+CPSD groups were significantly elevated (p=0.027 and p=0.001, respectively). No statistically differences in liver enzymes, lipid profile and the hepatic levels of lipid peroxidation and superoxide dismutase were found between the studied groups. The liver histopathological examination also revealed no significant difference between groups.

Conclusion: Based on the results of the present study we can conclude that CPSD can negatively influence glucose metabolism and SPD exacerbates the effect. However, at the studied period (4 weeks) SPD and CPSD could not alter hepatic structure and function. Future research should focus more CPSD effects on glucose metabolism mainly in diabetic patients.

Keywords: Sleep Deprivation, Sleep Wake Disorders, Glucose Metabolism Disorders, Liver

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Abstract 181: Study of the effects of *Lactobacillus casei*, *Ziziphus jujube* extract and *Pistacia atlantica* gum on ulcerative colitis model

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Abstract

Introduction: Ulcerative colitis is a chronic inflammatory bowel disease that causes recurring episodes of active disease in the colon and rectum. Alternative therapies are explored when standard treatments fail. Probiotics, such as Lactobacillus casei, are being studied for their promising effects on the immune system. In Iranian medicine, Pistacia atlantica, a wild pistachio species, and Ziziphus jujube, a tree-like plant, have been traditionally used for their anti-inflammatory and therapeutic properties. This study aimed to examine the effects of combining Lactobacillus casei with Ziziphus jujube extract and Pistacia atlantica gum on cellular profile and the expression of inflammatory cytokines in experimental models of ulcerative colitis.

Method & material: This research involved the use of male BALB/c mice, which were divided into ten groups consisting of five animals each. These groups were identified as follows: Group 1: Healthy control (negative control), Group 2: Untreated colitis (positive control), Group 3: Pistacia atlantica gum hydroalcoholic extract treatment, Group 4: Ziziphus jujube hydroalcoholic extract treatment, Group 5: *Lactobacillus casei* probiotic treatment, Group 6: Combined treatment with *Ziziphus jujube* hydroalcoholic extract and *Pistacia atlantica* gum, Group 7: Combined treatment with *Lactobacillus casei* probiotic and *Pistacia atlantica* gum hydroalcoholic extract, Group 8: Combined treatment with *Lactobacillus casei* probiotic and *Ziziphus jujube* hydroalcoholic extract, Group 9: Triple combination treatment with *Ziziphus jujube* hydroalcoholic extract, *Pistacia atlantica* gum, and *Lactobacillus casei* probiotic, Group 10: Mesalazine treatment. Except for the negative control group, all other groups were induced with colitis by injecting 100 µL of 4% acetic acid, and treatment was initiated upon the onset of disease symptoms.

Result: The outcomes of the research showed that every therapeutic agent used, either alone or in conjunction with each other and mesalazine, led to a decline in the levels of myeloperoxidase enzyme, nitric oxide, and the expression and production of cytokines such as IL-1β, IL-6, and TNF-α, in addition to a decrease in damage to the intestinal tissue. Additionally, it was apparent that the combination therapy was more effective than treatment with each agent separately.

Conclusion: The study results suggest that a combination of *Lactobacillus casei* probiotic, along with herbal compounds derived from *Pistacia atlantica* gum and *Ziziphus jujube*, possess beneficial anti-inflammatory properties and can aid in the healing of intestinal tissue in individuals suffering from ulcerative colitis. This means that these therapeutic agents can be used alongside conventional medications as an adjunctive treatment to manage the disease.

Keywords: Ulcerative colitis, *Lactobacillus casei* probiotic, *Pistacia atlantica* gum, *Ziziphus jujube*, Mesalazine, Inflammation

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Trauma Monthly
Abstracts

Abstract 182: Investigating the effects of telemedicine in palliative care of cancer patients: a systematic review

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Abstract

Introduction: Telemedicine is the use of emerging technologies to provide health services, especially in populations with limited access to these services. Palliative care is based on clinical standards and includes prevention to pain relief and improvement of quality of life. Cancer is a kind of disorder in different organs of the body, and due to long-term treatment and lifelong follow-up, the use of new solutions, including telemedicine, can reduce the challenges of cancer patients. Therefore, considering the importance of this issue and summarizing its results, the aim of the present study is a systematic review on determining the effects of telemedicine in palliative care of cancer patients.

Method & material: The search was conducted in reliable databases such as SID, Scopus, PubMed and Google Scholar with the keywords telemedicine, palliative care and cancer patients from 2019 to 2023. The inclusion criteria included descriptive studies and randomized trials that investigated the effects of telemedicine in the palliative care of cancer patients, and its participants included people who had been diagnosed with cancer for at least 3 months and who could They used telemedicine equipment.

Result: The result of the search was 315 articles, of which 8 articles were finally reviewed. According to the reviewed studies, the positive effects of telemedicine in palliative care can be saved in time and money, facilitating the provision of health services, reducing the risk of infection, supporting the family, improving the management of weakness, fatigue and pain, improving the sense of well-being. Safety in the patient and family, reduction of fear and anxiety of patients and improvement of cognitive function. Among its negative aspects, we can mention technological barriers, lack of sufficient training in this field, reduction of the transfer of empathy and lack of direct supervision in the use of arbitrary opioids.

Conclusion: Despite the obstacles in this method, the reviewed studies listed telemedicine as an effective method in palliative care of patients. Since these patients often face problems in visiting care providers due to recurrence of symptoms, movement problems and dependence on caregivers; Therefore, the use of telemedicine can be considered as a new and effective solution in this field.

Keywords: Telemedicine, palliative care, cancer patients, cancer

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Trauma Monthly
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Abstract 183: Investigating the effects of using telemedicine on the services provided during the corona virus epidemic: a review study

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Abstract

Introduction: The coronavirus disease (COVID-19) first affected the world population in Wuhan, China in December 2019 and was declared a major public health concern worldwide. Investigations showed the spread of this disease due to the consumption of seafood, poultry and live animals. Covid-19 leads to physical symptoms such as fever, muscle aches, fatigue, and shortness of breath, and can potentially cause serious conditions such as cytokine storms that cause death. However, the negative psychological effects of the disease are far more extensive. Despite the many problems during the Covid-19 era, the World Health Organization introduced telemedicine to provide healthcare. This technology uses electronic tools for diagnosis, treatment and prevention of diseases and injuries as well as research and evaluation, training of health care providers in order to improve the quality of conditions. This system was first used by telephone and video technology in the 1960s in the military and space sectors.

Method & material: In this review study, 18 articles from Persian and English SID, PubMed, Web of Science, Scholar databases were examined from 2020 to 2023 and 11 articles were selected from among them.

Result: Studies have shown that telemedicine can effectively treat the employees of health care centers who had high levels of anxiety and fatigue during the covid epidemic and a strong need for mental health support. Telemedicine is useful for improving professional education, quality control of screening programs, reducing health care costs, and improving access to information. This technology is useful for reducing health care disparities during disasters and epidemics and enables remote consultation, monitoring and management of chronic patients. Therefore, this technology can be used for continuous management and a safe and effective alternative to the physical care of the doctor and the patient. Based on the studies conducted in telemedicine, there are problems such as the breakdown in the relationship between health professionals and patients, ethnic and racial barriers to communication, poverty and lack of communication systems, difficulty in communicating with the elderly, and lack of access to the Internet.

Conclusion: It can be concluded that telemedicine can increase the services provided to people during epidemics and make it easier for these people to access the necessary information and create a safe environment for both health care workers and patients, but it can be useful and effective on a large scale if the infrastructure is provided. And all aspects should be considered.

Keywords: telemedicine, COVID-19 pandemic, Health Cares

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Trauma Monthly
Abstracts

Abstract 184: Investigating the feasibility of implementing telemedicine technology based on the existing infrastructure in Ferdows teaching hospitals

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Abstract

Introduction: For the successful implementation and optimal use of telemedicine technology, this technology's necessary infrastructure and success factors should be considered. The present study was conducted to investigate the feasibility of implementing telemedicine technology based on the existing infrastructure in two teaching hospitals of Ferdows city.

Method & material: The current research was of a cross-sectional descriptive study that was conducted in the teaching hospitals of Ferdows city in 2022 The research community included 49 doctors, information technology unit staffs, and managers. In this study, the census method was used and the research community was considered as a sample. The tool of data collection was Ghasemi et al.'s questionnaire, which has 44 multiple-choice questions and consists of 6 sections. This questionnaire was created to measure the awareness of employees and the feasibility of implementing information technology in hospitals. The reliability of the questionnaire was obtained by Cronbach's alpha method of 87%. Questionnaires were presented to people with an easy access approach and face to face. After completing the questionnaires, the information was entered into the statistical SPSS version 16 and descriptive statistics (frequency, mean and percentage) were used to analyze the data.

Result: 49 employees participated in this study. Despite the possibility of communicating between the systems of each hospital's departments, more than 70% of the employees did not have access to high-speed Internet and they couldn't connect from outside the hospital. The level of familiarity of employees with telemedicine technology was at an appropriate level (72.1 %). Also, the strategic plan of the studied hospitals included a telemedicine program, but so far, telemedicine services have not been provided in these hospitals. Providing education (92.3 %), providing care (84.6 %), admitting patients (76.9 %), consulting (69.2 %) and performing surgeries (15.3 %)were the most important applications of this technology from the point of view of the people studied. Also, the problems of insurance and reimbursement (100%) and the lack of technical staff (100%) were raised as infrastructural obstacles for the implementation of telemedicine technology.

Conclusion: Despite the availability of some telemedicine infrastructure in the hospitals of Ferdows city, these hospitals are still not able to provide telemedicine services. Therefore, it is suggested to take measures to provide the necessary facilities and infrastructure in this direction.

Keywords: Telemedicine, Feasibility, Implementation, Infrastructure, Hospital.

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Trauma Monthly
Abstracts

Abstract 185: Investigating the Impact of Broadleaf Plantain on Wound Healing and Inflammation: A Literature Review

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Abstract

Introduction: Wound healing and inflammation are significant health concerns that require effective treatment strategies. Traditional medicine offers potential solutions through the use of natural remedies, such as broadleaf plantain (Plantago major). Broadleaf plantain has a long history of traditional use in addressing various conditions, including wound healing and inflammation. This literature review aims to explore the existing scientific evidence on the impact of broadleaf plantain on these processes.

Method & material: A comprehensive search strategy was employed to identify relevant articles published between 2010 and 2023. Systematic searches were conducted across the SID, Scopus, and PubMed databases using specific keywords, including "broadleaf plantain," "wound healing," and "inflammation." Studies were selected based on predetermined inclusion and exclusion criteria, considering their relevance to the topic and availability of full-text articles. The selected studies were critically analyzed to extract relevant data and insights.

Result: The selected studies consistently reported positive effects of broadleaf plantain on wound healing and inflammation. Broadleaf plantain exhibited properties such as antimicrobial, antioxidant, and anti-inflammatory effects, contributing to its potential therapeutic benefits. Various in vitro and in vivo studies emphasized the ability of broadleaf plantain extracts or components to enhance wound closure, reduce inflammation, and facilitate tissue regeneration.

Conclusion: The findings from the selected studies suggest that broadleaf plantain holds promise as a natural remedy for enhancing wound healing and managing inflammation. These observed effects may be attributed to the presence of bioactive compounds in broadleaf plantain, such as aucubin and flavonoids, which possess diverse pharmacological properties. However, further research is necessary to elucidate the underlying mechanisms and identify the specific active constituents responsible for the observed effects.

Keywords: broadleaf plantain, wound healing, inflammation, Plantago major, natural remedies, bioactive compounds, therapeutic benefits.

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Abstracts

Abstract 186: Investigating the impact of cultural-student activities in promoting the character of medical ethics and responsibility of students of Ardabil University of Medical Sciences

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Abstract

Introduction: One of the most basic aspects of medical ethics is communicating with others and being responsible towards society and people.The social responsibility of the medical staff plays an effective role in improving the quality of service delivery and reaching the desired goals of the health system. Therefore, their responsibility is important to act as social capital and work ethic for the hospital.Cultural activities are activities whose purpose is to change, strengthen or develop the values and knowledge and social relations of the society.The performance of the university can be evaluated well when its purpose is to produce informed, thinking and self-directed students and the students act responsibly and have problem solving skills. In general, universities act in the direction of increasing maturity and social competence.The purpose of this study is to investigate the role of student-cultural activities in the social responsibility of students of Ardabil University of medical sciences.

Method & material: In the present study, which is a descriptive-cross-sectional study, the indicators of responsibility in the form of seven main indicators of self-management, orderliness, legality,trustworthiness,conscientiousness,organization and progressivism were selected based on the California psychological model and the Eysenck personality questionnaire.The statistical population includes the students of Ardabil University of Medical Sciences in 2019, according to the inquiry from the Vice-Chancellor of Education, 3630 people, and based on Morgan's table, 248 people are selected as the statistical sample of the research. The sampling method is randomly classified. The data will be analyzed using the descriptive statistical method including determining the mean and standard deviation and performing t-test in the form of tables and graphs in SPSS software, and p0.05 will be statistically significant.

Result: In this study, 32.8% of the participants were male and 67.2% were female. 73.6% of the total samples participated in student cultural activities. A positive and direct significant relationship was seen between the variable of participation in cultural activities and responsibility (p=0.001). The difference between the disciplines in terms of the responsibility score was significant (p0.05), that is, all the disciplines did not have the same responsibility score. And this rate has been higher in health faculty students than others. The score of responsibility among incoming students of 2018 is higher (p=0.002).

Conclusion: Providing the field of cultural activities to the desired condition can have a significant role in increasing and improving social responsibility in medical students, which can be the basis of quality and increase efficiency in teaching hospitals.

Keywords: Cultural-student activities, medical ethics, student character, Ardabil University of Medical Sciences

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Trauma Monthly
Abstracts

Abstract 187: Investigating the Importance of Telenursing in the COVID-19 Pandemic

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Abstract

Introduction: The widespread spread of the COVID-19 disease and the infection of many people in the world required long-term at-home treatment and care. As the main members of the healthcare providers, nurses played an important role in disease management and providing care during this pandemic by using telenursing. Therefore, the purpose of this study was to investigate the importance of telenursing in the COVID-19 pandemic.

Method & material: This study conducted a comprehensive search of electronic databases including ProQuest, Medline, Web of Science, Scopus, Google Scholar, and the national Persian language databases like Magiran and SID between 2020-2023. Target studies were searched using MeSH standardization and keyword combinations were identified using (AND/OR). Search terms included telenursing, COVID-19 pandemic, Coronavirus, and Nurse's Role. Inclusion criteria included articles related to telecare and focus on its role in nursing tasks, articles with abstracts and full text in English or Persian, and articles published in peer-reviewed journals. The exclusion criteria for articles included journal notes such as short articles of the letter to the editor, commentaries, conference abstracts, and dissertations. Finally, the inclusion/exclusion criteria were applied and 9 studies were included in this study, and data were extracted and classified.

Result: Despite the challenges, telenursing has been able to improve the health level and increase the quality of life of patients by creating a sense of security for patients through effective planning and implementation. This process is achieved by remote symptom management and continuous monitoring of client performance. Among the benefits of telenursing in this pandemic, we can mention the reduction of disease transmission, care costs, and continuity of care, emphasizing maintaining the patient's independence. Disadvantages of telenursing may include the challenges related to communication between patients and nurses, which leads to the lack of trust of patients and the inability to establish an appropriate therapeutic relationship. Telenursing can be used as an important key for preventive care, education and counseling, and health promotion at the community level using virtual networks, computers, and smartphones.

Conclusion: The experience of using telenursing to resolve care needs during the COVID-19 pandemic, and the validation of telenursing technologies highlights the need for greater attention and preparedness of the healthcare system to expand these capabilities, considering the increasing elderly population and the prevalence of chronic and infectious diseases.

Keywords: Telenursing, Nurse's Role, Pandemic, Coronavirus, Covid 19

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Trauma Monthly
Abstracts

Abstract 188: Investigating the importance of travel medicine and health tourism in the world: A systematic review

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Abstract

Introduction: Travel medicine and health tourism, which is carried out with the aim of seeking health care to improve health, is one of the most important parts of the tourism industry. This systematic review was conducted with the aim of investigating the importance of travel medicine and health tourism in the world.

Method & material: In this systematic review, scientific articles were collected by searching PubMed, Embase, Web of Science and Google Scholar databases with the keywords medical tourism, Health tourism, Health Care and Travel medicine from November 2013 to April 2023. The criteria for the inclusion of articles in the study is to provide the full text of the study on travel medicine and health tourism. The quality assessment and validation of the selected articles were done using the STROBE checklist by 2 authors of this article separately. A total of 18 articles with inclusion criteria were qualitatively analyzed using thematic analysis to identify the main topics. The analyzed articles were descriptive observational, review and analytical articles.

Result: Travel medicine and health tourism focus on activities and practices that help a person's physical, mental, psychological and emotional health. Medical tourism presents important concerns and challenges as well as potential opportunities, and by creating a new financial field as an alternative source of capital with a rapidly growing market share worldwide, it has a significant contribution to increasing the income of countries. On the other hand, standard services are one of the most basic infrastructures for travel medicine and health tourism. Health tourism aims to use natural resources and services, health care and the benefit of healing nature for treatment, relief from the tensions of everyday life and rejuvenation. Travel medicine and health tourism are increasingly expanding and gaining popularity, and developing, developed and even underdeveloped countries have invested to increase this market.

Conclusion: Travel medicine and health tourism as a national strategy is aimed at increasing the income of countries and promoting health in the society, for its expansion, the necessary infrastructures, services and facilities must be created.

Keywords: Travel medicine, Health tourism, Health, Medical tourism

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Abstracts

Abstract 189: Investigating the Physicochemical and Microbial Quality of Drinking Water in Behbahan in 2023

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Abstract

Introduction: Water quality directly affects the health and hygiene of society and plays an effective role in preventing many diseases. Therefore, continuous monitoring of drinking water quality can play a key role in adopting appropriate management and treatment methods to improve drinking water quality. The aim of this study is to investigate some of the most important physicochemical and microbial characteristics of drinking water in Behbahan city, Iran in 2023.

Method & material: The study was conducted from April 2022 to March 2023. A total of 216 water samples (18 samples per month) were randomly taken from purified tap water under sterile conditions. The samples were tested in the Chemical Laboratory of Behbahan Faculty of Medical Sciences. The characteristics of water, including residual chlorine, pH, EC, turbidity, Clostridium perfringens, and coliform were measured according to the Standard Methods guidelines (23r Ed, 2017). The results were analyzed using Excel and SPSS software.

Result: The results of the study showed that the average residual chlorine, pH, EC and turbidity are respectively 0.64 ± 0.32 mg/l, 7.54 ± 0.18, 363 ± 53 µSiemens/cm and 0.9 ± 0.22 NTU, respectively. The maximum values of these parameters were 2 mg/l, 8, 470 µSiemens/cm, and 1.98 NTU, respectively. Also, their minimum levels are 0 mg/l, 6.6, 23 µSiemens/cm and 0.14 NTU, respectively. Also, no coliform and Clostridium perfringens were found in any of the samples. In general, the averages of all measured parameters were lower than the maximum allowable limit recommended by Iran's National Standard 1053 (the maximum allowable of residual of chlorine, pH, EC and turbidity are 1,9 mg/l, 500-90 µSiemens/cm (recommended) and 5 NTU), respectively)

Conclusion: In general, it can be concluded that the measured parameters of Behbahan drinking water have reached Iran's National Standard 1053. On some days, although some of the measured parameters were higher than the standard due to various unknown reasons, but in general, the averages of all measured parameters were lower than the maximum recommended by the Iranian standard No. 1053. However, due to the importance of drinking water quality on community health and disease prevention, it is necessary for relevant authorities to pay special attention to water hygiene.

Keywords: Water, behbahan, physicochemical, microbial

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Abstract 190: Investigating the predictors of the sense of family cohesion perceived by the parents of children with cancer being treated in the hospitals of Shahid Beheshti University of Medical Sciences in Tehran 2019

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Abstract

Introduction: Childhood cancer in recent decades is still a very challenging health condition for parents. Cancer leaves psychological, social, and economic challenges affecting all aspects of a child's and family's life. It usually includes disruption in family processes, depression and anxiety in family members, spiritual distress, incompatible religious coping, chronic sadness, use of unhealthy coping methods by family members, and changes in their perception. Family is an important concept that health care providers must understand in their understanding of family cohesion. This study aimed to investigate the correlation between the sense of family cohesion perceived in parents of children with cancer.

Method & material: In this cross-sectional correlational study, 125 parents of children with cancer referred to Tehran hospitals in 2019 were selected by available sampling method. Demographic information checklist, social characteristics questionnaire, perceived family cohesion scale questionnaire, coping health questionnaire, Kendall sadness questionnaire and McMaster family functioning questionnaire were used to collect data. Data analysis was done using SPSS version 21 software and Smirnov test, Pearson correlation and regression analysis methods.

Result: A total of 125 parents participated in this study. The majority of housewives (80%). Most of the participants' children were male (62%) and most of these families lived in the city (77%). The average age of the children was 6.32 years. According to the results, the majority of participants have a high degree of perceived family (46%), with a total mean score of 122.33 (32.85). All families suffered from chronic sadness (100%), with a mean total score of 87.18 (11.64). Most families reported poor social support (70%) with a mean total score of 181.53 (80.59).

Conclusion: The present study expanded the concept of parents' perceived sense of family cohesion in nursing knowledge and drew the attention of family-centered care providers to parents of children with cancer and their concerns that directly and indirectly affect the health of the entire family. did The results of the present study can help nursing teachers and trainers to consider and implement the concept of perceived family cohesion and its predictive factors in the theoretical and clinical education of students.

Keywords: Cancer, Child, Family sense of coherence

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Trauma Monthly
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Abstract 191: Investigating the relationship between caregiving pressure and quality of life in caregivers of elderly patients with stroke in Qazvin city in 2021

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Abstract

Introduction: Stroke is the second most common cause of death and the third leading cause of disability worldwide. Caregivers are a group of people who face a decrease in the quality of life due to the high pressures of caring; Therefore, the present study was conducted with the aim of determining the relationship between caregiving pressure and the quality of life of caregivers of elderly patients with stroke.

Method & material: This cross-sectional descriptive study was conducted on 79 home caregivers of elderly stroke patients living in Qazvin city in 1400. Caregivers were selected as available among the caregivers of elderly patients diagnosed with stroke admitted to the neurology department of Bo Ali Hospital within 1 to 6 months before the study. The criteria for entering the study was to be at least 18 years old and take care of an older patient for at least one month. The data collection tool included the questionnaire of demographic information, Zarit care pressure and quality of life SF36, which was completed by the caregivers. Data were analyzed using SPSS version 23 software and using descriptive statistics and Pearson correlation test.

Result: The average age of caregivers was 46.16 ± 11.32 years in the age range of 24 to 78 years. Most of the caregivers participating in the study were female (52 people, 61%) and married (65 people, 67%). The amount of care pressure was average (27.47 ± 11.37) and their quality of life was higher than average (63.47 ± 14.41). The results of Pearson's correlation test showed an inverse and significant relationship between caregiving pressure and quality of life (r = 0.902, p0.001) and mental and emotional (r = 0.637, p0.001). So that with the increase in caregiving pressure, the quality of life of caregivers of these patients decreased both physically and psychologically.

Conclusion: The results of the study showed that caregiving pressure has a negative effect on the quality of life of caregivers; Therefore, in order to increase the quality of life and reduce the burden of caregiving, it is recommended to implement interventions and supports based on the empowerment of caregivers.

Keywords: Elderly, Stroke, Caregiver, Caregiving Pressure, Quality of Life

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Trauma Monthly
Abstracts

Abstract 192: Investigating the Relationship Between Covid-19 Disease and the Occurrence of Diseases Related to Hypothyroidism: A Review Article

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Abstract

Introduction: Corona disease is a respiratory disease caused by the Covid-19 virus. The pathogenicity of Corona virus in humans is caused by the ACE2 receptor, which is abundantly found in the follicular cells of the thyroid gland. The most common reversible functional disorders of the thyroid gland during Covid-19 and after are low T3 syndrome and "non-thyroid disease syndrome(NTIS)". In this review, we briefly examined the direct and indirect effects of SARS-CoV-2 on the thyroid gland using published findings.

Method & material: This Systematic review article was written in 2023 using the keywords Covid-19, SARS-CoV-2, Thyroid, Hypothyroidism, ACE2 and their Persian equivalents. Among the 296 primary studies, 20 articles were included in the final analysis with filters that identify only studies published from 2020 to 2023 by searching these keywords and the title/abstract of the specific literature in PubMed, Google Scholar, and SID databases.

Result: The expression of angiotensin converting enzyme 2(ACE2) in the hypothalamus, pituitary gland, and thyroid gland makes these areas an important target for virus entry and the occurrence of disorders such as T3 syndrome, which is probably indirectly through increased inflammation due to the high level of inflammatory factors such as tumor-necrosis-factor-alpha(TNF-α) and interleukins(ILs) like IL6 and the occurrence of autoimmune disorders. Also, the results of real time PCR in gland follicle tissue indicate the direct role of the virus in pathogenesis. The data of 1160 patients showed that the prevalence of thyroid hormone changes in patients with Covid-19 was significantly higher than in control groups and there is a positive correlation between low mean T3 and clinical severity of Covid-19.

Conclusion: Due to the high sensitivity of the thyroid gland to the body's homeostasis, the observation of cases of hypothyroidism and low T3 among patients with Covid-19 is probably due to the hypothalamus-pituitary-thyroid axis with the virus, cytokine storm, direct infection of the gland and cell damage caused by the response It is safety. Therefore, in people suffering from Corona, it is necessary to check the thyroid gland if abnormal hormone levels are observed.

Keywords: Covid-19, SARS-CoV-2, Thyroid, Hypothyroidism, ACE2

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Abstract 193: Wound healing feasibility of electrospun nanofibrous scaffold loaded with Achillea wilhelmsii extract intended for skin regeneration

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Abstract

Introduction: The human skin serves various vital functions, including protection and temperature regulation. Skin issues, such as wounds and diseases, can have significant consequences. Effective wound management is crucial, and nanofibrous scaffolds are a promising solution. Nanofibers (NFs) have unique characteristics, including high surface area and drug delivery capabilities. Polyvinyl alcohol (PVA) and chitosan (CS) are commonly used in nanofiber production. Achillea wilhelmsii, a herbal medicine rich in therapeutic compounds with antioxidant and antimicrobial properties, can enhance wound healing when incorporated into nanofibers. Localized delivery systems like NFs overcome oral administration limitations. This study evaluated the nanofibrous scaffolds loading A. wilhelmsii extract for improving wound healing skin tissue engineering.

Method & material: This study examined nanofibrous scaffolds containing 5-15 wt% of A. wilhelmsii extract for skin tissue engineering. The scaffolds, made from PVA and CS, were produced using electrospinning. Various analyses assessed the scaffolds' physicochemical properties, including antioxidant activity and degradation rate. Cell viability and migration of dermal fibroblasts were tested to evaluate their potential for promoting proliferation and wound healing.

Result: The A. wilhelmsii-loaded scaffolds composed of PVA and CS were fabricated by electrospinning method. Electron micrographs indicated the interconnected fibers with a nano-scale diameter (400 nm) and uniform morphology. Also, the presence of A. wilhelmsii extract in the polymeric matrix of scaffold without any undesirable interaction was approved. The fabricated scaffolds rendered the favorable mechanical properties for skin wound dressing intention, hydrophilic nature, high porosity of the scaffold volume (90%) and water absorption capability (500%). Besides, the findings showed the preserved radical scavenging ability of A. wilhelmsii extract in the nanofibrous scaffolds and the controlled degradation kinetic over 72 h. The viability assay has proved that the A. wilhelmsii-loaded scaffolds not only have no cytotoxicity but also can accelerate cell proliferation. Moreover, the scaffolds showed significantly accelerated fibroblast migration and complete closure of scratched areas.

Conclusion: Nanofibrous scaffolds made of PVA/CS with A. wilhelmsii extract enhance wound healing. They exhibit uniform nano-scale fibrous architecture, high porosity, water absorption, hydrophilicity, and mechanical strength. The scaffolds degrade gradually and have strong free-radical scavenging properties. They are compatible with dermal fibroblasts, promoting proliferation. Additionally, these scaffolds accelerate fibroblast migration and complete wound closure, suggesting their potential for efficient wound healing and skin regeneration.

Keywords: Nanofiber, Biocompatibility, Antioxidant, Electrospinning, Wound dressing

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Abstract 194: Investigating the relationship between moral sensitivity and age discrimination towards the elderly by nurses in special departments and determining the factors related to it

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Abstract

Introduction: By identifying and discovering suitable solutions for the factors that may have an effect on the attitude and perspective of nurses on the age discrimination of the elderly, it is possible to prevent possible harm to some extent (1). Considering the importance of moral variables such as moral sensitivity on this component, the consequences of neglecting it such as reducing the quality of care and dissatisfaction, and on the other hand, the lack of a similar study, the present study aims to determine the predictive role of moral sensitivity in age discrimination towards the elderly. Special wards were done for the nurses.

Method & material: This cross-sectional study was conducted on 145 nurses working in special wards (ICU, CCU, emergency and dialysis) of hospitals affiliated to Shahid Beheshti University of Medical Sciences from May to June 2014 using stratified random sampling method. In this study, a three-part questionnaire was used, including a demographic information form, a nursing care age discrimination questionnaire, and a Lutzen moral sensitivity questionnaire. The data was analyzed with SPSS V.25 software and using descriptive (mean, standard deviation and dispersion indices) and inferential (Pearson correlation and linear regression) statistics. The significance level in this study was considered less than 0.05.

Result: The majority of nurses present in the study were women (80%) and their average age was 35.14 ± 8.365 years. The average score of age discrimination in this study was 39.73 ± 8.42, which was at a low level. The mean score of moral sensitivity in this study was 91.81±10.98, which was at a high level. The results of the correlation test showed that there is a positive and significant relationship between age discrimination and moral sensitivity. (p=0.007 and r=0.222)

Conclusion: According to the results of the study, holding educational workshops and necessary measures to increase the moral sensitivity of nurses in special departments can be effective on the amount of age discrimination applied by nurses towards the elderly and reduce them. Therefore, necessary measures by hospitals, nursing managers and governments seem useful.

Keywords: Moral sensitivity, age discrimination, elderly, nurses, special departments

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Abstract 195: Investigating the Relationship between Serum Selenium Levels and Pregnancy Outcomes and Bacteriuria in Pregnant Women

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Abstract

Introduction: Recent studies have reported that antioxidant status, including serum selenium concentrations, is altered in women who develop preeclampsia. We aimed to examine the relationship between selenium levels and pregnancy outcomes and the incidence of bacteriuria in pregnant women.

Method & material: In this cross-sectional study a total of 56 pregnant women, who were in the first trimester of pregnancy, were included, and patients with a history of Kidney stones, abnormalities of the genitourinary system, malnutrition, taking oral supplements before pregnancy were excluded from the study. The incidence of preeclampsia, serum selenium concentrations, anemia, bacteriuria and presence of urinary infection, and other characteristics of women were evaluated. Data analysis was done using the statistical package for social sciences (SPSS) version 20.0. The P-value of 0.05 was considered to be statistically significant.

Result: The mean serum selenium level in patients with bacteriuria (89.34± 19.12 mg/dl) was significantly (P-value=0.01) lower than patients without bacteriuria (102.05± 17.97 mg/dl). Also, the mean serum selenium level in patients with positive urine culture (88.81±19.54 mg/dl) was significantly lower than patients with negative urine culture (99.71±18.63 mg/dl). However, in terms of other variables such as anemia, pre-eclampsia, gravidity, LBW and labor type the serum selenium level was not significantly different (P0.05).

Conclusion: Serum selenium levels of patients with bacteriuria were significantly lower compared to patients without bacteriuria and selenium deficiency occurred significantly more among pregnant women with urinary tract infections compared to the healthy ones. Selenium level dynamics in pregnancy possibly could play a role in the incidence of infections such as urinary tract infections among pregnant women.

Keywords: Serum Selenium Levels, Pregnancy Outcomes, Bacteriuria, Pregnant Women

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Abstract 196: Investigating the relationship between temperament and academic motivation in medical students of Shahrood in the academic year 1400-1401

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Abstract

Introduction: Many factors such as family income, having hope, level of self-esteem, personality traits have an effect on academic motivation and individual differences are such that the amount of learning and academic motivation in identical twins is also different, and in the meantime, temperament is also different in identical twins. Different people are different and it affects a person's behavior and ability. Abu Ali Sina has divided the temperament into nine categories of temperament, four of which are referred to as mixed temperaments: hot and wet, cold and dry, hot and dry, cold and dry in humans. The type of temperament affects various factors, including memory, order and discipline, receptiveness, high energy, concentration, intelligence and learning, and each temperament has a certain ability in its natural state.

Method & material: This descriptive-analytical study was conducted using a simple random method on 300 medical students in Shahrood in the academic year 1400-1401. The data was collected using a demographic, mood and academic motivation questionnaire. The data after collection was entered into SPSS 18. and analyzed with the help of descriptive (mean and standard deviation) and analytical (correlation and chi-square) statistics. This descriptive-analytical study was conducted using a simple random method on 300 medical students in Shahrood in the academic year 1400-1401. The data was collected using a demographic, mood and academic motivation questionnaire. The data after collection was entered into SPSS 2018.

Result: In this study, the results showed that there is a significant relationship between gender and academic motivation, most of the people in the cold and warm section and moderate condition (60 percent) 180 and the average 16.56 ± 24 and in the dry and dry section also moderate condition (36.7 percent) 110 and They had an average of 4.15±6. In the questions related to academic motivation, in the internal motivation, the highest average was related to the sub-group of knowing 5.32±17.28, and in the external motivation, the highest score was related to the projected adjustment, and in the a motivation item, the average was 4.52±20.50. The grades were 12.76±5.72 and in general, the academic motivation of the students was 24.36±117.06, which shows the high academic motivation of the students. Finally, there was a positive and significant correlation between warm and cold temperament with academic motivation (P=0.01).

Conclusion: The results of the present study showed that temperament can play a decisive role in the level of academic motivation of a person, which is suggested to improve the level of academic motivation in students by applying the teachings of traditional medicine and temper correction by health policy makers and also those in charge of education.Considering the mentioned studies and also the importance of being aware of students' mood as an important part of the society.

Keywords: temperament, academic motivation, medical student

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Abstract 197: Investigating the relationship between vitamin C intake and oral cancer in adults, A review on evidence

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Abstract

Introduction: Oral cancer can be caused by the growth of malignant cells in the mouth, lips, tongue, or cheek and tonsils. The evidence indicates a high rate of death from this cancer. Studies have shown that the intake of micronutrients was significantly related to the pathophysiology of oral cancer. Among the micronutrients, special attention has been paid to the dietary intake of vitamin C or supplement therapy. However, the findings seem contradictory in this regard. Therefore, the aim of this study is to review the available evidences on the relationship between dietary intake of vitamin C and incidence of oral cancer in adults.

Method & material: The systematic search was conducted in the online databases including PubMed, Web of science, Scopus and google scholar up to June 2023 without publication date or language restrictions. The following search terms were used for the systematic search: "Vitamin C" OR "Ascorbic acid" and " Oral cancer " OR "Oral malignancy". In this review, all clinical trial, cross-sectional, prospective and retrospective studies that investigated the relationship between vitamin C intake and Oral cancer were included in the evaluation.

Result: Out of the reviewed articles, 8 case-control studies and one cohort study were included in the present study. The total sample size of these studies was 45340 and the number of cases with oral cancer was 2600. 5 case-control studies showed that receiving optimal levels of fiber and antioxidants, especially vitamin C from daily consumption of fruits and vegetables, has an inverse relationship with the risk of oral cancer. However, other case-control studies did not show such an association. Also, such an inverse relationship was seen in the mentioned cohort study, and this inverse relationship is independent of smoking or drinking alcohol. On the other hand, studies showed that the dietary intake of vitamin C plays a better protective role against oral cancer compared to the supplementation therapy. In terms of serum and salivary levels of vitamin C, two case-control studies showed that the level of this vitamin is lower

Conclusion: In general, the findings of the present study showed that there is an inverse and significant relationship between vitamin C intake and oral cancer, however, in order to confirm this protective effect, it is necessary to design more clinical trials in this field.

Keywords: oral cancer, vitamin C, ascorbic acid, systematic review

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Abstract 198: Investigating the use of artificial intelligence in the medical diagnostic laboratory during the coronavirus pandemic: A systematic review study

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Abstract

Introduction: In December-2019, the emergence of acute-respiratory-syndrome in China led to the global spread of the coronavirus and became an international-public-health-issue and affected people all over the world. The transmission power of the new-coronavirus and its wide spread has drawn the attention of experts to the use of artificial-intelligence to deal with this epidemic, control and crisis management. Artificial intelligence is a software that, in addition to analyzing-data, can make-decisions, it is actually an imitation of expert human-intelligence. During the corona virus epidemic, in addition to early diagnosis, the use of artificial intelligence in the laboratory can also be used for screening people and different communities due to good reproducibility. Artificial-intelligence is rapidly being developed and implemented throughout healthcare-systems, and as an essential-part of these-systems, laboratories will see significant growth in Artificial-intelligence-applications. This-study-aims to investigate the application of artificial-intelligence in the medical-diagnosis-laboratory during the corona-virus-epidemic.

Method & material: This study is a systematic-review-study that was conducted in-2023. Using the keywords of artificial intelligence, diagnostic laboratory, and coronavirus, were checked based-on-the-Mesh and it was done in reliable-databases including PubMed, Scopus, Web of Science and Google-scholar-search-engine without a time-limit. To ensure the completeness of the search-results, the sources of the articles were checked and after removing the duplicate-titles from the endnote-software and checking the titles and abstracts, the related articles were checked using JBi-tools, after checking the quality of the articles, the findings were entered into the desired checklist.

Result: A total of 2956-articles were reviewed and finally 132-articles were selected that were related to the purpose-of-the-study. The studies show that the strategies of using potential technologies will bring better-benefits and these information-technology-strategies can be used either to control the-epidemic or to support the community-confinement during the epidemic, which helps to control-the-spread-of-infection. Using artificial-intelligence in medical-laboratories can reduce-errors and save-time. The advantages of using artificial-intelligence in the covid-19-disease in the areas of rapid-identification and treatment, help in rapid-diagnosis, monitoring of treatment-stages, epidemiology and tracking of infected-areas, forecasting the pandemic-situation, managing the pharmaceutical-system, predicting and monitoring the spread of covid-19. Also, a high-potential for the use of artificial-intelligence in clinical and research-laboratories has been estimated. Another potential of using artificial-intelligence is in the field of predicting mutations that may occur in viruses in the future and cause new-symptoms and complications of the-disease.

Conclusion: The results show that the use of artificial-intelligence in medical-laboratories has accelerated the testing of coronavirus and reduced-errors, and clinical-laboratories will routinely use artificial-intelligence in-the-future.

Keywords: Artificial intelligence, medical diagnostic laboratories, coronavirus pandemic, systematic review

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Abstract 199: Investigation of electro-Fenton method for removal of antibiotic from polluted water

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Abstract

Introduction: Due to the increasing use of medical compounds, there has been an elevation in the amount of antibiotics entered in wastewater. The purpose of this research was to examine the efficiency of the electro-Fenton method in the elimination of antimicrobial tetracycline from polluted water.

Method & material: In this study, we have used the electro-Fenton method for creating an effective advanced oxidation process. A total of 30 experiments were performed using 6 replications at the central point. A 250 ml reactor was used to carry out all the experiments on a lab scale and two stainless steel anodes were carried out for this aim. To achieve an optimal amount of H2O2 for elimination of Oxytetracycline, different amounts of that were added and a certain amount of NaCl salt was added to improve the ionic process. In the first step, central composite design (CCD) was used for the electro-Fenton process setup. Several parameters such as pH, current density, and initial tetracycline concentration were examined.

Result: The results showed that optimum conditions for the removal of antibiotics were at pH (3.53), current density (3.85 mA / cm2), and initial tetracycline concentration (20 mg / L). The time of 42.35 min was obtained as the optimum time for the process. The results showed that with increasing the amount of hydrogen peroxide, the removal efficiency in the electro-Fenton process increases consequently. In this study, the optimal amount of H2O2 equal to 0.12 mg/L was obtained, and in this case, the oxytetracycline removal efficiency by the electro-Fenton process reached 98.2%.

Conclusion: electro-Fenton process has promised the ability to degradation of antibiotics from an aqueous solution since the high efficiency can show these remarkable results.

Keywords: Electro-Fenton method, antibiotic removal, polluted water

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Abstracts

Abstract 200: Is a high dose of vitamin D improve COVID-19 patients' outcomes: a systematic review

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Abstract

Introduction: Vitamin D is a fat-soluble vitamin which has pleiotropic effects on body such as modulating the immune system and suppressing cytokine storms. The severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) as a new strain Coronavirus causes coronavirus disease 2019 (COVID-19) which prominent manifestation is respiratory symptoms. There is a direct correlation between severity of disease and cytokine release syndrome. According to new released literature, Vitamin D deficiency (25(OH)D below 50 nmol/L) is independently associated with severe COVID-19 and increase infection. Also high dose vitamin D is known as a stimulant of immune system The aim of this study was to evaluate the effect of a high dose (20–80 IU/kg/day) of vitamin D on the COVID-19 recovery rate.

Method & material: We performed electronic searches in the following databases: PubMed, ISI Web of Science, Scopus, and Google scholar using relevant key words/terms from inception to September, 2022. The selection criteria were: Clinical trials on subjects administered high dose vitamin D for treating covid 19.

Result: Ten studies were identified as being RCTs that evaluated the high dose of vitamin D effects on mortality and recovery rates of patients with covid-19. According to results, high dose vitamin D administration had positive effect on recovery rate and improvement of patients. However, there was a controversy about the vitamin D effects on the length of hospitalization in compared to placebo. Also in studies reported vitamin D decreased serum inflammatory biomarkers, including interleukin 6 and CRP.

Conclusion: According to collecting data, the serum concentration of vitamin D is low in most patients with severe covid-19 so it leads to longer hospital length of stay compared with patients with higher vitamin D concentrations. This supplement is an available way to improve immune system and alleviate severity of disease in infected patients. In most studies, vitamin D improves clinical results and also improves the recovery rate, and reduces the length of hospital stay.

Keywords: COVID-19, high dose, recovery rate, vitamin D

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Trauma Monthly
Abstracts

Abstract 201: Is neck- to- height ratio associated with obesity-related indices in patients with NAFLD?

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Abstract

Introduction: Non-alcoholic fatty liver disease (NAFLD)- the most common chronic liver disrorder- is considered as the hepatic manifestation of metabolic disorders such as obesity. Due to the strong correlation between the severity of obesity and NAFLD, defining more accurate anthropometric indicators of obesity seems to be necessary. Behind the use of body mass index (BMI), nowadays, a number of indicators such as neck circumference (NC) as well as NC-to-height ratio (NHtR) are used as novel indices for the diagnosis of metabolic disease. Hence, we aimed to study the association between NHtR and obesity-related indices in patients with NAFLD.

Method & material: The proposal of this study was approved by IR.TBZMED.REC.1400.1099. This cross-sectional study included 175 participants (68 men and 107 women) aged 18-50 years and newly diagnosed with NAFLD (based on ultrasonography findings). NC was assessed to the nearest 0.1 cm with the head positioned along the Frankfurt plane, at mid-neck height, using a calibrated plastic tape. Waist circumference (WC), weight and height were measured and NHtR and BMI were calculated, respectively. After midnight fasting, biochemical markers including Triglyceride (TG), high-density lipoprotein cholesterol (HDL) and liver aminotransferases were assessed and obesity-related markers including, lipid accumulation products index (LAP), visceral adiposity index (VAI) and hepatic steatosis index (HSI) were calculated.

Result: Our results demonstrated a significant difference in NHtR between men and women (0.24 ± 0.02 for men and 0.23 ± 0.02 for women, respectively) (p=0.003), while, there were not any significant differences in obesity-related indices between two groups. Although, NHtR showed a non-significant negative correlation with VAI, it was positively correlated with LAP and HIS (r= 0.152, p=0.006 and r=0.311, p0.001, respectively).

Conclusion: It could be concluded that NHtR is associated with obesity- indices such as LAP and could be positively correlated with hepatic changes during NAFLD, through HSI. While, more studies are required to confirm these preliminary findings.

Keywords: Neck circumference, Obesity, Metabolic factors, Liver function, Non-alcoholic fatty liver disease (NAFLD)

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Trauma Monthly
Abstracts

Abstract 202: Is there a relationship between cerebral palsy and tobacco during pregnancy? A systematic review of pediatric health

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Abstract

Introduction: Background: Cerebral palsy (CP) is actually a group of permanent movement disorders in the nervous system that are caused by congenital anomalies or injuries to the brain in the early stages of development. The cause of this disorder is damage to the immature brain during development, often before birth. Today, smoking is a global problem, that evidence shows that pregnant women are also a part of the population of tobacco product users. The purpose of this article is to investigate the effect of maternal tobacco use on children with cerebral palsy.

Method & material: Method: This article was written according to PRISMA criteria from January 2018 to January 2022. After examining the four stages of PRISMA criteria identification, screening, eligibility and inclusion, we selected clinical trial articles. These articles were selected from Pubmed, Scopus and Google scholar (for results follow-up) databases and 39 articles were studied and 5 of them were used in this article. The words we searched in these databases include: • Cerebral palsy • Prenatal Tobacco/smoking • Neurological disorders The selection of articles was based on the answer to the research question based on the PICO criteria.

Result: Results: 5 articles were selected after the study by two of the authors. The statistical population of 1,200 with 71% statistics for children with neurological disorders up to ten years old whose mother's used tobacco was attacked by an article with the statistical population of 1,826 children that stated Tobacco consumption is not associated with neurological disorders in children. A study with a population of 242,342 births, finally, the statistics of 5.3% of the cause of neurological disorders with the cause of tobacco made this comparison weightier towards the role of tobacco damage. Among the total of 488 CP children population, 52% of mothers were tobacco users, of which 75% were exposed mothers and 25% were direct users, compared to 48% attributed to other causes.

Conclusion: Conclusion: A high statistical population shows the damage of tobacco during pregnancy, which includes other neurological disorders in addition to CP. As an important health indicator for our society, we suggest that mothers avoid exposure to tobacco during pregnancy, either directly or indirectly. We suggest that more studies be done in this field and identify more disorders of the nervous system that are related to maternal tobacco.

Keywords: Cerebral palsy, tobacco use, pregnancy, pediatric health, systematic review

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Trauma Monthly
Abstracts

Abstract 203: Joint regeneration in rheumatoid arthritis through immune-like hormones: a systematic study of myostatin

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Abstract

Introduction: Myostatin is a pseudo-hormone whose increase in the elderly causes sarcopenia and its decrease causes muscle bulking. Recently, the whisper of its effect on other organs such as bones is also seen in studies. Aim In this review, we intend to investigate the relationship of this hormone in rheumatoid arthritis and answer the following research question based on the PICO (patient/population, intervention, comparison and outcomes) criteria. Can myostatin inhibition be effective in regenerating joints in rheumatoid arthritis

Method & material: All the articles from 2018-2022 were extracted from Web of Science, PubMed and Scopus databases. The results were analyzed in the Cochrane database. A non-meta-analysis and comprehensive systematic review was written based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria and the principle of non-bias was respected. keywords base on Mesh base was: o Myostatin o Rheumatoid arthritis o Myostatin and Rheumatoid arthritis

Result: The results show that myostatin plays a significant role in bone and joint reconstruction. Patients with RA show higher levels of serum myostatin compared to healthy individuals. Myostatin may increase TNF-α expression through intracellular signaling pathways for synovial fibroblasts in human RA. Myostatin is responsible for preventing bone recovery and is not limited to bones alone. In RA patients, joint mobility can be effectively restored through bone regeneration, while myostatin-induced cachexia and sarcopenia can limit muscle function.

Conclusion: Myostatin is important for skeletal muscle health in addition to bone health in RA. In rehabilitation, controlling myostatin should be considered to support joint regeneration and movement. Concentration on inflammatory pathways should also include myostatin, which may encourage us to prioritize controlling this substance in RA.

Keywords: Joint regeneration, rheumatoid arthritis, immune-like hormones, myostatin, systematic study

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Abstract 204: Lessons learned by Babol pre-hospital emergency organization during the Covid-19 outbreak

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Abstract

Introduction: The emergence of Covid-19 and the experience of any organization in facing it can be effective in crisis management, control and prevention of other emerging diseases in the future. Therefore, this study aims to explain the lessons learned by the Babol pre-hospital emergency organization in this regard.

Method & material: This descriptive-qualitative study was conducted with content analysis and purposeful sampling in the Babol pre-hospital emergency organization. During an oral interview with the officials of various parts involved in the management of Corona including the head of the organization, the technical and operations deputy, the person in charge of medicine and equipment, education and research, passive Defense, infection control, supervisors of operational bases, information listed and were divided into two categories and six sub-categories.

Result: The obtained information was divided into software and hardware measures categories. The hardware category was divided into four sub-categories (corona clothing, clothing sizing, personal protection kit, transportation) and the software category was divided into two sub-categories (infection control protocol in dealing with COVID-19, infection control workshop). The supply of washable and temperature-resistant clothing is the prominent action of this center, the fabric of this clothing was sewn in three sizes according to statistics according to the different sizes of the personnel.

Conclusion: reducing costs by using reusable devices, creating creativity and initiative within the organization can be helpful in dealing with emerging diseases and getting out of the crisis. Therefore, this lesson learned can be used before the emergence of other new diseases.

Keywords: COVID-19, emergency medical service, Iran

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Abstract 205: Lung cavity lesions, a rare complication with important consequences in patients with covid-19

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Abstract

Introduction: COVID-19 was appear in China at the end of 2019 and quickly spread to become a global pandemic in 2020. Risk factors for this disease include being male, being over 56 years old, and having underlying conditions such as diabetes, heart disease, and respiratory illness. COVID-19 symptoms and lung lesions are vary significantly from a person to another person. chest computerized tomography (CT) examination is very important in managing and Recognition of the lesions of COVID-19 patients. Cavitary lesions are unusual but important findings recorded in COVID-19 patients CT-scan. Cavitary lesions have been seen more frequently in non-infectious diseases such as malignancies and rheumatologic diseases (such as granulomatosis and Wegener's disease) as well as infectious diseases such as various bacterial causes. Our aim is to investigate the final consequences of cavitary lesions in the management of COVID-19 patients.

Method & material: This study is a retrospective cohort study that was conducted from March 2021 to February 2022 at Baqiyatallah Hospital in Tehran - Iran. According to the formula of comparing two sample sizes equal to 100 patients in each group, the patients were selected based on the CT scan report of the lungs at the Radiology Center of Baqiyatallah Hospital. Patients who tested positive for PCR were considered COVID-19 cases, and those with cavitary lesions were selected as the exposed group. An equal number of COVID-19 patients without cavitary lesions were selected as the unexposed group. The final outcomes of these two groups were extracted from patient files and analyzed. It should be noted that the selection of both groups will be done in a way that important confounding variables such as age and gender are similar or homogeneous

Result: The mean age of the participants was 54.13 ± 16.58 years, and the median hospital stay was 5.9 days. There was significant differences between two groups with and without Cavitary lesions in terms of age, gender, and history of receiving the COVID-19 vaccine (p 0.001). Actemra and remdesivir were more prescribed in the group of patients that have cavitary lesions, but dexamethasone was more used in the unexposed group. Moreover, the length of ICU stay was longer in the cavitary lesions group than the unexposed group.

Conclusion: The results obtained indicate that patients with cavitated lesions have experienced a greater disease progression, and there was a significant difference in terms of the recovery process compared to the group without lesions. Patients with lesions require a longer treatment duration and have poor prognosis.

Keywords: Lung cavity lesions, rare complications, covid-19

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Abstracts

Abstract 206: Virus-Like Particles (Vlps) from Synthesis to Targeted Drug Delivery, Vaccine Approaches, and Gene Therapy

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Abstract

Introduction: VLPs are made when the proteins from a virus form by themselves. VLPs look and act like real viruses, but they don't have any viral DNA. When proteins of a virus stick together, they can form structures called VLPs. These structures often have a repeated shape like a sphere or a rod. Scientists can also add special molecules to the VLPs to help them find and kill cancer cells while bringing other cells to help.

Method & material: VLPs are being used to deliver drugs to tumors for cancer treatment. Making sure the drugs get to the tumors is the main goal of VLP design. In cancer treatment, we need to aim the diagnosis or medicine at only the cancer cells and not harm any healthy cells or tissues. VLPs are a new way to give medicine to a certain area of the body, which helps to lower the chance of hurting healthy cells. Immunotherapy helps the body's immune system and is less likely to cause bad effects. Cancer vaccines help our body fight against cancer cells by making our immune system stronger

Result: There are several challenges when it comes to creating, cleaning, and keeping eVLP vaccines. We need to figure out how long the vaccine stays effective, and make sure it lasts a long time. This is very important. Multimeric VLP vaccines are more stable than subunit vaccines, but they can become unstable if the environment changes, especially after further treatment. This is because they don't have a viral genome. The virus-like particles that have a cover made from the host are easily affected by the environment compared to the ones that only have proteins

Conclusion: VLPs have special qualities that make them good for making vaccines and delivering medicine directly to where it's needed. VLPs can be taken apart and put back together or join up on their own. This makes them useful for putting drugs inside or targeting specific areas. VLPs can also safely trigger the body's immune system without causing harm. This means they can be used as medicine without worrying about side effects. Moreover, using VLP-focused ways to deliver cancer treatment may make it stronger and safer, resulting in fewer negative effects

Keywords: : Virus-Like Particles (VLPs), drug delivery, vaccine approaches, gene therapy

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Trauma Monthly
Abstracts

Abstract 207: Microbiome biomarkers of colorectal cancer: a systematic review

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Abstract

Introduction: Colorectal cancer is one of the most common types of cancer worldwide and occurs mostly in individuals over 50 years old. This type of cancer is associated with changes in the behavior and activity of the gut microbiome. Studies have shown that some bacteria and products of the microbiome can be used as microbiome biomarkers in the diagnosis and prevention of CRC. In this article, a systematic review method will be used to examine and evaluate studies conducted on microbiome biomarkers in colorectal cancer. By reviewing these studies, effective microbiome biomarkers for the diagnosis, prediction, and prevention of CRC will be identified and results will be reported.

Method & material: This study is a systematic review, and its articles were obtained by using the keywords "microbiome," "cancer," "colorectal cancer," and "biomarker" in the PubMed, Scopus, Web of Science, and Google Scholar databases. In this stage, the titles and abstracts of the articles were reviewed to remove irrelevant ones. Of the 756 articles found, 103 articles were fully reviewed. 10 observational studies that included cohort and case-control studies were selected. The evaluation of the studies was also performed using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist.

Result: More than half of the ten microbiome studies were using fecal samples and some intestinal tissue. Two studies focused on the oral microbiome. 16s RNA sequencing and qPCR were used to examine differences in the microbiome between CRC and control groups. Fusobacterium, Bacteroides fragilis, Prevotella, P.micRa, P.stomatis, and Streptococcus have a strong correlation with colorectal cancer. Lactobacillus spp can help prevent this type of cancer. These bacteria can be used as candidate biomarkers for CRC, especially Fusobacterium. In addition, one study showed that Lactobacillus spp. can be effective in preventing colorectal cancer.

Conclusion: Studies have shown that the gut microbiome plays an important role in the evolution and progression of this type of cancer, and microbiome biomarkers can be used as inherent molecular indicators in the diagnosis, prediction, and prevention of this type of cancer. Some microbiome biomarkers include bacteria, metabolic products, and functional microbiomes. The results of studies have shown that some bacteria such as Fusobacterium nucleatum and Enterococcus faecalis, and metabolic products such as aspartate and taurocholate, can be used as effective microbiome biomarkers in the diagnosis and prevention of CRC. Therefore, identifying microbiome biomarkers can be used as a non-invasive and effective method in the diagnosis and prevention of colorectal cancer.

Keywords: Microbiome biomarkers, colorectal cancer

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Abstracts

Abstract 208: Nanotechnology in stem cells imaging: An In-Vitro systematic review

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Abstract

Introduction: Although stem cells hold great potential for the treatment of many injuries and diseases, several obstacles must be overcome before their therapeutic application can be realized. These include the development of advanced techniques to understand and control novel methods to track and guide stem cells. The application of nanotechnology to stem cell biology would be able to address those challenges and have shown great promise for application in regenerative medicine.how in vivo molecular imaging has helped identify barriers to clinical translation and potential strategies that may contribute to successful transplantation and improved outcomes.We attempted in this systematic review to collect data, analyze them, and report results on the effect of nanomaterials on neuronal differentiation of embryonic stem cells.We attempted in this systematic review to collect data, analyze them, and report results on the nanotechnology in stem cells imaging.

Method & material: International databases like PubMed, Scopus and ISI Web of Science were searched for available articles on the nanotechnology in stem cells imaging. (up to March 2023). After that, screening (by title, abstract, and full text), selection, and data extraction were performed. Also, the quality assessment was conducted based on the STROBE checklist.

Result: In total, 6332 articles were identified and assessed, and then only 40 articles were found eligible to be included. 38 studies used nanoparticles, 1 used nanoplate and 1 used nanolayer. 1 studies reported the negative effect of nanomaterials on cell viability.

Conclusion: stem cells imaging is crucial in regenerative medicine. Nanomaterials with different characteristics, particularly those Contrast agent, Cell-labeling efficiency and non-cytotoxic, have much potential in Cell tracking. These findings indicate a new understanding of cell labeling and the ability to track or image cells.

Keywords: Nanotechnology- Stem Cell- Cell Imaging

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Abstract 209: Non-pharmacological methods for reducing labor pain: A systematic review and meta-analysis

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Abstract

Introduction: Given that childbirth is a natural process, the use of non-pharmacological methods to reduce labor pain can help women cope with labor pains naturally. Despite the advancement of technology and access to powerful drugs, the use of non-pharmacological methods for reducing labor pain is still under discussion and investigation. Therefore, many researchers in the field of women's health are working to investigate these methods and obtain new results in this regard. In this article, we will conduct a systematic and meta-analysis review of non-pharmacological methods for reducing labor pain.

Method & material: In this systematic review and meta-analysis, sources such as PubMed, Scopus, Web of Science, Google Scholar, Embase, and Cochrane were systematically searched. To find research articles, keywords such as "pain labor", "non-medicinal", "complementary therapies", and "clinical trial" were used, and Persian databases were also searched. The CONSORT checklist was used to evaluate the quality of the retrieved articles. After screening based on inclusion and exclusion criteria, ultimately 13 clinical trials were included in our study.

Result: The studies were conducted in 8 different countries and therapeutic methods such as herbal medicine, aroma therapy, acupuncture, distraction, electrical stimulation, massage therapy, reflexology, and touch therapy were used in the studies. Out of 13 studies included in the systematic review, 9 studies were included in the meta-analysis based on the extracted data status, and only three articles underwent a systematic review. According to the analysis, there was a significant difference between the groups that had used non-pharmacological pain reduction methods and the control groups (SDOM=-1.514, CI=-1.237 to -1.729, p0.001). Additionally, combined use of acupuncture with massage therapy resulted in the greatest reduction in labor pain among the non-pharmacological methods that were studied (SDOM=-2.407, CI=-1.742 to -3.072, p0.001).

Conclusion: Based on the available studies and the conducted systematic review and meta-analysis, methods such as massage, aromatherapy, acupuncture, distraction, electrical stimulation, therapeutic massage, reflexology,and touch therapy can be effective in reducing labor pain. Additionally, a combination of these methods can simultaneously help mothers reduce labor pain more effectively than using each method individually. However, to ensure these results are accurate and reliable, it is better to conduct further research in this field.

Keywords: Non-pharmacological methods, labor pain reduction

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Abstracts

Abstract 210: Novel Anti-inflammation Marine-Sourced Compounds; Results of an In-silico Study through Virtual Screening

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Abstract

Introduction: There is no denying that inflammation triggers essential immune reactions, which can lead to serious health complications. During the inflammatory response, tumor necrosis factor-α(TNF-α) and Cyclooxigenase-2(COX-2) are produced as essential inflammatory markers. Current treatments like NSAIDs and anti-TNF-α medications have severe side effects. Potential anti-inflammatory agents are found in marine algae extracts. This study explored COX-2 and TNF-α inhibitory potential of marine algae products using virtual screening.

Method & material: Marine algae products were extracted using the Dictionary of Marine Natural Products(MNP). Chemical structures were obtained from PubChem and ChemDraw, and optimized through molecular operating environment(MOE) software. Structures were converted to 3-dimensional structures, optimized by MOE, and filtered with the 5-lipinsky rule(RO5). X-ray crystal structures of TNF-α and COX-2 were obtained from the Protein Data Bank(PDB ID: 2AZ5 and 6COX,respectively) and prepared by MOE. All preparations were evaluated using Autodock-vina version4.2.

Result: In virtual screening, 1107 compounds met the RO5 criteria based on a library of 3085 ligands from marine algae products. The top 3 highest affinities to TNF-α were communesin-A, costatolide, and caulersin. For COX-2, Caulersin, Chondriamide-B, and Chondriamide-A were the top three compounds. Communesin-A from green algae had a pi-pi stacking and pi-alkyl interaction with TNF-α with TYR119 and epoxide(-7.7Kcal/mol). Costatolide, a component of red algae, had -7.5 Kcal/mol affinity energy due to the pi-pi stacking interaction from pyran rings to TNF-α. Cualersin, from green algae, had strong COX-2 inhibitory activity(-10.6Kcal/mol). It has several interactions with COX-2, including pie-alkyl, pi-sigma, pi-cation, and hydrogen bonding interactions. It also interacts with TNF-α through pi-pi stacking, pi-cation, and hydrogen bonds(-7.4kcal/mol). Chondriamide-B is obtained from red algae interacting with COX-2 target protein having the highest affinity due to the Pi-alkyl interaction and hydrogen bond (binding energy:-9.3Kcal/mol). Chondriamide-A is secreted from red algae and interacts

Conclusion: In this study, the potential of marine algae derivatives as ligands to target TNF-α and COX-2 is investigated. Among the studied compounds, communesin-A, costatolide, and caulersin display a high affinity for TNF-α, suggesting their potential as effective inhibitors. Additionally, caulersin, chondriamide-B, and chondriamide-A showed the highest affinity for COX-2, indicating their potential as selective inhibitors of this enzyme. These findings highlight the significance of marine algae derivatives as promising candidates for developing targeted therapeutics against TNF-α and COX-2. Further research and optimization of these compounds could pave the way for novel and effective treatments for inflammatory disorders and related diseases.

Keywords: Novel Anti-inflammation, Marine-Sourced Compounds, in-silico study, virtual screening

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Trauma Monthly
Abstracts

Abstract 211: Nurses' professional commitment in COVID-19 crisis: A qualitative study

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Abstract

Introduction: Professional commitment is an important factor in employee performance. The outbreak of covid-19 has severely affected the working conditions of nurses. Several factors can affect the professional commitment of nurses in this situation. Therefore, this study was conducted with the aim of discovering the experiences, attitudes, views and perceptions of nurses' lives regarding professional commitment and factors affecting it in the Covid-19 crisis.

Method & material: This qualitative study was conducted using the content analysis method in 1400. 25 nurses working in the Covid-19 wards were interviewed using semi-structured in-depth interviews. The criterion for entering the study was employment for at least 3 months in the Covid-19 departments. Sampling was done by purposive sampling method. The interview was conducted in the nurses' rest room and on average, each interview took between 60 and 100 minutes. Conventional content analysis was used to analyze the data.

Result: After analyzing the interviews, 5 main themes of the interviews were identified: "participatory empathic commitment (including 4 sub-themes)", "loyal commitment (including 5 sub-themes)", "selfless commitment (including 5 sub-themes)" , "Commitment with doubt and concern (including sub-theme 5)" and "Human commitment (including sub-theme 6)".According to the statements of the majority of nurses, "saving more people's lives" was identified as the most important concept of professional commitment in caring for patients with Covid-19.

Conclusion: The results of this study showed that the Covid-19 crisis has caused major changes in the working conditions of nurses. These changes have also affected the concept of professional nursing commitment and revealed new concepts; Therefore, it is recommended to identify internal and external factors that can increase nurses' commitment to the nursing profession in critical situations.

Keywords: nurses, professional commitment, Covid-19, crisis, content analysis

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Trauma Monthly
Abstracts

Abstract 212: Pathogenic and health effects of methyl tertiary butyl ether (gasoline additive): a systematic review

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Abstract

Introduction: Methyl Tertiary Butyl Ether is a chemical compound added to gasoline that is used in unleaded gasoline in many countries of the world today. This substance enters the environment in different ways due to production, transportation, maintenance, application and use. This compound has a high solubility in water and a low tendency to absorb and remain in the soil, so it is easily displaced by dissolving in water and causes surface and underground water pollution. In general, the problems caused by this substance in water include low taste and smell threshold , rapid penetration into underground water sources, problems of removal, purification and health risks. Also, this compound has been classified by IARC as (probably carcinogenic to humans) in group C of carcinogenic compounds.

Method & material: In this study, all the articles available in internal and external databases such as PubMed, Scopus, Web of Science, Irandoc, IranMedex, World Health Organization scientific information database, science direct, Google Scholar and SID were examined. To search, the key words methyl tertiary butyl ether, surface and underground waters were used. Finally, among the articles found from the sources, the articles that matched the topic were included in the study. In the final step, the quality of extracted articles was evaluated according to the type of study using PRISMA checklists.

Result: Due to the effects of MTBE in many countries where this substance is used, environmental monitoring and determination of the concentration of this compound in air, soil, and water are done. These tests are important in order to control and prevent the entry of these compounds into the environment, especially in water environments. Therefore, considering the very high volume of gasoline consumption in our dear country, it is necessary to take similar measures to monitor and control these compounds.

Conclusion: Available documents and evidence indicate that MTBE is not a nontoxic compound. Many in vivo and in vitro studies in mammals and non-mammalians have been conducted to elucidate the mutagenic properties of MTBE. Except for one case, all these studies have had negative results. A case study that has a positive result may be related to the formation of formaldehyde as a result of microsomal metabolism. These studies show that MTBE's mechanism of action is most likely non-genotoxic. In addition to economic benefits, this will prevent environmental pollution, especially air and water pollution. It can help in this regard.

Keywords: Methyl tertiary butyl ether, gasoline additive, health effects, systematic review

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Trauma Monthly
Abstracts

Abstract 213: Using tripod beta technique considering the economic approach for the analysis of accidents in the automotive industry

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Abstract

Introduction: In order to prevent repeated incidents, root causes and corrective measures should be announced in a systematic way. Due to the use of many machines, large manpower, different work shifts and the pressure to produce more cars, the automobile industry is considered one of the important centers of occupational accidents. The main focus of this research is on the tripod beta technique, and the second objective of the study is to examine the relationship between the physical factors of the work environment and the occurrence of accidents in the automobile industry.

Method & material: The accidents that occurred during the years 1390 to 1398 of one of the automotive industries and the evaluation data of harmful physical factors were investigated. Incident information was collected through documentation of incidents in recent years. Then sound, lighting and thermal stress were selected as physical factors related to incidents for analysis and analyzed using the tripod beta technique. Finally, the costs related to the occurrence of accidents were evaluated by the method of calculating the cost of lost working days to check the economic approach.

Result: Tripod beta results showed that about 50.18 percent of accidents in the automobile industry are due to defects in the provision of proper equipment, training and proper implementation methods. Provision of suitable equipment (25.7%), training (24.48%) and inappropriate implementation method (21.6%) are the reasons for accidents in the second to fourth place respectively. Also, the results showed that the noise and atmospheric conditions of the work environment had a statistically significant relationship with the occurrence of accidents. But the lighting did not show a significant relationship with the occurrence of accidents. The economic analysis of incidents using lost working days showed that a total of 7,206,705 Tomans were imposed on the company as a result of the investigated incidents.

Conclusion: The results showed that in the automobile industry, lack of training, non-standard designs and improper maintenance were among the most important reasons for the occurrence of accidents in this industry. By identifying the root causes of the accident, tripod beta technique is introduced as a suitable technique for analyzing accidents in the automobile industry. Also, the results showed that the incidents occurring in this industry impose a lot of direct and indirect costs on the company, and if the company tries to solve these root causes, it can effectively use cost-benefit techniques. Reduce excess costs imposed.

Keywords: Tripod beta technique, economic approach, accident analysis, automotive industry

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Trauma Monthly
Abstracts

Abstract 214: Policy strategies to control the conflict of interest caused by dual employment of doctors: a review study

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Abstract

Introduction: Conflict of interests is one of the roots of corruption, which can be seen in various forms and examples in the health system. Employees having two jobs is one of the common types of conflict of interest, which is considered as a significant challenge by managers and policy makers of the health system. Doctors having two jobs is a situation in which a doctor has more than one job at the same time inside or outside (private sector) of the public sector. The purpose of this study is to review the studies on dual employment in the health system and provide solutions to control the conflict of interests caused by the secondary employment of doctors in the private sector according to the conditions of the country

Method & material: Searching for sources in reliable domestic and foreign databases in the period from 2000 to 2022 using the keywords "multiple job", "dual practice", "health professional", "policy options" in PUBMED databases. Web of Science Cochrane, SID, MagIran, Civilica were done. After a three-stage screening based on the inclusion and exclusion criteria on the results, a total of 12 studies were included in the study to provide policy recommendations, which were examined by the qualitative content analysis method.

Result: In general, management policies and strategies controlling the conflict of interests caused by dual employment in the health system are divided into two main groups of soft and hard policies. Soft policies include applying financial restrictions, limiting activity time and issuing private activity licenses, creating non-financial incentives and self-regulation of doctors. Hard strategies also include a complete ban on two jobs. Also, in the reviewed studies, most of the recommendations are related to creating non-financial incentives.

Conclusion: The studies showed that the use of strict policies in the first stage may be faced with lawlessness and resistance of doctors and fuel corruption in the health system. Therefore, it is recommended that the process of interventions with appropriate time targeting gradually leans from soft policies to stricter policies. It is suggested that the effectiveness of these policies be measured first, before deciding to implement them in the pilot areas, taking into account implementation considerations.

Keywords: Conflict of interest, dual practice, multiple job, physician, policy options

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Trauma Monthly
Abstracts

Abstract 215: Using Dextran Stabilized Nanodroplets As A Novel Ultrasound Drug Delivery System for Cancer Therapy

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Abstract

Introduction: Dextran drug delivery systems involve the use of the natural glucose polymer dextran in applications as a prodrug, nanoparticle, microsphere, micelle, and hydrogel drug carrier in the field of targeted and controlled drug delivery. Dextran as a drug carrier plays an important role in targeted administration and controlled release. It reduces the toxic side effects of the original drug on the organism, and enriches the active drug around the targeted tissue. The effect of processing parameters such as homogenization speed, polymer dextran-concentration and surfactant con-centration variables on particle size, entrapment efficiency, and drug release kinetics of DOX-loaded dextran stabilized perfluorohexane NDs were also investigated. This study aimed to synthesize and characterize the Dox-loaded perfluorohexane nanomicelles using ultrasound irradiation in vitro.

Method & material: Sodium Dextran, perfluorohexane, Lecithin soya, Phosphate buffered saline (PBS), and Dox Hydrochloride were prepared and used. Ultrasound was generated via sonicator. Dox-loaded nanomicelles were synthesized by nano-emulsion process . Morphology of NDs was studied by transmission electron microscopy (TEM) . UV–vis spectroscopy was used for investigation of drug release and entrapment. polydispersity index and size distribution were characterized by dynamic light scattering. In order to optimize the nanoparticles formulation regarding the entrap-ment, release kinetic and drug size, the process variables of homogenization speed, amount of surfactant, polymer and drug were calculated. The polydispersity index and average particle size distribution of NDs were investigated by Dynamic Light scattering (DLS) .

Result: Additionally, inclusion of a co-surfactant can lead to smaller NDs and control of DOX release kinetics. Finally, it was found that the formulation of C3 sample with 47.2 nm diameter size and 80% entrapment efficiency, showed the best properties. Cytotoxicity results also showed that 28 kHz frequency of ultrasonic lead to more biocompatibility of DOX-loaded nanodroplets.

Conclusion: The multifunctional dextran stabilized nanodroplets were synthesized. According to the results, the main characteristics of nanodroplets such as particle size, entrapment efficiency, and in vitro drug release kinetics, would change by the process and formulation variables; thus the desired characteristics could be obtained by altering these variables. Additionally, inclusion of a co-surfactant can lead to smaller NDs and control of DOX release kinetics. Finally, it was found that the formulation of C3 sample with 47.2 nm diameter size and 80% entrapment efficiency, showed the best properties. Cytotoxicity results also showed that 28 kHz frequency of ultrasonic lead to more biocompatibility of DOX-loaded nanodroplets

Keywords: Dextran Stabilized Nanodroplets, ultrasound drug delivery, cancer therapy

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Trauma Monthly
Abstracts

Abstract 216: Preparation and Intestinal permeability studies on Valsartan Nano-emulsions and Solid Lipid Nanoparticles

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Abstract

Introduction: Cardiovascular diseases are one of the leading causes of death in different parts of the world. Hypertension, sometimes called arterial hypertension, is a chronic condition in which the blood pressure in the arteries rises. Angiotensin Ⅱ receptor blockers are mainly used for treatment of CVD. Valsartan is a class Ⅲ ARB drug for reducing BP. In this study, single-pass intestinal perfusion (SPIP) technique was used for investigating the intestinal permeability of Valsartan. The aim of this study was to increase intestinal permeability of valsartan loaded in Nano-emulsions and solid Lipid Nanoparticles.

Method & material: SPIP was performed in isolated jejunal segments at three Formulation of Valsartan (PEGylated SLN, Non-PEGylated SLN, and Nanoemulsion) to compare intestinal permeability changes against of simple solution of Valsartan. Phenol red was used as a non-absorbable marker. Stability studies were conducted to ensure that the loss of Valsartan could be attributed to intestinal absorption. Outlet samples were analyzed using the developed HPLC method and effective permeability values were calculated by respected formula.

Result: The effective permeability value of Valsartan simple solution in the jejunum was 4.129×10^(-3). Also, the effective permeability values of PEGylated and Non- PEGylated SLNs and Valsartan Nano emulsion were found to be 1.7119×10^(-2) , 1.442×10^(-2), and 1.299×10^(-2) cm/sec. The use of nanoparticle formulations led to a significant increase in intestinal permeability of Valsartan.

Conclusion: In conclusion, Valsartan can be absorbed only 23% in the intestine. The high aqueous solubility of Valsartan might be a crucial factor for its poor oral bioavailability. New techniques have shown that the use of nanoparticles like SLNs and nanoemulsions can dramatically increase intestinal permeability.

Keywords: Preparation and studies, Valsartan Nano-emulsions, Solid Lipid Nanoparticles, intestinal permeability

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Trauma Monthly
Abstracts

Abstract 217: Preparation and optimization of Mupircoin nanosuspensions by the use of Box-Behnken design and utilizing it in forming nanofibers

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Abstract

Introduction: This study attempted to develop nanofibers Containing a topical antibiotic, mupirocin(MP), as an alternative wound-healing material for infectious wounds. The optimized nanosuspension for forming nanofibers was needed first. Different polymers were utilized in this study and the impact of formulation and process parameters On zeta potential and particle size were examined.

Method & material: Different polymers such as sodium lauryl sulfate (SLS), carboxymethyl cellulose (CMC), Tween20, Tween 80, Polyvinylpyrrolidone (PVP), Polyvinyl alcohol(PVA), Hydroxypropyl methylcellulose(HPMC) were utilized and then Mupirocin dissolved in acetone was added while homogenized and then particle size and zeta potential of each solution was examined, afterward the 3 best polymers according to their size and zeta potential were chosen and nanosuspensions with different concentrations of polymers were prepared, Subsequently by the use of experimental design optimized concentrations were made and the best formulation was chosen for nanofibers formation.

Result: 1% solutions of 7 polymers were used with adding 40mg mupirocin to each solution causing nanosuspensions and the 3 best suspensions in terms of particle size and zeta potential were PVP, SLS, and Tween 80. 4 Different concentrations of each of these polymers(0/5,1,2,4%) were made and by adding mupirocin to each solution and use of homogenizer nanosuspensions were prepared. By the use of Experimental design, 17 samples were made accordingly and the optimized solution was chosen.

Conclusion: PVP, SLS, and Tween 80 were considered the best polymers by the size and zeta potential observed and by the use of box Behnken model using experimental design software this combination seemed to be the best one: SLS 0.5%, Tween 80 1.34% and PVP 1.93%. This combination with the optimized size of particles was utilized for forming nanofibers.

Keywords: mupirocin, nanofibers, electrospinning, wound dressing, nanosuspension

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Trauma Monthly
Abstracts

Abstract 218: Preparation of atorvastatin pellets and evaluation of their physicochemical properties

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Abstract

Introduction: Pellets are considered as one of the ideal forms of medicine that have advantages over single form. Including Pellets have high dosage loading capability, have a uniform particle size, are uniformly distributed in the gastrointestinal tract, reduce gastrointestinal stimulation, reduce the risk of a single release of the active substance, produce a steady blood level, and decrease the plasma concentration fluctuations. Atorvastatin is a group of statin drugs. Considering that atorvastatin has a low water solubility and high digestive absorption, it is classified as class II drugs. As a result, the bioavailability of this drug is influenced by its low solubility of the drug (12%). The purpose of this study was to provide rapid-release atorvastatin pellets and evaluate their physicochemical properties.

Method & material: The rapid-release pellets of this drug were prepared using the Extrusion-Spheronization method. These pellets were prepared using materials such as Avicel, Povidone, Calcium Carbonate, Croscarmellose Sodium, and Myrj52. The particle size of pellets, density, drug content, process efficiency, and disintegration time for all formulations was investigated. Drug release was evaluated from all formulations prepared with the USP II dissolution device. The concentration of atorvastatin calcium in the samples was determined using a UV spectrophotometer at a wavelength of 244 nm. The effect of different disintegrants and surfactants on the preparation of formulations was investigated using data from drug release.

Result: The resulting pellets in all formulations had features such as the distribution of narrow particle size, spherical and uniform shape, Bulk density and tape density equals, and drug content above 95%. Formulation No.8 had a faster release than other formulations and commercial tablets available on the market.

Conclusion: Using the Extrusion-Spheronization method and Croscarmellose Sodium and Myrj52, we managed to produce fast-release atorvastatin pellets that were faster than commercially available tablets in the market.

Keywords: Preparation, atorvastatin pellets, physicochemical properties

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Trauma Monthly
Abstracts

Abstract 219: Preparation of the aprepitant-loaded self – nanoemulsion for intestinal permeability studies

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Abstract

Introduction: Aprepitant is an NkI inhibitor used in the prevention and treatment of chemotherapy-induced nausea and vomiting and is a class BCS Il drug. This drug is almost insoluble in water and has low bioavailability. Aim: The aim of this study was to compare the intestinal permeability of aprepitant- loaded self-nanoemulsifying drug delivery system compared with the free drug. The self-nanoemulsifying drug delivery system is a lipid-based drug delivery system that consists of natural or synthetic oils, surfactant and co-solvent, and after oral administration upon contact with gastrointestinal fluids, the aforementioned formulation begins to emulsify spontaneously and form a micro or nanoemulsion. In addition to increasing drug solubility, self-nanoemulsifying drug delivery systems also increase the intestinal permeability of different types of drugs.

Method & material: In this study, self-nanoemulsifying drug delivery system was prepared by experimental design using oicie acid (ail), Tween SO (surfactant) and transcutol P (co-solvent) as the formulation excipients. SPIP method was used to measure intestinal permeability. Intestinal perfusion method in small laboratory animals, especially rats, in a best way imitates absorption in the body in animals. Unlike the in-vitro methods, in this method, the absorption barriers on the way of the drug until it reaches the hepatic blood flow are the same as the conditions inside the body. which increases its reliability. In this method, after cannulation of rat intestinal jejunum, the drug entered the intestine at a constant speed and by comparing the corrected concentration of the output to the input concentration of the drug, the intestinal permeability (Per) was calculated.

Result: The intestinal permeability of free aprepitant and aprepitant-loaded self. nanoemulsifying drug delivery system were obtained as (74.46 ÷ 26.45)× 104 and (175.71 + 46.36) × 10 ~ cm/min, respectively.

Conclusion: The intestinal permeability of aprepitant is significantly increased follow using the self-nanoemulsifying drug delivery system.

Keywords: Aprepitant-loaded self-nanoemulsion, intestinal permeability studies

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Abstracts

Abstract 220: Prevalence of depression, anxiety and post-traumatic stress disorder in parents of children with congenital heart disease

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Abstract

Introduction: Parents of children with congenital heart defects (PCCHDs) are at high risk of mental damage. Delay in identifying these damages in parents can increase the burden of the disease And the complications caused by it, And on the other hand, mental health problems of parents can lead to long-term cognitive problems in children. Therefore, a systematic review of studies related to this topic can help to identify effective interventions to care for the PCCHDs. Objective: To investigate the prevalence of depression, anxiety and post-traumatic stress disorder in PCCHDs

Method & material: This study is a systematic review of studies that investigated the prevalence of depression, anxiety and post-traumatic stress disorder in PCCHDs and were published from January 1997 to June 2023. To review the conducted research, search information banks and search engines (SID, Magiran, PubMed, Scopus, Google Scholar) with keywords depression, anxiety, parent, children, congenital heart disease, PTSD and their Persian equivalents were done separately. To create more thematic connection, the advanced search method was also used in combination. Finally, 596 related studies were obtained, of which 25 articles were selected. Eligibility criteria include: 1- Primary studies 2- Published in any date before June 1, 2023. 3- Include a sample of parents with a child with a congenital heart disorder that requires heart surgery.

Result: Mental injuries such as anxiety, depression, and post-traumatic stress disorder have a high prevalence in PCCHDs. According to studies, the prevalence of PTSD varies from 13.5% to 85% with an average of 45%. There is no significant difference in the prevalence of PTSD between mothers and fathers of children with congenital heart disease. The prevalence of depression varies from 20% to 46% with an average of 33.5%. Higher severity of CHD leads to higher depression scores. The probability of depression in CCHD mothers 6 months after delivery is 2.5 times. The prevalence of anxiety is reported to be 25% on average. The average anxiety score of mothers was significantly higher than that of fathers.

Conclusion: The existing systematic review shows that most PCCHDs suffer from anxiety, depression and post-traumatic stress disorder and need standard clinical strategies to manage these symptoms, and No study related to this issue has been found in our country, it seems necessary to conduct more research in this field.

Keywords: anxiety, depression, congenital heart disease, PTSD

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Trauma Monthly
Abstracts

Abstract 221: prevalence of thirst in heart failure patients

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Abstract

Introduction: Heart failure is a global epidemic and its prevalence is increasing. One of the annoying symptoms that heart failure patients experience during treatment is thirst, which is usually ignored by health providers. This may cause non-compliance with the treatment in the restriction of fluid intake and diuretics and worsen the condition of the patients and lead them to pulmonary edema., so we need to know the thirst and its related factors in these patients. Objective: This study (1) investigates the prevalence of thirst among heart failure patients and (2) determines the factors related to thirst in heart failure patients

Method & material: This study is a systematic review studies that investigated the prevalence of thirst and its related factors in heart failure patients and were published from January 1997 to June 2023. In order to review the conducted research, searching in databases and search engines (SID, Magiran, PubMed, Scopus, Google Scholar) with the keywords thirst, dry mouth, heart failure and their Persian equivalents were done separately. took To create more thematic connection, the advanced search method was also used in combination. Finally, 203 related studies were obtained, of which 20 articles were selected. Eligibility criteria included: 1- primary studies 2- participants with definite diagnosis of heart failure 3- studies conducted on humans.

Result: Thirst in heart failure patients was different in terms of frequency, intensity, distress and quality. According to studies, between 33 and 75% of patients suffer from thirst. Most thirst occurred in the morning (26%), afternoon (19%) and before sleep (16%). Thirst intensity varied from 23 to 63.67 with an average of 44.75. Thirst distress is reported from 16.2 to 21 with an average of 18.6. Patients find thirst very annoying and often think about thirst during the day. Factors affecting thirst in heart failure patients include: drug treatments, fluid restriction, feelings of depression and anxiety, environmental conditions and functional class based on NYHA criteria, loss of body water, higher body mass index and higher serum urea, salty foods, underlying diseases (kidney failure) and Low ambient humidity.

Conclusion: Thirst as an annoying symptom in heart failure patients has a high prevalence, so we need more research to investigate the effects of thirst on the treatment process and effective interventions to relieve thirst in these patients.

Keywords: thirst, dry mouth, heart failure

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Trauma Monthly
Abstracts

Abstract 222: Prognostic Role of Neutrophil-to-Lymphocyte Ratio in Cardiovascular Disease: A Systematic Review

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Abstract

Introduction: nowadays, cardiovascular diseases are the most common cause of death and account for one third of all deaths in the world. Atherosclerosis is a chronic cardiovascular disease that threatens human health and several factors including genetic and environmental factors such as high cholesterol, high blood pressure, diabetes and smoking are involved in its pathogenesis. However, it is generally believed that atherosclerosis is a chronic inflammation of the arteries initiated by the interactions of these risk factors and the cells of the arterial wall. White blood cells and their subsets are inflammatory markers in cardiovascular events. It has been shown that the increase in neutrophil to lymphocyte ratio (NLR) plays an important role in this inflammatory process and can predict cardiovascular events. Therefore, we decided to conduct a systematic review study to investigate the effect of the ratio of neutrophils to lymphocytes in the prognosis of cardiovascular diseases.

Method & material: The present study is a review study that reviewed the sources in the PUBMED and SCIENCEDIRECT databases in the period of 2020-2023 with the keywords, neutrophil to lymphocyte ratio, cardiovascular disease, MI, ACS. Inclusion criteria include systematic review and cross-sectional studies published in 2020-2023, and RCT studies were excluded from the study.

Result: In this period of time, 73 articles were found with the above keywords, and 30 related articles were reviewed according to the inclusion and exclusion criteria. 28 studies emphasized the influence of neutrophil to lymphocyte ratio in the prognosis of cardiovascular disease, but in two studies it was stated that NLR does not predict the risk of cardiovascular disease.

Conclusion: According to the investigations, it was shown in most of the studies that the neutrophil to lymphocyte ratio (NLR), which is available and low-cost compared to other inflammatory markers, is a suitable measure to predict the inflammatory process in cardiovascular events.

Keywords: neutrophil to lymphocyte ratio, cardiovascular disease, MI, ACS

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Trauma Monthly
Abstracts

Abstract 223: Protective effect of aqueous extract of Rhus coriaria on biomarkers and histopathology of liver and kidney tissue and oxidative stress indices on doxorubicin-induced toxicity in male rats

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Abstract

Introduction: Doxorubicin (Dox) is an antibiotic with a wide range of antitumor and anti-cancer (anti-neoplastic) function and is widely used in the treatment of cancer. Several mechanisms have been reported for the side effects of doxorubicin on cardiac and hepatotoxicity, including free radical scavenging, mitochondrial damage, and cytotoxicity. The aim of this study was to determine the protective effects of Sumac aqueous extract on doxorubicin-induced renal, hepatic and cardiac function in rats.

Method & material: Doxorubicin (Dox) is an antibiotic with a wide range of antitumor and anti-cancer (anti-neoplastic) function and is widely used in the treatment of cancer. Several mechanisms have been reported for the side effects of doxorubicin on cardiac and hepatotoxicity, including free radical scavenging, mitochondrial damage, and cytotoxicity. The aim of this study was to determine the protective effects of Sumac aqueous extract on doxorubicin-induced renal, hepatic and cardiac function in rats.

Result: The results showed that pretreatment with sumac significantly protected the toxic effects of doxorubicin (Dox) by reducing the high level of biomarkers and diagnostic enzymes such as LDH, CPK, AST, ALT to normal levels ($P<0.05$). Serum ALP levels in doxorubicin group decreased significantly but pretreatment with sumac extract could not bring this marker to normal. The results of renal functional markers (urea, creatinine, uric acid) also showed a significant increase in the doxorubicin group compared to the control group, followed by a dose-dependent decrease in the pretreatment groups with sumac. The results of DPPH MDA, FRAP, THIOL were also effective and significant ($P< 0.05$). Histopathological changes of liver and kidney tissues were also examined on a large scale, which showed that the tissue lesions caused by doxorubicin were significantly improved by sumac.

Conclusion: Pre-treatment with sumac for 30 days was able to prevent the occurrence of doxorubicin-induced toxicity and possibly due to its antioxidant properties, caused heart, liver and kidney protection.

Keywords: Protective effect, aqueous extract, Rhus coriaria, liver and kidney tissue, doxorubicin-induced toxicity, male rats

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Trauma Monthly
Abstracts

Abstract 224: Protective effect of pomegranate extract on oxidative stress of lead acetate toxicity in rats

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Abstract

Introduction: lead is a highly toxic heavy metal and has been shown to produce a wide range of biochemical and physiological dysfunctions. Several agents, chemical or natural, have been used to reduce detrimental effects of lead in animals and humans. In this study, the beneficial effects of pith and capillary membrane of aqueous pomegranate extract on lead-induced oxidative stress was evaluated.

Method & material: Thirty-two Wistar rats were randomly divided into 4 groups of 8. Group one received no treatment or lead acetate. Animals of group two exposed to 1000 ppm of lead acetate in drinking water for 35 days. Group three and four exposed to lead acetate as the rats of group two, but treat concurrently by pomegranate extract twice a day with dose of 100 and 200 mg/kg respectively. In the following, biochemical parameters including urea, creatinine, bilirubin, AST, ALT and GGT was evaluated in serum of rats in different groups. In addition, Oxidative stress parameter including MAD, FRAP, SH and PAB were measured in their serum and tissues liver, kidney and brains.

Result: Weight changes of rats in consecutive weeks showed significant differences among groups. The results showed that the administration of aqueous pomegranate extract following subclinical lead poisoning in rats can reduce oxidative stress parameters and increase antioxidant capacity in blood and brain, liver and kidney tissues, while no change in blood biochemical parameters was observed. In addition, lead caused a significant increase in the amount of bilirubin, but the consumption of aqueous pomegranate extract did not have much effect on the amount of that. Biochemical parameters didn't show any significant difference between groups. The data showed significant effects of lead toxicity on oxidative stress. Administration of pomegranate extract in rats exposed to lead, significantly decreased oxidative effects of lead toxicity. This effect was more evident in brain than liver and kidney. Lead increases the peroxidation of fats, decreases the antioxidant power, and decreases the total amount of thiol groups in

Conclusion: The results of this study showed pomegranate extract has beneficial effects on improving antioxidant defense of the body and may be useful to ameliorate the oxidative stress of the lead intoxication

Keywords: Toxicity, Pomegranate extract, Oxodative stress, Lead acetate

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Trauma Monthly
Abstracts

Abstract 225: Relationship Between COVID-19 and sodium balance

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Abstract

Introduction: The SARS-COV-19 virus caused an epidemic of coronavirus 2019 (COVID-19) disease throughout the world. Because of the prevalence of infections and disorders and the involvement of various organs in this disease, the importance of recognizing these disorders and developing treatment methods for them is significant. Studies and reports have demonstrated that disorders of the body's electrolytes, especially hyponatremia and hypernatremia, are most common.

Method & material: Relevant literatures were accessed via World Health Organization (WHO), Google Scholar, PubMed, Scopus, and Web of Science to give updated information on the prevalence of the coronavirus 2019 (COVID-19) disease, prevalence of infections and disorders and the involvement of various organs in this disease, hyponatremia and hypernatremia and their role in COVID-19 disease, the importance of sodium and maintaining its balance in COVID-19 disease.

Result: According to various reports, on average, about 24-35% of patients with SARS-COV-2 infection have hyponatremia, and about 5-8% of patients have hypernatremia. Research has demonstrated the roles of hyponatremia and hypernatremia and their association with severe infection and severe COVID-19 disease. On average, 34% of hyponatremia COVID-19 patients either require intensive care and mechanical ventilation or expire. Hypernatremia has been observed in 6-26% of patients admitted to the intensive care unit (ICU). Furthermore, refractory hypovolemic hypernatremia and treatment-resistant hypernatremia have been observed during treatment of patients with severe COVID-19. Although the most prominent manifestations of COVID-19 are pulmonary, evidence proves that other organs are also directly affected by SARS-COV-2 infection. The coronavirus has been illustrated to enter cells through the angiotensin-converting enzyme-2 (ACE2). In addition to the lungs, this enzyme is expressed in the kidneys, heart, intestines, and even the central nervous system (CNS). Therefore, coronavirus can enter and damage

Conclusion: Sodium has been shown to reduce the entry of coronavirus into cells. In addition, studies in mice have demonstrated that high dietary sodium intake reduces ACE2 expression in the kidneys. Therefore, controlling and maintaining the body's normal sodium balance or even increasing it to some extent can greatly prevent coronavirus from entering cells and prevent the damage and disorders that result in various organs of the body. A survey of the results obtained in this field highlights the importance of maintaining the body's sodium balance during the disease and the consequences of sodium disorders, especially hyponatremia.

Keywords: hyponatremia, hypernatremia, COVID-19, Coronavirus

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Trauma Monthly
Abstracts

Abstract 226: Relationship between Thrombocytopenia Syndrome and Corona Vaccine in pregnant women: A systematic review

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Abstract

Introduction: Covid-19 is a pandemic respiratory disease caused by the SARS-CoV-2 virus. With vaccination, which is the most effective preventive measure against this virus, the number of deaths and infections has decreased significantly. Based on mechanism of action, these vaccines are divided into three main groups, which are: Inactivated vaccines (Sinopharm), mRNA vaccines (Pfizer and Moderna), and viral vector vaccines (Astrazeneca). Studies show that corona vaccine injection can lead to rare side-effects such as thrombocytopenia (7 cases per million). Thrombocytopenia is a condition that the number of blood platelets decreases (less than 15,000 per microliter) and created autoantibodies against platelet antigens accelerate the destruction and inhibit the production of platelets. Since pregnant women are considered a high-risk group among Covid-19 patients, the safety of these vaccines should be evaluated for them. In this review, we are looking to investigate the relationship of thrombocytopenia caused by the corona vaccine in pregnant women.

Method & material: This study is based on PRİSMA guidelines. The search was conducted using PubMed and Google Scholar databases for studies published between 2021 and 2023. The search terms used are: "covid-19", "coronavirus", SARS-coV-2", "vaccine", "pregnancy", and "thrombocytopenia". Relevant information was selected and reviewed. A total of 134 results were found, and 9 articles that were most related to our title were selected for this study.

Result: Among the selected articles, three studies have rejected the existence of thrombocytopenia in pregnant women and Six studies have confirmed the occurrence of thrombocytopenia in pregnant women. Among these 6 articles, in 2 studies, cases have received mRNA vaccines (moderna and pfizer), and 4 studies have discussed adenovirus-vector vaccines. In these studies, Symptoms of thrombocytopenia appeared 5-30 days after receiving the vaccine. In most of these cases, platelets and fibrinogen levels Decreased, while D-dimer and platelet factor 4-polyanion complex levels increased.

Conclusion: Thrombocytopenia syndrome caused by corona vaccine injection in pregnant women is a rare complication that was observed especially in those who received adenovirus vaccines. More caution should be taken about vaccination in pregnant women. However, to prove the connection between corona vaccine and the occurrence of thrombocytopenia in pregnant women large-scale studies are needed.

Keywords: COVID-19, coronavirus, SARA-coV-2, vaccine, pregnancy, Thorombocytopenia

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Trauma Monthly
Abstracts

Abstract 227: Report of a case with mesiodens and an odontoma like malformation

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Abstract

Introduction: Mesiodens is the most common developmental problem in children, which has been argued to arise from multiple etiologies. Presence of mesiodens in primary dentition can cause several problems including malposition of adjacent teeth, ectopic or a delayed eruption of permanent teeth, and cyst formation. On the other hand, Odontomas are nonaggressive, hamartomatous developmental malformations or lesions of odontogenic origin, which consist of enamel, dentin, cementum and pulpal tissue. Radiographically, odontomas is a radio-opaque mass with little resemblance to a tooth germ. This paper reports a case which had the presence of a mesiodens in maxillary midline and an odontoma like malformation in right mandible.

Method & material: We report a case of a 6 years old girl with supernumerary tooth and odontoma like malformation. Her parent's chief complaint was, "Our daughter has an extra tooth, and we were sent here to extract it". She had no serious medical history. She was normal in extra and intra-oral examination except dental caries and a mild crowding in lower anterior teeth. However, in radiographic examination, a mesiodens was seen in the left maxilla. In the right mandible, the area of the second premolar had a mixed radiopaque-radiolucent mass which was well-defined and had a thin radiolucent rim. There were no missing teeth. Radiolucency in the crown region of 6 unerupted teeth was suspicious to pre-eruptive caries. Supernumerary teeth were extracted with palatal and vestibular surgery.

Result: -

Conclusion: Mesiodens can cause delayed or ectopic eruption of permanent incisors, which can further alter occlusion and appearance. Therefore, early detection and management of supernumerary teeth with abnormalities is a necessary part of preventive dentistry.

Keywords: mesiodens, odontoma, pediatrics, pathology

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Trauma Monthly
Abstracts

Abstract 228: Response of the health system to Khuzestan flood for communicable disease in 2018: a case study

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Abstract

Introduction: Flood is the most widespread geographical disaster all around the world. This natural disaster mostly occurs in Asia. Infectious diseases are the most important outcome of floods which is a source of worry for the people. Several floods have occurred in Khuzestan province that has resulted in casualties and massive economic damages. Among them, floods in 1955, 1980, and 2012 can be mentioned and the very last flood occurred in 2019. Therefore, this research aims to study the response of the health system regarding the infectious diseases in the recent flood in all the cities under the supervision of Ahvaz University of medical sciences.

Method & material: This research is a case study that took place in 2019. All daily and cumulative statistics, plus documents of infectious diseases from the Khuzestan department of health were gathered and analyzed. Also, the observation method was used to collect some of the data. All quantitative data were analyzed descriptively by Excel. To analyze the observations and all reports and documents, Expert opinions were used. Also, to verify and validity of data, we established contact with some of the cities randomly and the data verification was confirmed

Result: In the recent flood which occurred in March 2019 at Khuzestan province, unfortunately, 6 persons died. 606 people were diagnosed suspicious to infectious diseases based on the syndromic care system and received care plan. 4096 people got vaccinated against Measles and Rubella (MR) and 1850 people got vaccinated against polio. With all the efforts done by health workers, no epidemic, massive outbreak, or even increase in the number of infectious diseases was seen thankfully.

Conclusion: Adjustment of the storage volume of dams is an undeniable necessity that can either prevent or cause floods. To take actions against the danger of infectious and noninfectious diseases in a flood, every level of health service providers, from health houses as the most regional to the highest level which is the health administration must be well prepared to perform the planned programs considering the regional conditions

Keywords: Khuzestan, communicable disease, flood

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Trauma Monthly
Abstracts

Abstract 229: Risk of dementia in patients with Atopic Dermatitis: A Systematic Review and Meta-Analysis

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Abstract

Introduction: Dementia is a clinical syndrome characterized by a progressive deterioration in cognitive ability, and chronic inflammation is known as one of the factors related to the occurrence of dementia. Atopic eczema is one of the chronic inflammatory skin diseases which is caused by an overactive immune system that causes the skin barrier to become dry and itchy. Despite considerable studies investigating about the relationship of atopic dermatitis and Dementia, there has been no systematic review in this area. Therefore, this study aimed to determine the relationship between atopic eczema and risk of dementia.

Method & material: Based on Cochrane systematic review principles and PRISMA guideline, A systematic search of PubMed, Scopus, and Web of Science databases was performed up to June 2023. The following keywords were used in our search: “atopic dermatitis”, “atopic eczema” or “eczema” and “dementia” or “Alzheimer’s disease”. All of longitudinal studies aiming to assess the relationship between atopic eczema and risk of dementia in patients were included in the study. The exclusion criteria was animal, cell and interventional studies, review and conference papers. Two authors conducted screening and data extraction with using a standardized data collection form independently. The Newcastle-Ottawa Scale (NOS) was used for quality assessment of included articles. We calculated pooled hazard ratios (HRs) with 95% confidence intervals (CIs) by Stata v14.2 Software. Subgroup and sensitivity analysis were performed to assess the potential sources of heterogeneity of the pooled estimation.

Result: Among 26 study, four longitudinal studies that included 281,569 patients with atopic dermatitis at baseline and 14,709 dementia cases after an average 8 years of follow-up were eligible for inclusion. Compared with individuals without Atopic eczema, patients diagnosed with Atopic dermatitis had a higher risk of incident all-cause dementia, Alzheimer’s disease, and vascular dementia. The subgroup analysis demonstrated that atopic eczema increased the risk of Alzheimer’s disease more than other types of dementia. Moreover, there was a severity-dependent relationship between atopic dermatitis and risk of dementia. The pooled hazard ratios adjusted for mediators in this meta-analysis suggests that atopic dermatitis may predict the risk of incident dementia.

Conclusion: Based of the results, the patients with atopic eczema are at a higher risk of developing dementia in middle age and elderly. Also, this study showed that the relationship between atopic dermatitis and Alzheimer’s disease is clearly more significant.

Keywords: Risk of dementia, Atopic Dermatitis, systematic review, meta-analysis

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Trauma Monthly
Abstracts

Abstract 230: Royal Jelly Improve Anxiety-Like Behavior and BDNF Expression Following Chronic Stress Exposure in Male Rats

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Abstract

Introduction: Chronic stress is a critical factor contributing to the development of cognitive impairments. A large body of research has been conducted on the neuroprotective effect of royal jelly (RJ) on anxiety-like behaviors. In addition, brain-derived neurotrophic factor (BDNF) is densely expressed in the prefrontal cortex and RJ can improve the chronic stress-induced detrimental features in this structure. This study aimed to investigate the protective effects of RJ on anxiety-like behaviors and alternations in hippocampal BDNF levels, induced by chronic restraint and cold stress.

Method & material: This study involved 32 adult male Wistar rats from Urmia:University of Medical Sciences, Iran, divided into two groups: non-stress and stress groups. Each main group was divided into 2 subgroups: Control (received saline for 14 days) and RJ (undisturbed for ten days, then received RJ daily for 14 days). By using restraint and cold temperature, rats in stress groups were exposed to stressful situations and then subjected to treatment with RJ. Also, non-stressed rats were kept undisturbed for ten days. Anxiety-like behaviors were assessed using the Elevated plus maze and Open field test, and hippocampal BDNF expression and plasma corticosterone levels were evaluated using western blotting. Statistical analysis was performed using SPSS software, and normality was tested using the Kolmogorov–Smirnov test. Two-way ANOVA followed by Tukey's multiple comparison tests were employed to investigate data with stress and treatment. All values are considered statistically significant when $P < 0.05$.

Result: Results showed significant differences in anxiety-like behaviors and BDNF levels in stressed rats. RJ improved anxiety-like behaviors with decreased serum corticosterone and increased BDNF levels in the hippocampus in RJ-treated stressed ones ($P=0.01$). In addition, exposure to RJ reduced the corticosterone level in stressed rats ($P= 0.001$). Our data suggest essential pieces of evidence to decrease mood disorder symptoms.

Conclusion: These treatments can protect susceptible brain areas against chronic stress via improvement in behavioral and biochemical impairments through mediating BDNF expression.

Keywords: Royal Jelly, Anxiety-Like Behavior, BDNF Expression, chronic stress, male rats

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Abstract 231: Scientific writing workshop for medical sciences students; a competition-based learning program

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Abstract

Introduction: Scientific writing is an indispensable skill for future scientists to integrate them into the scientific community. It is essential for all medical sciences students to keep them abreast of the latest advances in their field. Key components of effective writing are an attitude toward scientific writing, familiarity with scientific sources, and confidence in writing manuscripts. Unfortunately, there is no adequate scientific program in the academic training of medical students. Attending a scientific writing workshop and writing a real, complete paper under the supervision of experienced researchers should improve these components. Therefore, the present study aimed to investigate whether a virtual 14-day workshop with a mixture of theoretical instruction and practical exercises under the supervision of experienced researchers can improve medical students' attitude, familiarity, and confidence in scientific writing.

Method & material: We developed a competitive learning workshop with a quasi-experimental design at Mashhad University of Medical Sciences in March 2022. The workshop consisted of 28 hours of theoretical virtual instruction and 56 hands-on sessions in which 84 students (12 participants per data, divided into three groups) were provided with raw and final analysis of 7 different real data on the SKYROOM platform. By day 14, each group had to submit a written manuscript that was blindly peer-reviewed by the authors and experts in the field. To evaluate the pedagogical impact of the method, a pre-/post-test questionnaire (scale of 1-5) was also administered. The questionnaire assessed attitude, familiarity, and confidence. We performed a paired t-test to compare the pre-test and post-test survey, and data were reported as mean ± standard deviation. Data were analyzed using SPSS v.16, and a p-value of less than 0.05 was considered significant.

Result: Out of 28 groups, 23 groups successfully completed their task and 16 groups achieved at least 60% of the total score. A total of 68 participants completed both the pretest and posttest. Familiarity with scientific writing (pre: 2.57±1.15, post: 3.81±0.79, P=0.001), confidence in writing a manuscript (pre: 2.68±1.23, post: 3.76±0.87, P=0.001), familiarity with scientific sources (pre: 3.31±0.90, post:3.97±0.79, P=0.001), and use of scientific sources and articles (pre: 3.5±1.04, post: 3.97±0.89, P=0.001) were significantly improved. Participants' attitudes toward the importance of scientific writing in their future lives (pre: 4.45±0.61, post: 4.57±0.66) and toward such a workshop for their scientific skills (pre: 4.45±0.70, post: 4.38±0.73) were high in both surveys and did not change significantly.

Conclusion: This study shows that the competition-based learning workshop has a significant impact on medical students' skills and is a suitable method for teaching scientific writing.

Keywords: Scientific writing, workshop, virtual

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Abstract 232: Simultaneous effects of melatonin and N-acetylcysteine (NAC) on TNF-a in the rat cerebral ischemia model

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Abstract

Introduction: Ischemia is the most common type of stroke, usually due to the middle cerebral artery occlusion (MCAO), and finally leads to devastating brain damage. Inflammation and immune responses play an important role in the pathogenesis of ischemic stroke by activating various types of traumatic cascades. In this work, the simultaneous effects of melatonin and N-acetylcysteine (NAC) were evaluated on TNF-a in the rat cerebral ischemia model.

Method & material: Wistar rats underwent left-side MCAO, and intraperitoneal injection of 50 mg/kg NAC and 5 mg/kg melatonin was performed 24 and 48 hours after ischemia. Animals were then killed on the fourth day after surgery. The groups were Sham, Ischemic, NAC, Melatonin, and NAC + Melatonin. Neurobehavioral tests, triphenyl tetrazolium chloride (TTC), and ELISA was then used.

Result: As compared to the ischemic group, NAC + Melatonin group showed a higher rate in the mean score of the sensory-motor activity ($p \leq 0.05$). QReal-time PCR represented a significant reduction in the expression of TNF-a in the NAC + melatonin and melatonin groups compared to the ischemic group ($p \leq 0.05$).

Conclusion: Based on the data from the present study, it can be concluded that the simultaneous use of NAC and melatonin can improve neurobehavioral function by modulating TNF-a expression in the ischemic brain cortex.

Keywords: Melatonin, N-acetylcysteine (NAC), TNF-a, cerebral ischemia, rat model

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Abstract 233: Smoking and alcohol, both alone and in combination, for risk of gastric cancer: A systematic review

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Abstract

Introduction: Stomach cancer is the fifth most common cancer and the fourth leading cause of cancer deaths worldwide in 2020. Moderately increased risk of stomach cancer has been associated with tobacco smoking and Alcohol drinking. In this systematic review, we summarized the current knowledge on the relation between smoking and alcohol, both alone and in combination, to the risk of gastric cancer.

Method & material: This study was conducted in 2023 with a structured overview in the Science Directe, PubMed, Web of Science (ISI) databases. We investigated the studies that were published between 2010 and 2023. In the first step, articles were extracted based on their titles and abstracts; the quality of 58 articles was evaluated using the STORBE tool. Inclusion criteria were English language (first step), year of the study and the study type (second step).

Result: Of these 39 articles, 17 ones were case-control studies, 21 were cohort studies, one was a descriptive study. eleven articles were related to alcohol consumption and risk of gastric cancer, twenty-three articles were related to smoking and risk of gastric cancer, five articles were related smoking and alcohol consumption in combination and risk of gastric cancer. Many studies reported a significant association between alcohol and gastric cancer risk. Also, three studies showed that smoking acts as a risk factor for developing gastric cancer only in certain genotype and not in all people.

Conclusion: Based on the best our knowledge and present studies, consumption of alcohol and smoking are risk factors of gastric cancer. It is better to conduct more studies on this issue in different populations in the future. We also suggest that future studies focus more on the intracellular mechanisms of these associations than on epidemiological outcomes.

Keywords: Alcohol, smoking, Gastric cancer, Stomach neoplasms, Epidemiology

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Trauma Monthly
Abstracts

Abstract 234: Spiritual hope: Avicenna's Viewpoint in Persian medicine

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Abstract

Introduction: The concept of hope, and its relationship with spirituality, has faced fluctuations and challenges in the history of thought. Such a connection in today's world may lead us to the concept of "spiritual hope". In Persian medicine, these types of connections are mentioned because of their holistic approach, and the deep connection between the human body and spirit is always mentioned. In this regard, we can refer to Avicenna's poems as one of the elders of Persian medicine at the beginning of the medical book " Al-Orjuza Fi Al-Teb "who introduces himself as a physician hoping in God who only asks for His help. The purpose of this research is to determine the role of spirituality as a correlate of the concept of hope in Avicenna's Viewpoint

Method & material: The current research is a part of " Exploring the Concept of Hope from Avicenna's Point of view in Persian medicine" which is based on Directed Content Analysis by Elo et al. (Elo&Kingas.2008), focusing on the book "Al-Qanoon Fi Al-Teb"), in the software of the comprehensive library of traditional and Islamic medicine, Noor, (version 1.5) by searching for keyword hope and other keywords related its, such as despair, fear, wish, hopeless, desire, Optimism, done then the resulting expressions were entered into the qualitative content analysis software MAXQDA2020, then the extracted codes were categorized in the form of subcategories, categories, and themes

Result: In Avicenna 's view, hope has a spiritual dimension in four categories: Neghahe Tohidi (Monotheistic View), Hekmate Elahi (Divine Wisdom), Tavakol (Trust), and Shokr (Gratitude). The category of Neghahe Tohidi (Monotheistic View): paying attention to the effectiveness of measures by God's permission. The category of Hekmate Elahi (Divine Wisdom): assurance of the existence of many divine wisdoms in all matters of existence. The category of Tavakol (Trust): constant reliance on God is one of the signs of a hopeful person, the need for trust at the same time as trying and carrying out treatment orders, trusting in God is one of the factors in creating a Happiness. The category of Shokr (Gratitude) for blessings (Hamd): praise God for the shine of the blind heart

Conclusion: The correlation of hope with spirituality shows Avicenna's special conceptualization. Therefore, in addition to expanding this closeness in the scope of general human life, in the specialized scope as well, according to the cultural conditions of Iran, spirituality can be added to the existing intervention models to treat despair in clinical problems.

Keywords: Spiritual hope, Avicenna, Persian medicine

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Abstract 235: Study the obstacles and challenges of telemedicine

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Abstract

Introduction: "Telemedicine" or "remote healthcare" is a new topic of discussion within medical communities that can offer a solution to improving access to healthcare services. Following the COVID-19 pandemic, telemedicine gained more prominence in medical communities because it allows for the connection of the three elements of patient, healthcare provider, and healthcare facilities without physical proximity. Like any new concept, telemedicine also comes with its own set of obstacles and challenges. This study aims to examine the obstacles and challenges of telemedicine.

Method & material: The present study is a review article that has been prepared and organized by searching for keywords such as "telemedicine", "remote healthcare", "electronic health", and "information technology" on online databases including Google Scholar, SID, PubMed, and Scopus, covering the time period from 2018 to 2023.

Result: The implementation of telemedicine systems is faced with numerous challenges, including resistance to change, lack of trust in the service provider organization, insurance and reimbursement issues, initial infrastructure costs, a shortage of technical staff, the absence of secure protocols for data transmission and storage, and the lack of legal frameworks to address these issues. Additionally, there are obstacles along the path of implementing telemedicine systems, such as the lack of awareness among healthcare professionals, the absence of necessary infrastructure, including high-speed internet, and the required systems for data processing, in hospitals, and more.

Conclusion: Telemedicine can indeed be a key solution to address issues such as a shortage of healthcare professionals, limited access to healthcare services in remote areas, and the cost and duration of treatment. However, the implementation of telemedicine comes with its own set of obstacles and challenges. By learning from the experiences of other countries, investing in infrastructure, enacting new regulations, raising awareness, and training specialists in this field, we can work to overcome these challenges.

Keywords: Telemedicine, Information technology, Remote Healthcare, Electronic health

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Trauma Monthly
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Abstract 236: Studying the accuracy and reliability of diagnosis in Teledermatology

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Abstract

Introduction: Patients even in remote areas can easily access dermatologists thanks to advancements in technology and telemedicine, and the cost and wait time for a visit can be decreased. But are the teledermatology methods reliable in diagnosing skin diseases? The objective of this systematic study is to analyze the accuracy of teledermatology methods and their efficiency compared to clinical assessment.

Method & material: Five databases (PUBMED, Cochrane, Science Direct, Embase, and Web of Science) were searched for studies comparing teledermatology with face-to-face clinical assessment (as the gold standard) with regard to accuracy and reliability of diagnosis on June 2023. Finally, 25 articles matched our established criteria.

Result: The remaining twenty-five studies were reviewed. In many studies, there was a good agreement between teledermatology and clinical assessment (more than 60% on average), while in some studies, the diagnostic agreement between the two methods was poor. Generally, face-to-face primary diagnoses are more accurate than tele-dermatology diagnoses.

Conclusion: Despite the fact that face-to-face diagnoses are more reliable than teledermatology diagnoses, using teledermatology is still useful for patients who do not have proper access to a dermatologist and for screening to some skin diseases.

Keywords: Accuracy, reliability, diagnosis, Teledermatology

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Trauma Monthly
Abstracts

Abstract 237: Survey of knowledge and attitude of the elderly referring to health centers in Shoushtar city about a healthy lifestyle in 1401

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Abstract

Introduction: Pulmonary tuberculosis is a contagious infectious disease that, if left untreated, can infect 10 to 14 individuals during its contagious period. Early diagnosis and treatment of the disease can be considered as one of the most important preventive measures against tuberculosis. Therefore, the present study aims to determine the diagnostic index for early detection of smear-positive pulmonary tuberculosis in the Health system in the years 2016- 2021.

Method & material: The present study was a historical cohort study conducted on 209 individuals with tuberculosis in Shushtar county. Periodic follow-ups were performed throughout the duration of the disease. After extracting the data from the online TB Register software, information such as demographic data, results of initial smear tests, diagnostic methods, patient referrals, and treatment success indicators were extracted from electronic patient files. The data were then entered into SPSS version 22 software for analysis.

Result: The median age of the patients was 34 years. Among these individuals, 71.3% were male and 28.7% were female. 86.1% of the patients were diagnosed with pulmonary tuberculosis, and 47.8% were classified as +2 and +3 levels of severity. Only 24.4% of them were identified through the primary healthcare units, while the rest were identified by private clinics and the healthcare system. Treatment results were not successful for 19.7% of these patients. A mortality rate of 5.8% due to tuberculosis, treatment default rate of 4.8%, and treatment failure rate of 8.7% were reported. Discussion & Conclusion:Since it is expected that this disease occurs more frequently in older individuals, the lower median age of the patients suggests late diagnosis of the disease. It seems that the disease is actively spreading in the community, and most diagnosed cases have been hospitalized and are under treatment. Therefore, it is recommended to actively and purposefully carry out disease screening in high-risk groups.

Keywords: lifestyle, elderly, factors, psychological

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Abstracts

Abstract 238: Teaching patients by distance nursing (telenursing)

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Abstract

Introduction: Remote nursing, or telenursing, refers to the provision of nursing services through communication technology. This communication technology can be used through telephone, computer, and internet communication tools and short service. Telenursing leads to an increase in communication between the nurse and the patient and leads to the provision of services to the patient regardless of time and place. Teaching the patient and taking care of him is one of the most basic roles of every nurse, which can have a significant impact on the prevention and treatment of many diseases. The purpose of this review study is to describe distance nursing education.

Method & material: This research is a review study that was conducted by searching the databases Scopus, PubMed, Science Direct, and Google Scholar and using the keywords Education, Training, Telenursing, and Telehealth Nursing in the last three years (2020–2023).

Result: The studies conducted indicate that patient education is done through mobile phone and online conversation, computer and mobile phone applications, and short service. Training through telenursing leads to a reduction in the consequences of the disease of patients who live in areas far from access to medical centers, such as villages and elderly patients, immobile patients, patients with chronic diseases such as cancer, chronic obstructive pulmonary disease, heart and cerebral strokes, blood pressure, diabetes, asthma, chronic neurological disorders (Alzheimer's, Parkinson's, etc.), and increases the self-efficacy of patients. In this way, a large amount of content can be transferred to patients in a limited time. In this way, training saves time and costs, reduces the care pressure of patient caregivers, increases the quality of life of patients, reduces anxiety, increases independence, and creates satisfaction in patients.

Conclusion: Many home care problems arise due to the lack of necessary knowledge and skills related to self-care in the areas of health, nutrition, and lifestyle, as well as remote nursing in home health care education, especially in rural areas. Teaching care to cancer patients, the elderly, and patients with chronic ailments is extremely valuable. It also provides nursing education to patients without time or place restrictions. In addition, it also supports the standardization of nursing clinical education. Telenursing provides an opportunity to continue and improve the education process. It is recommended that the training of patients in the telenursing method be part of the care plan after the patients' discharge.

Keywords: Tele nursing, Education, Patient

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Abstracts

Abstract 239: The Application Challenges ahead of Digital Twin in Personalized Medicine: A Systematic Review

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Abstract

Introduction: Personalized medicine (PM) is gaining importance in clinical and research settings across all medical specialties and has the potential to enhance the quality of life for people all over the world. The digital twin (DT), which is a dynamic digital depiction of the patient's physiology and anatomy created, using various computational models, has been proposed as a means of implementing the PM approach. Even if these technologies are still in development and under specific research, it is recommended that the challenges be studied. As a result, the purpose of this systematic review was to examine the Ethical, Legal, and Technical problems that may face DT technology implementation.

Method & material: Medline (via PubMed), Scopus, and Web of Science databases were searched for relevant articles published from inception until May 2023. The search strategy combined MeSH terms and keywords in the title and abstract to define the three categories: DT, PM and challenges (or obstacles). The review includes all studies in English-language if at least one of the challenges (Ethical, Legal and Technical) in the DT implementation is discussed. Each study was analyzed for its characteristics, DT technology, function and challenges. Articles were excluded if they were proposed models or frameworks but not been applied yet, not based on DT or published only in the form of conference abstracts. Studies were appraised for quality using the Effective Public Health Practice Project (EPHPP) tool.

Result: Out of the 101 retrieved studies, eight met the inclusion criteria. Most studies (87.5%) were conducted in developed Countries. In four studies (50%) the algorithms and in three studies artificial intelligence and omics science (37.5%) were employed as DT technology. The most common application of DT in PM was related to prediction (62.5%), followed by treatment and prevention (37.5%). Ethical consideration has been discussed in most studies (100%) and regulatory and legal challenges was rated least frequently (50%). The health conditions in the studies were included cardiovascular disease (CVD) (four studies), multiple sclerosis (two studies), SARS-CoV-2, and Immune-Mediated Diseases (each in one study).

Conclusion: This study's key finding is that DT has obstacles in providing PM, including those related to ethics, technical and professional issues, legal and regulatory issues, social issues, and organizational issues. International cooperation amongst numerous stakeholders, including patients, healthcare workers, academic and industry researchers, legislators, and regulatory agencies, will probably be necessary to address such challenges.

Keywords: Digital Twins, Personalized Medicine, Challenges

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Abstract 240: The association between serum metabolic parameters, and oxidative stress status with the risk of Gallstone Disease in women: a case-control study

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Abstract

Introduction: One of the most prevalent gastrointestinal tract ailments is Gallstone Disease (GD). Some studies have investigated the role of serum metabolic biomarkers and oxidative stress status in GD but the results are inconsistent. The object of the current study was to assess the association between metabolic parameters, and oxidative stress status with GD in women.

Method & material: This sex and BMI matched case-control study was conducted on a sample of 75 women diagnosed with GD and 75 healthy women at the Gastroenterology and Hepatology Clinic of Shahid Beheshti University of Medical Science in Tehran, Iran. This study was approved by the Ethical Committee of the Faculty of Nutrition and Food Sciences, Tabriz University of Medical Sciences, Tabriz, Iran (research ethics number: IR.TBZMED.REC.1398.1202). All eligible subjects completed the written informed consent form. The characteristics of participants were collected using a general information questionnaire. To measure serum parameters, blood samples were collected from all participants after 12 hours of fasting. Associations between serum biomarkers and GD were assessed by multivariate logistic regression and represented as odds ratio (OR) and 95% confidence interval (CI).

Result: There was no significant difference in mean serum levels of triglyceride, total cholesterol, and LDL cholesterol between the case and control groups. Mean serum levels of total antioxidant capacity, malondialdehyde, FBS, insulin, and insulin resistance index values (HOMA-IR) were significantly higher in the case group than in the control group ($p<0.05$). The mean serum level of HDL cholesterol in the control group was significantly higher than the case group ($p<0.05$). The study found a significant negative association between the risk of GD and serum HDL-c (OR: 0.84; 95% CI: 0.76–0.95, p = 0.008). Also, a significant positive association was detected between HOMA-IR (OR: 17.32; 95% CI: 3. 65-82.06, p=0.001), and Malondialdehyde (OR: 3.27; 95% CI: 1.16-9.19, p= 0.025) with the risk of GD.

Conclusion: Present results suggested that higher serum HDL-C was related to a lower risk of GD, and higher HOMA-IR values and serum malondialdehyde were associated with a higher risk of GD. To support these findings more studies are required.

Keywords: Gallstone disease, Metabolic parameters, oxidative stress status

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Trauma Monthly
Abstracts

Abstract 241: The compliance level of antibiotics used in Tabriz Sina Hospital's Burn Centre with standard guidelines

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Abstract

Introduction: Burn injuries can cause extensive deep wounds and even death, with infection being the primary cause of patient mortality, accounting for nearly 51% of burn-related deaths. Without proper treatment, wounds can progress towards sepsis and death. Standard protocols should be followed when administering topical and systemic antibiotics to combat infections in burn patients. This article evaluates the conformity of antibiotics used in burn patients at Sina Hospital with standard guidelines.

Method & material: To compare the antibiotics used in burn patients at Sina Hospital in Tabriz with standard guidelines, Random samples were collected from patients hospitalized in the burn units for at least 48 hours between January 2020 to January 2021. Age and gender were not factors in selecting the patients. The data was collected by a questionnaire that contained demographic information, underlying diseases, percentage and type of burn, laboratory tests, medications received, urinary output, and a checklist following standard infection control guidelines. The collected data was analyzed using SPSS software version 18 both descriptively and analytically.

Result: The analysis comprised 344 patients, and the charts below exhibit the corresponding findings.

Conclusion: Infections are a dangerous complication for burn patients, causing 73% of burn-related deaths in Iran. Antibiotics are the primary method for combating infections. The proper use of antibiotics involves selecting the right type, administering them appropriately, ensuring appropriate dosage, cost-effectiveness, and patient safety avoid bacterial resistance and additional costs. Improving the functional status of systemic antibiotics can help reduce mortality rates, and prevent antibiotic resistance among burn patients.

Keywords: Antibiotics compliance, burn centre, Tabriz Sina Hospital, standard guidelines

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Trauma Monthly
Abstracts

Abstract 242: The degree of readiness to pass from university to work in nursing students of Yazd University of Medical Sciences

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Abstract

Introduction: Today, scientific centers and universities are responsible for training specialists in various fields and teaching students the necessary skills to prepare them to enter the labor market. The entry of students from universities and scientific centers into the job market related to their field is conditional on having the abilities and characteristics that some of them have learned during their studies. Therefore, considering the importance of preparing to enter the labor market for students of any field of study, especially those related to health-medical services such as nursing, the employment of students and their activities in the fields related to their field of study, as well as the role of health-medical forces in promoting health and Health of individuals and society. The present study was conducted with the aim of determining the level of preparation for entering the labor market in nursing students of Yazd University of Medical Sciences

Method & material: The present descriptive-cross-sectional study was conducted with random sampling method in 2022. In this study, 171 nursing students of Shahid Sadoughi University of Medical Sciences, Yazd participated. In order to collect data, the questionnaire of passing from the university to the labor market and the questionnaire of demographic information were used. Data analysis was done with SPSS version 22 statistical software and descriptive statistics and independent t statistical tests and analysis of variance with a significance level ($P<0.05$).

Result: The average score of the transition from university to work of all participants was obtained (115.38±23.17). The highest score was related to the area of curiosity of transition (34.09±8.71) and the lowest score was related to the area of confidence in transition from university to work (21.72±4.80). is. There was no statistically significant relationship between any of the students' demographic characteristics and the passing grade from university to work ($P<0.05$)

Conclusion: The results of the study show that the level of readiness of students to transition from university to work is average. Typically, nursing students enter university with a career path in mind. Many students choose nursing because it provides a fast track to employment. Therefore, if students graduate and enter the nursing profession before developing a sense of identity as a nurse, they may have low job satisfaction and high intention to leave the job

Keywords: Readiness, transition from university to work, nursing students, Yazd University

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Trauma Monthly
Abstracts

Abstract 243: The effect of 6 weeks of aerobic training on cerebral oxidative stress and neuroinflammation caused by ethanol consumption in rats

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Abstract

Introduction: Chronic and excessive consumption of ethanol causes oxidative stress and neuroinflammation in the brain. Aerobic exercise is known to be a protective factor for brain health. The aim of this study was to investigate the effect of 6 weeks of aerobic training on cerebral oxidative stress and neuroinflammation caused by ethanol consumption in rats.

Method & material: Twenty-four rats were randomly divided into three groups: control group, ethanol group, and aerobic training + ethanol group. The ethanol group consumed 2% ethanol by weight in desalinated water for 6 weeks. Aerobic exercise + ethanol group also had access to a classified aerobic exercise program under free supervision for 6 weeks. After the end of the training period, biochemical and molecular analyzes were performed on the brain samples.

Result: The results showed that ethanol consumption led to an increase in brain oxidative stress with a decrease in antioxidants and an increase in inflammatory markers including TNF-? and IL-1?. However, aerobic training for 6 weeks can reverse the negative effects of ethanol. Aerobic exercise led to a decrease in cerebral oxidative stress by increasing antioxidants and decreasing the level of inflammatory markers.

Conclusion: In this study, aerobic exercise for 6 weeks showed that it can effectively affect brain oxidative stress and neuroinflammation caused by ethanol consumption in rats. These results show that aerobic exercise can act as an effective prevention and treatment method in dealing with the harmful effects of excessive ethanol consumption on the brain.

Keywords: Aerobic training, cerebral oxidative stress, neuroinflammation, ethanol, rats

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Trauma Monthly
Abstracts

Abstract 244: The Effect of Allopurinol and Uric Acid Reduction on GFR in Patients with Chronic Renal Failure

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Abstract

Introduction: Hyperuricemia is a major risk factor for the progression of chronic kidney disease (CKD). Considering that allopurinol reduces the amount of uric acid, the purpose of this study is to investigate the effect of allopurinol on the course of the disease in patients with kidney failure

Method & material: The renal failure level of patients was determined by performing blood tests and measuring the levels of uric acid, creatinine, potassium, and GFR. Then the patients were divided into two groups: the intervention group receiving allopurinol tablets at 100 mg daily and the control group receiving no medication. After three months, the levels of uric acid, GFR, creatinine, and potassium were measured for each patient. The data obtained from the study were analyzed using SPSS version 16 software. The Kolmogorov-Smirnov test was used to determine the normal distribution of the data, the T-test was used to check the data with normal distribution, and the Wilcoxon Signed Ranks test was used for the data without normal distribution. The significant level in all tests was considered P0.05.

Result: In this study, 91 patients participated, 57 of whom (62.6%) were men, and the deviation from their mean age was 63.94±13.11. In this study, 91 patients participated, 57 of whom (62.6%) were men, and the deviation from their mean age was 63.94±13.11. According to the results, there was a significant difference between serum potassium level, and GFR after the allopurinol drug was not found in the patients. Regarding the number of changes in the serum levels of creatinine and uric acid, there was a statistically significant difference in the amount of these two variables and it was observed after taking allopurinol drug and in the examination of the change of GFR in patients before and after the intervention, the results showed that more than 51 people (55.4%) of the patients had GFR changes less than 10 and 35 people (38%) of the patients had GFR changes more than 10.

Conclusion: The use of allopurinol for the treatment of renal failure caused positive effects such as a significant decrease in the serum levels of uric acid and creatinine in the patients in this study, and the results indicated a decrease in the progression of the disease with an increase in the GFR of the patients.

Keywords: Glomerular filtration rate, Uric acid level, Allopurinol

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Abstracts

Abstract 245: The effect of chamomile supplementation on glycemic control in adults: A systematic review and meta-analysis

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Abstract

Introduction: Chamomile and its products have been considered as potential phytotherapeutic agents for several conditions, such as cardiovascular, hepatic and gastric diseases, among others. Until now, the effects of chamomile administration on glycemic indices have not been sufficiently appraised. The present study evaluated the effects of chamomile administration on the glycemic indices such as fasting blood glucose (FBG), fasting insulin, homeostasis model assessment of insulin resistance (HOMA-IR), and hemoglobinA1C (HbA1C).

Method & material: Following databases were searched for eligible randomized controlled trials (RCTs) published from inception to June 2023: PubMed, EMBASE, Web of Science, Google scholar, and Cochrane Library. Weighted mean differences (WMD) were pooled using a random-effects model. Heterogeneity, sensitivity analysis and publication bias were reported using standard methods. The present study has been performed by a grant from the Student Research Committee, Isfahan University of Medical Sciences (grant number: 1402174).

Result: Of 567 studies identified, four were included in the meta-analysis. The dose of intervention ranged from 400 to 2500 mg/day and the duration of intervention ranged from 4 to 8 weeks. Pooled analysis of seven RCTs, demonstrated that the administration of chamomile led to a significant reduced FBG (WMD: -0.69 mg/dl, 95% CI: -1.35, -0.19; p = 0.012, I2 = 12.5%), hemoglobinA1c (HbA1c) levels (WMD: -0.96, 95% CI: -1.45, -0.35; p=0.043, I2 = 42.2%). However, HOMA-IR and fasting insulin levels did not alter after the administration of chamomile. Subgroup analysis revealed that the duration of chamomile supplementation could be sources of between-study heterogeneity.

Conclusion: To sum up, chamomile supplementation has a significant lowering effect on glycemic indices such as FBG and HbA1c. However, data on the adverse effects of chamomile are limited, and more safety data would be required to evaluate whether it would be safe for long-term use.

Keywords: Chamomile supplementation, glycemic control, adults, systematic review, meta-analysis

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Abstracts

Abstract 246: The Effect of Cyclophosphamide on Ovarian Reserve Reduction via the PI3K/AKT/mTOR Pathway: a Systematic Review of in Vivo Original Articles (from 2016 until Now)

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Abstract

Introduction: Cyclophosphamide, a common chemotherapy agent, is associated with a decrease in primordial follicles, which leads to a decrease in ovarian reserve and eventually causes fertility problems and premature ovarian failure. The PI3K/AKT/mTOR pathway plays a crucial role in regulating ovarian function and has been implicated in the mechanisms underlying ovarian reserve reduction. This systematic review aims to evaluate the current evidence from in vivo studies on the effect of cyclophosphamide on the reduction of ovarian reserve through the PI3K/AKT/mTOR pathway from 2016 to now.

Method & material: A comprehensive search of the electronic scientific database (Google Scholar) was performed to identify the main articles related to the investigation of the effect of cyclophosphamide on ovarian reserve and the involvement of the PI3K/AKT/mTOR pathway. Inclusion criteria included in vivo studies (mice and rats) published in English since 2016 on the effect of cyclophosphamide on ovarian function, assessment of ovarian reserve markers, and reporting activation of the PI3K/AKT/mTOR pathway. With the keywords cyclophosphamide, PI3K/AKT/mTOR pathway, ovarian reserve and in vivo, 15 articles were selected for this systematic review article.

Result: Different doses of cyclophosphamide, including single doses, weekly injections and daily injection have been administered. Findings demonstrated that cyclophosphamide treatment led to a significant reduction in ovarian reserve as evidenced by decreased primordial follicle count, diminished body or ovarian weight, and altered levels of AMH and FSH. Furthermore, PI3K/AKT/mTOR pathway was identified as a key mechanistic mediator of cyclophosphamide-induced ovarian damage, showing activation of this pathway in response to cyclophosphamide treatment. Several mechanisms have been proposed to explain the protective effects of the PI3K/AKT/mTOR pathway. First, this pathway regulates cell proliferation, survival, and differentiation, all of which are key processes in folliculogenesis, and this mechanism is the main process side effect of cyclophosphamide as demonstrated in all 15 articles. Second, this pathway regulates the expression of anti-apoptotic factors, which can prevent cyclophosphamide-induced follicular apoptosis. Third, this pathway regulates the production of growth factors and cytokines that can support follicular growth.

Conclusion: This systematic review provides evidence that cyclophosphamide reduces ovarian reserve by the PI3K/AKT/mTOR pathway. The findings suggest that interventions that target this pathway may have the potential as protective strategies against cyclophosphamide-induced ovarian toxicity. However, further studies are needed to confirm the efficacy of these interventions and to translate these findings into clinical practice.

Keywords: Cyclophosphamide, PI3K/AKT/mTOR pathway, Ovarian reserve, In vivo study

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Trauma Monthly
Abstracts

Abstract 247: The Effect of Fast track Care on Patients with Orthopedic Fracture: A Systematic Review

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Abstract

Introduction: Hip fractures are a serious healthcare problem associated with high mortality rates, functional decline, and a range of complications (i.e., cardiovascular, venous thrombotic, infectious and hemorrhagic) that can lead to prolonged hospital stays. To reduce the risk of surgical complications, various methods have been developed, including fast track care (FTC), which is a comprehensive approach to perioperative care that involves a multidisciplinary team of healthcare professionals working together to optimize patient outcomes and shorten hospital stays. Despite the potential benefits of FTC, there is a lack of information on its effects on patients undergoing orthopedic surgery. Therefore, the present study was conducted to address this gap in knowledge.

Method & material: This study followed Cochrane systematic review principles and PRISMA guidelines, and searched various scientific databases, including Cochrane CENTRAL, PubMed, Web of Science, and Scopus, as well as the Google Scholar search engine for grey literature. The search was conducted without time limitations, using keywords such as "fast track care", orthopedic, fracture, and their related synonyms. The interventional studies focused on examining the results of providing fast track care in orthopedic patients. Articles without an abstract or full text, as well as those that did not provide definitive or conclusive also review studies and conference paper were excluded. Two authors conducted screening and data extraction independently, and any disagreements were resolved through consensus involving a third author. The ROB2 critical appraisal tool was used to assess the quality of the included articles, and the final data were presented in in an extraction table.

Result: A total of 1422 articles were found, and after removing 363 duplicates and 993 irrelevant titles and abstracts, the full text of 54 articles were assessed for eligibility. Finally 12 clinical trial studies were included in the study. The main outcomes were as fallows, with a significant deference between intervention and control group: decreased hospitalization time N=7/8(7 from 8 study showed significant difference) (87.5%), decreased pain severity (N=5), decreased complication N=3/5 (60% showed significant difference), post-op recovery (N=3), and physiological complication (N=3).

Conclusion: Overall, the use of fast track care in patients undergoing thoracic surgery appears to be a promising approach to improve recovery outcomes.

Keywords: Fast track care, orthopedic fracture patients, systematic review

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Trauma Monthly
Abstracts

Abstract 248: The effect of folic acid in improving memory impairment caused by lithium consumption in rats during pregnancy

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Abstract

Introduction: Memory impairment caused by lithium consumption is one of the important side effects in the treatment of some mental disorders. In this study, in collaboration with Torbat Heydarieh University of Medical Sciences, the effect of folic acid in improving memory impairment caused by lithium consumption in pregnant rats was investigated.

Method & material: In this research, pregnant rats were divided into six groups: control group, lithium group, low dose lithium + folic acid group, medium dose lithium + folic acid group, high dose lithium + folic acid group. , and the lithium + vitamin C group. The rats in the lithium group received lithium, and the rats in the other groups were treated with folic acid or vitamin C. Then their memory performance was evaluated using the Morris Water Maze and Passive Evidence tests.

Result: The results showed that lithium consumption caused memory disorders in rats. But the treatment with folic acid in different doses caused a significant improvement in memory performance. Also, the consumption of vitamin C could improve memory function.

Conclusion: In this study, the use of folic acid in the treatment of memory impairment caused by lithium consumption in pregnant rats resulted in a significant improvement in the memory function of their offspring. These results show that folic acid can be used as an effective treatment in reducing the side effects of memory impairment caused by lithium consumption during pregnancy.

Keywords: Folic acid, memory impairment, lithium, pregnancy, rats

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Trauma Monthly
Abstracts

Abstract 249: The effect of gallic acid on the level of malondialdehyde and proinflammatory cytokines in the cerebellum in Rat Model of the hepatic encephalopathy

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Abstract

Introduction: Acute liver damage leads to jaundice, electrolyte disorders and hepatic encephalopathy (HE).(HE) is a serious neuropsychiatric syndrome resulted from acute and chronic liver diseases. Overt symptoms of HE include personality changes, sleep disturbances, ataxia, and asterixis as well as impairment of learning ability and memory formation, which may ultimately lead to coma and death. In animal models bile duct ligation (BDL) has been accepted a valid model for HE. In this study, the effects of gallic acid (GA) against BDL-induced injuries in cerebellum tissues were investigated.

Method & material: 24 male Wistar rats were randomly divided into four groups (n=6): Control, BDL, BDL+ 20 mg/kg GA, BDL+ 30 mg/kg GA. Rat were anesthetized by ketamine and xylazine. Then, BDL surgery was performed. Rats received GA by gavage daily for 28 days. Then, Animals were euthanized 28 days after BDL and cerebellar tissues were separated. Malondialdehyde (MDA), and expression of inflammatory cytokines such as interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-α) were investigated in cerebellar tissue.

Result: MDA,IL-6 and, TNF-α in BDL groups increased significantly compared to control group (p0.05).GA significantly decrease MDA, IL-6 and, TNF-α in treated groups compared to the BDL group ($p<0.05$).

Conclusion: Gallic acid (GA), a well-regarded compound with robust antioxidant and anti-inflammatory properties, exhibited notable effectiveness in reducing oxidative stress and inflammation in cerebellar tissues in a model of hepatic encephalopathy induced by bile duct ligation (BDL). This finding holds promise for GA as a potential therapy for neuroinflammatory disorders.

Keywords: hepatic encephalopathy, gallic acid, inflammatory cytokines, rat

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Abstracts

Abstract 250: The effect of guava (Psidium guajava Linn)fruit on the hemoglobin level in iron deficiency anemia of children and pregnant women: a systematic review

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Abstract

Introduction: Iron deficiency anemia (IDA) occurs when the body lacks enough iron to produce hemoglobin, causing a decrease in the ability of red blood cells to carry oxygen to tissues. Guava (Psidium guajava Linn) fruit, rich in iron and vitamin C, can help prevent and improve IDA. Vitamin C boosts iron absorption, while the fiber in guava enhances it further. The importance of iron deficiency in children and pregnant women is significant. Iron in pregnant women is necessary for the development of the fetus. Also, iron deficiency can affect the growth and development of children. This systematic review investigates the therapeutic effects of guava fruit consumption on IDA and hemoglobin levels in children and pregnant women.

Method & material: Based on Cochrane systematic review principles and PRISMA guideline, the study conducted using predetermined keywords “guava”, “Psidium guajava linn”, and “anemia” on electronic databases such as PubMed, Scopus and Web of Science. Also Google Scholar search engine have been used for reviewing grey literature. These searches were conducted from 2011 to May 2023 in the mentioned databases. The inclusion criteria were clinical trial and randomized clinical trial studies involving pregnant women and children. Exclusion criteria were Non-English language articles, review and animal studies and conferences article. Screening and data extraction were conducted by two authors independently and any discrepancies were resolved by consensus involving a third author. All included article were quality assessed via Cochrane ROB 2 tool. Then the data of included articles was collected in extraction tables.

Result: Overall 1230 articles were found and after removing 1207 duplicates and irrelevant title and abstracts, the full-text of 23 articles were assessed for eligibility. Finally, 4 for articles included in the study with total of 216 patients. Two clinical trial studies were related to pregnant women, and two randomized clinical trial studies were related to children. Administering guava fruit to pregnant women leads to an increase in hemoglobin levels of 1.3_3.8gr/dl (p-value 0.05).children who are anemic leads to an increase in hemoglobin levels of 0.3_1.1 gr/dl in the group of children(p-value 0.05).These results reduced the prevalence of IDA.

Conclusion: These studies showed the effect of guava fruit on increasing hemoglobin levels and iron absorption in anemic pregnant women and children and therefore, improvement in IDA status of target groups. A limitation of these studies was the poor long-term compliance of food-based interventions for iron deficiency/IDA, therefore, we recommend further research in this area.

Keywords: guava, Iron deficiency Anemia, pregnant women, children

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Trauma Monthly
Abstracts

Abstract 251: The effect of honey dressing on diabetic foot ulcers: a systematic review

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Abstract

Introduction: The incidence of diabetes has significantly increased in the last two decades. In 2000, an estimated 171 million people over 20 years old had diabetes worldwide. This number is expected to reach 366 million in 2030. Diabetic foot ulcer is a chronic complication of diabetes, causing psychological and economic burden on individuals, families, and the healthcare system. Ischemia, neuropathy, and infection are three major pathological factors that contribute to diabetic foot complications. While antibiotics are commonly used to control wound infections, a growing number of pathogens have become resistant to them. As a result, non-antibiotic treatments are more widely accepted by patients as a means of preventing further resistance. Recent published clinical trials have shown that honey dressing can affect foot ulcer in diabetic patients. However, findings from studies are conflicting. Therefore, the purpose of this article was to review the evidences on the effect of honey dressing on DFU.

Method & material: A systematic search was conducted in the online databases including PubMed, Web of science, Scopus and google scholar up to 2023 without publication date or language restrictions. RCTs, which evaluated the effect of honey dressing on foot ulcer in diabetic patients were included. The search terms were used in this review including: "Honey", "Diabetic foot ulcers" and "Chronic wound". Screening was done by two independent reviewers. Quality assessment was done using the Cochrane risk of bias tool.

Result: Finally, six eligible RCTs met our inclusion criteria for the systematic review. Out of the six studies, four reported that honey dressing, improved wound healing in diabetic patients compared to the control group. In addition, three RCTs showed that honey dressing, reduced the wound healing duration in diabetic patients, compared to the control group. Also, one study showed a reduction in bacterial load after use of honey dressing in comparison to the control group. Additionally, the results of another RCT, showed an improvement in length, width and depth of the foot ulcer in diabetic patients

Conclusion: Considering the results of this review, honey dressing might be effective for the improvement of foot ulcer among diabetic patients. However, it seems necessary to conduct more high quality RCTs to ensure this protective effect on wound healing in diabetic or non-diabetic patients and determine the exact possible mechanisms.

Keywords: Honey dressing, diabetic foot ulcers, systematic review

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Abstracts

Abstract 252: The Effect of Ketogenic Diet on Lipid Profile in Cardiovascular Disease: A Systematic Review of Randomized Clinical Trials

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Abstract

Introduction: Cardiovascular disease (CVD) is the first leading cause of death worldwide, accounting for approximately 17.9 million deaths in 2019. Furthermore, obesity and dyslipidemia are determined as the two most important risk factors of CVD. The ketogenic diet (KD) is a high-fat (70%), low-carbohydrate (10%) diet that causes the body to break down excess fat and use it as fuel instead of glucose, which is called ketogenesis. Recent studies have investigated the positive effects of KD on treating both obesity and CVDs, due to its role in promoting ketogenesis and modifying many other metabolic pathways. Since KD is high in fats, assessing its potential effect on the lipid profile is necessary. Considering many studies on this topic, there has not been a comprehensive study to compile the evidence related to the use of the KD in relation to its impact on CVDs. Hence, we conducted this study to summarize the findings.

Method & material: We conducted a strategical search of PubMed, Scopus, Embase, ProQuest, and, Google Scholar databases using various related keywords such as "Ketogenic diet" OR "KD" OR "Carbohydrate-Restricted diet" AND, "cardiovascular diseases" OR "CVD" OR "cardiovascular abnormalities", AND "lipid profile" OR "dyslipidemia" from inception to April 2023. The inclusion criteria were all randomized clinical trial (RCT) in either English-language journals or conference publications on adults with CVD who followed the ketogenic diet. We applied Critical Appraisal Skills Program (CASP) checklist to assess the quality of included articles.

Result: Out of 329 articles found in our research, only 6 studies had eligible criteria. Studies reported that cutting carbohydrates is associated with lower total cholesterol, triglyceride levels, and increase high-density lipoprotein (HDL). But the results in the level of LDL-C were contradictory. According to a trial of 31 obese individuals, following a KD for 56 weeks was associated with a drastic decrease in total cholesterol, LDL-C, and, triglycerides, whereas HDL cholesterol increased. The KD reduces blood lipids by both lowering insulin levels and enhancing fat catabolism. Further, the KD increases the size and volume of LDL-C particles, which is considered to reduce the risk of CVD. The KD also inhibits cholesterol biosynthesis by reducing β-hydroxy β-methylglutaryl-CoA (HMG-CoA) reductase expression, and reducing insulin levels.

Conclusion: This study indicated that a short-term ketogenic could improve the CVDs and lipid profile. However, more trials are advised for longer periods of intervention to have a conclusive conclusion.

Keywords: Ketogenic diet, Low-carbohydrate diet, lipid profile, cardiovascular diseases

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Trauma Monthly
Abstracts

Abstract 253: The effect of magnesium supplementation on body composition: An updated systematic review and meta-analysis of clinical trials

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Abstract

Introduction: There are numerous trials reported the effect of magnesium on obesity measurements; while no summarized dose-response meta-analysis is available to address the effects of dose and duration of magnesium supplementation on obesity measurements. We aimed to summarize the results of studies evaluating the effects of magnesium supplementation on obesity measurements such as body weight, waist circumference (WC), and BMI and body fat percentage in a systematic review and dose-response meta-analysis.

Method & material: In this systematic review and meta-analysis, we searched PubMed, Cochrane Library, Scopus, Web of Science and Google Scholar from databases inception up to April 2023 for relevant randomized controlled trials. Quality of evidence was evaluated using the Cochrane Collaboration Tool. All the outcomes of this meta-analysis were pooled using the random effect model. Analysis of dose–response for magnesium dosage was carried out using a fractional polynomial model. The overall effect was presented as the weighted mean difference (WMD) at 95 % confidence interval (CI) in a random-effects meta-analysis model. Publication bias was also assessed using Egger's and Begg's statistics.

Result: Totally, 29 studies comprising 2,098 participants were included for the meta-analysis. There were no significant changes in anthropometric indices after magnesium supplementation in the overall analysis. However, subgroup analysis revealed that magnesium supplementation decreases WC in subjects with BMI 30 kg/m2 (obese) (13 trials, n 997 participants; weighted mean difference = –3.09 cm, 95 % CI –4.12, –0.09, P = 0.032; I2 = 0 %). Dose–response analysis revealed a non-significant non-linear effect of supplementation dosage on anthropometric indices.

Conclusion: According to our finding, magnesium treatment significantly reduced WC only in obese subjects. However, further studies evaluating the other obesity measurements especially central obesity will be helpful to infer a more reliable result.

Keywords: Cardiovascular disease, Magnesium; Obesity; weight; Meta-analysis

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Trauma Monthly
Abstracts

Abstract 254: The effect of pH and beta-cyclodextrin on solubility and solution stability of piroxicam cocrystals

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Abstract

Introduction: Most drugs have low solubility in aqueous media, which directly influences drug efficacy and bioavailability. Many approaches have been developed to improve drug solubility. Recently, crystal engineering as a novel method was applied to adjust drug physicochemical properties such as solubility. Cocrystals are crystalline materials composed of two or more different molecules (in a certain stoichiometric ratio), typically active pharmaceutical ingredient (API) and cocrystal formers (coformers) which constitute non-covalent bonds that form a unique crystalline structure. Recently, some cocrystal forms of API are commercially available in the market. The aim of this study is the preparation and characterization of piroxicam cocrystals and evaluation of aqueous solubility at different pHs. In addition, the solubility of piroxicam and cocrystals will be evaluated in presence of beta-cyclodextrin as a complexing agent.

Method & material: Cocrystals of piroxicam with different coformers (benzoic acid and saccharin) were prepared by the slurry method. A certain molar ratio (1:1) of piroxicam and coformer were added to solvents, then the obtained suspension was left at room temperature. The prepared cocrystals were characterized by Powder X-Ray Diffraction (PXRD) analysis and Differential Scanning Calorimetry (DSC). The thermodynamic solubility of piroxicam, coformers and cocrystals were determined in different media, including phosphate buffer solution at pH range 2-7 and β-cyclodextrin at different concentrations. Then, their effects on the solubility and stability of cocrystals were investigated.

Result: PXRD and DSC confirmed cocrystal formation. Additive concentrations of β-cyclodextrin (0-0.02 M) showed enhancement in solubility and solution stability of both piroxicam-benzoic acid and piroxicam-saccharin cocrystals. In addition, they exhibited maximum solubility at pH value of 7, however, increasing pH indicated no improvement in solution stability of studied cocrystals.

Conclusion: β-Cyclodextrin has the ability to improve the solubility and solution stability of both cocrystals. In addition, pH of solution can change thermodynamic solubility and stability of piroxicam cocrystals.

Keywords: pH, beta-cyclodextrin, solubility, stability, piroxicam cocrystals

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Abstracts

Abstract 255: The effect of Plerixafor on the neutrophil count in Myelokathexis patients, a systematic review

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Abstract

Introduction: warts, hypogammaglobulinemia, infections, and myelokathexis (WHIM) syndrome is an uncommon Birth born immunodeficiency disorder that leads to neutropenia due to the inability of neutrophils to exit the bone marrow. WHIM syndrome can be attributed to genetic mutations that activate the CXCR4. One potential therapy is the use of plerixafor (also known as AMD3100 and Mozobil), a substance that blocks CXCR4 receptors which may boost neutrophil release into the blood circulation and increase its count.

Method & material: This systematic review was conducted in the PubMed, Web of Science, and Scopus databases, using the keywords "Plerixafor or AMD3100 or Mozobil" and "Myelokathexis or WHIM syndrome or CXCR4 mutation". Randomized controlled trials and clinical trials were included and non-English articles, animal studies, case reports, and review articles were excluded. Our target groups were studies that administer just plerixafor for myelokathexis patients without any other intervention.

Result: Records consist of 40 articles and 3 of them were validated by our inclusion criteria. All studies which were clinical trials, showed an increase in neutrophils and lymphocytes in patients. In the first study, in six patients, plerixafor was given in 0. 04 to 024 mg/kg dosage at 2-4 days intervals and All patients exhibited an immediate increase in their white blood cell count. The number of lymphocytes in the body rose, with the most significant rise occurring in B cells, specifically CD19 cells. In the second experiment, a phase 1 dose-escalation study included three adult patients with the CXCR4R334X mutation, Plerixafor was found to successfully normalize lymphocyte, monocyte, and neutrophil counts in all three patients. In the third study, over a period of six months, three adult individuals diagnosed with WHIM syndrome were administered subcutaneous injections twice a day, using a dosage that equated to only 4-8%.

Conclusion: Studies showed the crucial molecular mechanism in WHIM syndrome patients is the CXCR4 signaling, enabling further investigation of plerixafor as a promising cause-based therapy for adult patients with this disease. No adverse effects related to drug consumption were detected. Upcoming research must focus on determining the most effective dosage and ensuring the safety and effectiveness of the treatment over an extended period in a larger population, which should also include children.

Keywords: WHIM, Myelokathexis, Plerixafor, AMD3100

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Trauma Monthly
Abstracts

Abstract 256: The effect of spiritual care program on stress, anxiety and depression of cancer patients

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Abstract

Introduction: Cancer, as a chronic disease, is one of the common causes of death worldwide 15 In the world, about one sixth of deaths are caused by cancer About 300 000 people are diagnosed with cancer every year Cancer is a disease that affects many families and communities in all parts of the world With access to adequate care, more than 80 of people with cancer can survive and lead healthy lives 23 In cancer, due to its chronic nature, the patient and parents face a lot of tension Cancer affects the quality of life, mental and physical health, daily life activities, family dynamics and the role of each family member 14 Various studies have reported the psychological stress caused by the burden of cancer for the patient's family, equal to or even higher than the patient himself Facing unfamiliar caregiving demands 11

Method & material: The present research was conducted in a review way and by searching in accessible databases including: Magiran, Google scholar, PubMed, ProQuest within the range of the last few years

Result: Due to the increasing emphasis on providing spiritual care as an important part of holistic nursing care, the trend of research in recent years is to investigate the effectiveness of spiritual care on the physical, mental and spiritual health of patients. This is despite the fact that in the field of providing spiritual care to patients, most of all cancer patients who, due to the specific conditions of the disease and the chronic nature of their disease , tend towards spiritual and religious issues, are placed in the priority level of importance (21). Research is considered a strong predictor, source of hope and promoter of mental health 8).

Conclusion: Cancer is one of the most common and complicated chronic diseases known. Getting cancer, receiving aggressive, expensive, long term treatments, complications from chemotherapy and other common treatments that occur for patients, on the physical, mental, social and spiritual condition and on the functioning of the systems (body and soul)) affects patients. Du e to the nature of cancer disease, most patients from the very beginning of the disease diagnosis, or during treatment or in the final stage of their disease, for many reasons such as common beliefs about cancer disease, the uncertainty of the effect of treatment, the lack of early palliative medicine along with medical treatments. The patient's mental framework is disturbed and they unconsciously experience a state of fear, worry, stress, anxiety, loss of hope, purpose and meaning of life. Often t his situation is associated with depression and a feeling of extreme helplessness.

Keywords: Spiritual care program, stress, anxiety, depression, cancer patients

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Abstracts

Abstract 257: The effect of topical cream of asafoetida aqueous extract on cutaneous leishmaniosis wound in BALB/c mice compared to Glucantime

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Abstract

Introduction: Leishmaniasis is one of ten important protozoan diseases endemic in tropical and subtropical regions. In Iran incidence of cutaneous leishmaniasis is 31 in 100,000 people and 99.5% of cases occurred in rural areas. Glucantime as the first-line therapy for CL has toxic side effects and drug resistance. Slowness of wound healing, disease recurrence, painful intra-wound injection of dosage form and high cost are other challenges Ferula assa-foetida L. from eastern regions of Iran has oleo gum resin named asafetida taken from root of plant. In the sources of Persian Medicine, asafetida used topically healing wounds, removing excess flesh and strong in penetrating wounds. Considering previous studies demonstrated efficacy of asafoetida in stopping growth and lethality of Leishmania major in-vitro, this study aimed to evaluate the effect of asafoetida on cutaneous leishmaniasis wounds in BALB/c mice.

Method & material: Aqueous extract from asafoetida was achieved and two concentrations of 20% and 40% in eucerin base were prepared. BALB/c mice were divided into two categories by the random division of the subject using the random table and coding. The first category belonged to wounds ≤5 mm after 45 days and the second category was associated with wounds 5 mm after 53 days. Each category included 4 groups of asafoetida extract cream (AEC) 40% (BID/day), eucerin, glucantime (20 mg/kg, s.c.) and control, consisting of 5 mice. In second category, AEC 20% was used instead.

Result: In wounds 5 mm, a significant reduction in size of wounds was observed in glucantime group in 3th to 5th week ($P<0.05$). There was a significant decrease in parasite load in wounds of all mice in AEC 40% group and glucantime group compared to other groups (P0.001). In AEC 40% group, no amastigotes were observed in spleen of any mice compared to glucantime group (40% loss of amastigotes) ($P=0.002$). In wounds ≤ 5 mm, no reduction in size of wounds was observed in AEC 20% group. However, a higher decrease in parasite load was observed in wounds of all mice in this group and glucantime group (P0.001). The spleen of none of the mice showed any amastigotes in AEC 20% group. In glucantime group, no amastigotes were observed in 80% of livers and in 100% of spleens. Difference between these two groups with other groups was significant (P 0.002).

Conclusion: It was concluded from our study that the AEC showed significant antileishmanial activity. Asafetida may be recommended as an efficient topical treatment for improving the L. major induced ulcers beside standard treatment.

Keywords: Ferula assa-foetida, asafoetida, Cutaneous leishmaniasis, Lesion, Persian medicine

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Trauma Monthly
Abstracts

Abstract 258: The effect of virtual training on warfarin therapy on INR control: a quasi-experimental study

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Abstract

Introduction: Heart valve diseases are of great importance due to their chronic, complex, and progressive nature. These patients are under warfarin therapy, and one of the biggest problems after heart valve replacement is non-adherence to warfarin therapy. One of the basic needs of patients is the importance of regular monitoring of anticoagulants. For intermittent monitoring, telenursing technology can be used. Therefore, this study was conducted with the aim of the effect of virtual education on warfarin therapy on INR control in patients after heart valve replacement in Yazd.

Method & material: This research is quasi-experimental in that 100 patients taking warfarin in admitted hospitals of Shahid Sadoughi University of Medical Sciences were randomly assigned to control and intervention groups. 51 people were in the intervention group and 49 people were in the control group. During the 4 months of training and follow-up, training was given to the intervention group every week, and for 4 months, the participants in the control group did not receive any messages. Also, during the course, for the intervention group, follow-up was done by phone to follow up on the adherence to the treatment, and the necessary feedback was given to the patients. At baseline and 4 months after the intervention, the INR level was measured. Data were analyzed using independent t-test and chi-square.

Result: The findings showed that the average INR score in the control group is 2.82 ± 0.503 before the intervention and 2.86 ± 0.495 after the intervention, and this difference is not statistically significant (P-value = 0.180). Also, the average INR score in the intervention group is 3.57 ± 0.677 before the intervention and 0.641 ± 2.3 after the intervention, which is statistically significant (P-value0.001).

Conclusion: According to this study, It is suggested that nursing managers create a situation for better and more accurate follow-up in chronic patients so that follow-up and training can be done virtually and prevent possible problems of patients related to lack of awareness.

Keywords: INR control, nursing, telenursing ,warfarin therapy

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Trauma Monthly
Abstracts

Abstract 259: The Effectiveness and Safety of Telerehabilitation in patients With Total Knee Arthroplasty: A systematic Review of Randomized Clinical Trials

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Abstract

Introduction: One of the most common joint conditions worldwide is knee osteoarthritis (KO), which can cause significant disability. To improve the quality of life for patients with advanced KO, Total Knee Arthroplasty (TKA) is often used. In recent years, "Rapid Recovery" or "Fast-Track" strategies have been developed and applied in TKA and other selected surgeries. These strategies aim to enhance recovery after surgery, reducing morbidity, functional recovery time, and hospital stay length and costs. Key factors for a successful recovery after TKA include pre-operative rehabilitation, patient empowerment, and early postoperative rehabilitation once the patient is discharged. Telerehabilitation has become increasingly popular as a replacement or addition to traditional in-person physical therapy since its creation. These systems use sensors and software to monitor patients, enabling therapists to remotely assist with their rehabilitation progress. Patients feel supported, motivated, and monitored, and the results are similar to those.

Method & material: Our team conducted a review of clinical trials of telerehabilitation in patients who underwent total knee arthroplasty, following PRISMA 2020 guidelines. We searched PubMed, WOS, and Scopus databases for English full-text papers until May 26, 2023, using comprehensive electronic search strategies. We extracted basic information from studies that met our inclusion and exclusion criteria, noting the number of studies, study type, study subjects, intervention and control group measures, outcome indicators, quality assessment tools, and main conclusions.

Result: After removing duplicate articles from PubMed, Scopus, and Web of Science databases, we obtained 822 articles. Two screeners, A.R.A and R.R, individually reviewed these articles and selected 31 for full-text review. From these, we used 9 studies for data synthesis. The information on the reviewed articles in the data synthesis stage was placed in the appendix of the result. Two studies showed that digital health systems or smartphone software had similar results to traditional rehabilitation methods. However, in three other cases, these new systems significantly improved performance compared to traditional methods. Two studies indicated that using traditional rehabilitation methods showed similar results with telemedicine methods. In one study, the telerehabilitation method was highly recommended.

Conclusion: Due to the heterogeneity of the data, a concrete and reliable statement is not possible. Heterogeneity of results was observed in some of studies. However, rehabilitation using electronic aids, especially smartphones, can be evaluated positively.

Keywords: telerehabilitation, total knee athroplasty, telemedicine, arthroplasty

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Abstracts

Abstract 260: The effectiveness of linagliptin drug on the consequences of covid-19 in patients with diabetes

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Abstract

Introduction: Today, Covid-19 has become one of the most important recent challenges of the health system, which causes various complications and, in severe cases, the death of people (1). People with underlying diseases, including diabetes, are more exposed to complications caused by this disease, and the risk of severe symptoms and mortality in diabetic patients with Covid-19 is higher than others (2); Considering the importance of this issue and the lack of a similar study on this concept at the time of the research, this study was conducted with the aim of investigating the effect of linagliptin on the consequences of covid-19 in patients with diabetes.

Method & material: This study was a placebo-controlled clinical trial study that was conducted on 70 diabetic patients with covid-19 admitted to Bahlul Hospital in Gonabad city in 1400. After considering the inclusion criteria such as positive PCR test and history of diabetes according to laboratory tests (BS, FBS), people were included in the study by targeted sampling method. After obtaining written consent, people were randomly divided into control (35 people) and intervention (35 people) groups using permutation blocks of four. In addition to the implementation of routine treatments based on the protocol of the Ministry of Health in both groups, the intervention group received linagliptin 5mg tablets once a day for 14 days. In addition to demographic characteristics, spo2, LDH, D. Dimer indices, the duration of hospitalization until the 14th day after regular drug use and re-hospitalization in the next month were investigated. The data were described using SPSS V.24 software with frequency,

Result: The average age of the participants was 64.5 ± 12.17 years and the majority of them were women (51.4%). The findings of this study showed that there was no significant difference between the two intervention and control groups in terms of age, gender, duration of diabetes, cardiovascular diseases, lung diseases and inflammatory factors upon entry and they were homogeneous (p0.05). The average changes in blood oxygen saturation in the control and intervention groups were 1.47±2.57 and 2.02±3.81, respectively. which was significantly higher in the intervention group than the control group (p0.001). Also, the number of hospital days, ICU hospitalization and mortality in the intervention group were significantly different from the control group (p=0.001).

Conclusion: Linagliptin drug can effectively improve the clinical symptoms of diabetic patients with covid-19 and return to the hospital, and since this drug is available and low-cost, while suggesting to conduct additional studies, this method can be used to reduce complications. Covid-19 disease and improving the prognosis of this disease.

Keywords: covid-19, diabetes, linagliptin

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Trauma Monthly
Abstracts

Abstract 261: The Effects of Exosome Therapy in Animal Model of Spinal Cord Injury. A Systematic Review and Meta-Analysis

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Abstract

Introduction: A spinal cord injury involves damage to the spinal cord that causes temporary or permanent changes in movement, and senses. Exosomes have opened a new way to repair nervous system diseases. We used systematic review, and meta-analysis to investigate the effect of exosomes on the locomotor function of animal models of spinal cord injury

Method & material: In this study, a search was made in PubMed, Scopus, and Web of Science databases from January 1, 2000, to January 1, 2023. Articles that used exosomes for traumatic animal models of the spinal cord were selected. The mean and standard error of behavioral Basso–Beattie–Bresnahan (BBB) TEST data were subjected to meta-analysis. Two authors independently screened the articles based on inclusion and exclusion criteria. All statistical analyses were conducted using CMA software

Result: Significant improvement was observed in the overall pooled standardized mean difference (SMD) between animals treated with exosomes compare to control (behavioral Basso–Beattie–Bresnahan (BBB) TEST 2.8 (95% confidence interval [CI] 3.4 to 4.5; P 0.001)

Conclusion: Exosome therapy Improves locomotor impairment in the traumatic spinal cord injury model

Keywords: Exosome therapy, spinal cord injury, systematic review, meta-analysis

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Trauma Monthly
Abstracts

Abstract 262: The Effects of Exosome Therapy in Animal Models of Parkinson's disease. Meta-Analysis

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Abstract

introduction: The effect of exosome has been investigated in several studies in animal models of Parkinson's disease (PD), But its therapeutic effects are debated. In this meta-analysis, we examined the effectiveness of this method

Method & material: In this study, a search was made in PubMed, Scopus and Web of Science databases January 1, 1980 to January 1, 2023.articles that used exosome for animal models of Parkinson disease were selected. The mean and standard error of apomorphine or amphetamine-induced rotation data were subjected to meta-analysis. Two authors independently screened the articles based on inclusion and exclusion criteria. All statistical analyses were conducted using CMA software

Result: Significant improvement was observed in the overall pooled standardized mean difference (SMD) between animals treated with exosomes compare to control (1.08 for apomorphine-induced rotation, P .001; 1.35 for amphetamine-induced rotation, P .001)

Conclusion: This meta-analysis revealed that treatment with exosomes significantly improves neurological outcomes in rodent animal PD models.[4] Exosomes treatment showed a significant effect size in the behavioral deficit recovery of motor function in animal PD models

Keywords: Exosome therapy, Parkinson's disease, animal models, meta-analysis

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Trauma Monthly
Abstracts

Abstract 263: The effects of formulated cinnamaldehyde on the activity of thalamic neurons and pain responses in the neuropathic pain in rat

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Abstract

Introduction: Neuropathic pain (NP) often accompanies nerve injury or damage to the nervous system and it can be categorized as central or peripheral pain. Chemical or inflammatory changes at the injury site can increase nerve deterioration. Current treatment of NP is far from clear. It is reported that reactive oxygen species (ROS) are implicated in NP. Indeed, the increased ROS generation changes the mitochondrial genome via the accumulation of lipid peroxidation products. Medicinal plants have been used in folk medicine for treatment of NP and so could represent a promising alternative choice for NP treatment. The present study is focused on improving bioavailability of poorly soluble cinnamaldehyde by formulation and emulsifying of that, using the solid self-emulsifying drug delivery system and assessing its analgesic effects in NP in rat at the cellular level.

Method & material: The NP model was induced by ligating the left sciatic nerve (chronic constriction injury: CCI model) of the male Wistar rats (180-200 gr). They were divided into 3 groups: sham group, CCI group, CCI+ cinnamaldehyde emulsion (0.1 M) group. They were administered for 30 days (daily, once/day). Cold allodynia were assessed during the experiment (on days 2, 4, 7, 14, 21 and 30 after CCI surgery). Frequency of action potentials of thalamic neurons assessed on day 30 after CCI surgery, using extracellular single unit recording. At the end of the electrophysiological study, brain tissues of rats were collected, and oxidative biomarkers evaluated.

Result: Cinnamaldehyde emulsion significantly decreased cold allodynia of CCI rats (analgesic activity). Furthermore, gavage of cinnamaldehyde emulsion significantly decreased frequency of action potentials of thalamic neurons on CCI rats as compared with CCI group. Additionally, application of cinnamaldehyde emulsion significantly normalized redox equilibrium in the brain.

Conclusion: Our data suggested that formulated cinnamaldehyde, as emulsion form, have analgesic effects via alteration of thalamic neurons activity and normalized redox equilibrium in the brain.

Keywords: Cinnamaldehyde, thalamic neurons, neuropathic pain, rat

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Trauma Monthly
Abstracts

Abstract 264: The effects of hydroalcoholic extract of Eucalyptus leaves on experimental inflammation and pain due to injection of formalin in male rats

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Abstract

Introduction: Regarding side effects of acute and especially chronic inflammation and incomplete treatment of patients who suffer from these side effects, Eucalyptus has potential use as a medicinal plant. One of the important objectives of biological investigations is to find substances that are involved in relieving pain. The application of herbal medicine instead of synthetic drugs has increased in recent years because of their lower side effects and high varieties of efficient components. The purpose of this study: The effects of hydroalcoholic extract of Eucalyptus leaves on experimental inflammation and pain due to injection of formalin in male rats.

Method & material: This study used formalin test on 30 male rats with an average weight of 220-180 g which were divided into 5 groups and Xylene-induced ear edema and the Formalin Test for demonstrating its anti-inflammatory and antinociceptive effects. In each of these two tests, the animals were divided into 5 groups (each group consisting of 6 mice): Sham, Positive Control (receiving dexamethasone at a dose of 15 mg/kg in the inflammatory test, and receiving morphine at a dose of 10mg/kg in the formalin test), experimental groups receiving hydroalcoholic extract at doses of 50, 100and 200 mg/kg. The Data was analyzed by one-way variance analysis and Tukey's test using SPSS.

Result: Hydroalcoholic extract of eucalyptus leaves reduces xylene-induced inflammation in experimental groups, especially at a dose of 200 mg/kg compared to the control group and the positive control group($P<0.05$). Also, the hydroalcoholic extract of eucalyptus leaves in all doses, especially in the dose of 200 mg/kg, reduces the pain caused by formalin($P<0.05$).

Conclusion: The hydroalcoholic extract of Eucalyptus leaves has antinociceptive and anti-inflammatory effects in both phases (especially the inflammatory phase) which is caused by formalin. This effect may be due to the presence of flavonoid and tannin compounds in the plant, which have been known to have anti-inflammatory and pain-relieving effects in the past.

Keywords: Eucalyptus leaves, pain, inflammation

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Trauma Monthly
Abstracts

Abstract 265: The Frequency of various types of domestic violence in women with addicted male partners referring to addiction treatment centers and its relationship with demographic factors in Isfahan in 2022.

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Abstract

Introduction: Violence against women has existed in various forms throughout history. Violence against women is a phenomenon in which women are deprived of their rights due to their gender, often by the opposite sex. Generally, any act or behavior that causes physical, sexual, or psychological harm or deprivation and suffering to women is called violence against women. Threats of such actions, forced or voluntary deprivation of freedom, whether in personal or collective life, are also part of this social harm. Psychologists have noted the division and attention to gender roles as well as social acceptance in examining this phenomenon. This unfortunate occurrence has grown to such an extent that it is considered a blatant violation of human rights worldwide.

Method & material: In this cross-sectional study, a total of 110 spouses of male addicts attending an addiction treatment center were randomly selected. After obtaining personal consent and commitment to confidentiality, they completed the Domestic Violence against Women questionnaire (Tabrizi and colleagues' questionnaire, which includes 71 questions in four sections of demographic information, types of spousal abuse, patriarchal beliefs, traditions and family upbringing, and learning violence). Then, the data were analyzed using SPSS software and statistical tests.

Result: The results show that 72.7% of women have experienced domestic violence. Domestic violence did not have a significant correlation with age, age difference, and number of children among women and men in this study (p value 0.05). However, it had a significant and direct correlation with education, occupation, family ratio, previous marriage history, and family history of domestic violence among women (p-value < 0.05). In this study, psychological violence accounted for 70% of domestic violence, economic violence for 62%, physical violence for 52%, and sexual violence for 30%.

Conclusion: It appears that education, the employment status of the couple, their previous marital history, and the history of domestic violence in the family are predictive factors for domestic violence. It is recommended that individuals with these factors receive more attention and care.

Keywords: domestic violence, addicted male, demographic factors

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Trauma Monthly
Abstracts

Abstract 266: The Hidden Link Between ABO and Rh Blood Group System and COVID-19 Severity

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Abstract

Introduction: Background: The ABO and Rh blood group systems are two of the non-modifiable risk factors that may influence the susceptibility, severity and outcomes of COVID-19 infection. However, the evidence on this association is inconsistent and varies across different populations. Objective: To conduct a systematic review of the literature on the relationship between ABO and Rh blood group systems and COVID-19 transmission, course and outcome.

Method & material: A systematic online search for published literature, we searched PubMed, Scopus, Web of Science and Google Scholar databases, including unpublished articles, with the MESH (medical subject heading) terms ‘‘ABO blood groups’’ and ‘‘COVID-19’’. In order to expand my search scale, we alsoconducted a full-text search with the relevant terms (‘‘SARS-CoV-2 infection’’, ‘‘2019-nCoV infection’’, ‘‘novel coronavirus infection’’ and ‘‘ABO polymorphisms”). The searching time period was until June 2023 and we limited the search language to English, with no restrictions on country or publication state.

Result: we included 35 studies with a total of 123,456 participants from 18 countries. The analysis showed that blood group O was associated with a lower risk of COVID-19 infection and severe disease compared to other blood groups, while blood group A was associated with a higher risk of infection and severe disease. Blood group B was also associated with a higher risk of infection, but not with severe disease or mortality. Blood group AB was not associated with any COVID-19 outcome. Rh positive individuals had a higher risk of infection and severe disease than Rh negative individuals, but no difference in mortality was observed.

Conclusion: This systematic review suggests that ABO and Rh blood group systems may play a role in the susceptibility and severity of COVID-19 infection. Blood group O and Rh negative individuals may have a protective effect, while blood group A and Rh positive individuals may have an increased risk of COVID-19 infection and complications.

Keywords: ABO Blood-Group System, Rh Blood-Group System, COVID-19, Disease Susceptibility

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Trauma Monthly
Abstracts

Abstract 267: The psychology of the work environment and the effect of color on it; A systematic review

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Abstract

Introduction: The design of the work environment should be such that it creates an attractive, calming and stress-free environment for employees so that they can achieve proper concentration and accuracy[1].In the discussion of environmental psychology, color plays a very important role and has a great impact on human perception, so it should be considered in interior design, especially in the work environment[2].Considering the importance of this issue, the aim of this study is a systematic review on the effect of color in the work environment.

Method & material: In this study, through a systematic review, articles published in scientific databases PubMed, Scopus, Google Scholar with the keywords of “Color perception”, “Color psychology”, “Color effect”, “Mental health” and “Workplace” were searched in the title of articles without time limit. In this study, the articles related to the Persian language in this field were removed due to the limited number, and the focus was on English research articles published in international publications. At each stage, the articles searched in each database are entered into the Endnote software and the information extracted from them(including the year and authors' names, study design, materials and methods, participants, color samples and evaluations)were entered into the prepared database.

Result: First, 328 articles were identified from the aforementioned databases, among which 116 articles met the inclusion criteria. Exclusion criteria included review articles, interventional articles, qualitative studies, and studies without a proper research team, and a total of 58 articles were evaluated as eligible. The results showed that 18 studies focused on color preference,23 studies on mood and emotions analysis,5 studies on health outcomes and 12 studies on the impact of workplace color on employee productivity. Most studies focused on studying warm versus cool colors. Warm colors were usually red, orange, yellow and cold colors were often blue and green. The evidence of the effects of color in the workplace was evaluated in three groups: mood and emotions, physiology and well-being, and work-related outcomes, and the results showed that color has a great impact on emotions, well-being, and performance.

Conclusion: The results of this study showed that color has a great impact on human perception and behavior(especially emotions and mood, stress and well-being, performance and creativity)and using appropriate color in the work environment can increase positive mood and higher efficiency. Therefore, it is important to have information about the impact of color differences in the workplace on experts and officials in this field.

Keywords: Color Effect, Color Ergonomics, Color Psychology, Mental Health

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Trauma Monthly
Abstracts

Abstract 268: The relationship between dairy consumption and risk of hepatocellular carcinoma: An Updated Systematic Review of observational studies

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Abstract

Introduction: Liver cancer is the sixth most common cancer and it ranks third in terms of cancer death. Evidence shows that almost 30-40% of cancer cases could be prevented by modifying nutritional factors and dietary patterns. Milk and dairy products are rich protein sources with high biological value, which contains essential micronutrients and several bioactive compounds that may affect the risk and progression of cancer. Although, the relationship between dairy consumption and the risk of hepatocellular cancer is so controversial, therefore the purpose of this study was to summarize the relationship between dairy consumption and risk of liver cancer.

Method & material: In this study, we searched for all articles related to the mentioned topic by using relevant keywords in PubMed, Google scholar, Scopus, and ISI Web of Science until 2023. No restrictions in the time of publication and language of articles were considered. We included observational studies investigating the associations of dairy products with hepatocellular carcinoma in adults. We assess the quality of included studies by Newcastle Ottawa scale.

Result: In total, we included 16 observational studies including 8 prospective and 8 case-control studies that included 500,000 adult participants. Out of 16 articles which were found, 11 studies reported a direct and significant association between dairy consumption and risk of liver cancer. However, 3 studies declared that higher yogurt consumption was associated with lower risk of developing hepatocellular carcinoma. The possible mechanism for this positive association could be due to an increased IGF-1 plasma levels, which is an important factor in regulating cell proliferation, differentiation and apoptosis. In addition, most studies reported a significant positive association between milk intake and risk of hepatocellular carcinoma. Data for other types of dairy products were not sufficient.

Conclusion: Most studies included in the current systematic review showed that higher consumption of dairy products is associated with increased risk of hepatocellular carcinoma. However, a meta-analysis is needed to confirm these findings.

Keywords: Dairy products, Milk, liver cancer, Hepatocellular Carcinoma, Systematic review

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Trauma Monthly
Abstracts

Abstract 269: The Relationship between Health Literacy and General Health in Patients with COVID-19

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Abstract

Introduction: The most effective strategy to prevent the spread of coronavirus disease is infection prevention and control. Raising awareness amongst the general public is considered one of the effective ways to achieve this goal. This study aimed to investigate the relationship between health literacy and general health in patients with COVID-19.

Method & material: An analytical cross-sectional study was performed on 432 people in 2021. The study participants were selected by using convenience sampling. Of the participants, 185 had COVID-19 based on diagnostic criteria, patients who had recovered in the past month, and 247 had a negative COVID-19 test result according to the diagnostic criteria. They filled out both the HELIA (the Health Literacy for Iranian Adults) questionnaire and the General Health Questionnaire–28(GHQ-28) in person using the Porsline platform. The t-test, Pearson's correlation coefficient, and Spearman's correlation coefficient were employed to analyze the collected data. All statistical analysis was carried out using SPSS version 16.

Result: The results showed that only 2.30% of the study participants had insufficient health literacy, and only 3% of them had poor general health status. Also, no statistically significant difference was observed between people who were infected with COVID-19 and those who were not infected in terms of the scores of the dimensions of health literacy (p0.05). However, a statistically significant difference was found between people who were infected with COVID-19 and those who were not infected concerning the general health total score (p=0.005).

Conclusion: False confidence due to better general health in sufferers may lead to an increase in the incidence of COVID-19 in people with better general health. Therefore, it is necessary to provide information and increase health literacy in situations of highly contagious infectious diseases like COVID-19.

Keywords: COVID-19, General Health, Health literacy

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Trauma Monthly
Abstracts

Abstract 270: The Relationship between Protection Motivation and Breast Self-Examination Behavior in Middle-Aged Women

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Abstract

Introduction: Breast cancer continues to be a significant health concern worldwide, necessitating the development and implementation of effective early detection and intervention strategies. Regular self-examination of the breasts plays a critical role in this regard, as it empowers women to become actively involved in monitoring their breast health. By routinely examining their own breasts, women can potentially detect any abnormalities or changes at an early stage, facilitating prompt medical intervention and significantly improving treatment outcomes. The primary goal of this study was to explore the association between protection motivation and breast self-examination among women in the middle-aged category.

Method & material: The present study is a semi-experimental research conducted in 2019, involving the selection of 325 middle-aged women (aged 59-60 years) who visited comprehensive health service centers in Neyshabur city. Eligible participants included women without a history of breast diseases, with a willingness to participate in the study, and possessing literacy. The sampling method employed was a multi-stage cluster approach, whereby various areas of the city were treated as clusters, and women attending each specific comprehensive health service center were randomly chosen. A researcher-designed questionnaire, comprising sections on protection motivation structure, demographic variables, and breast self-examination behavior, was used as the data collection tool. Descriptive tests and ANOVA analyses in SPSS 21 software were utilized for data analysis.

Result: The study included women with an average age of 37.31 ± 7.32, with over 90% of them being married. Alarmingly, more than half of the participants had not undergone breast self-examination. However, a noteworthy finding emerged, revealing a significant association between protection motivation and the practice of breast self-examination ($p = 0.032$). Specifically, women who regularly performed breast self-examination demonstrated higher protection motivation than those who did not.

Conclusion: The study highlighted the low participation in breast self-examination among more than half of the women surveyed, emphasizing its importance. It found a strong correlation between regular self-examination and higher levels of protection motivation. To address this, targeted educational programs should be implemented to raise awareness, promote self-examination, and enhance motivation, with a specific focus on married women, underscoring the potential benefits of early detection and protection against breast cancer.

Keywords: Protection Motivation, Breast Self-Examination, Middle-Aged Women

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Abstracts

Abstract 271: Inhibitory effects of heat-killed culture supernatant of Bacillus coagulans against CT-26 colon cancer cells

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Abstract

Introduction: Probiotic microorganisms produce compounds that have the potential to affect human health. They appear to be a promising cancer treatment. The supernatant of bacterial cultures contains bacteria-produced chemicals that can be used as a model for anticancer research. The purpose of this investigation was to examine if the culture supernatant of heat-killed Bacillus coagulans had any inhibitory effects on CT-26 colon cancer cells.

Methods: and Materials: The study was conducted in a cell culture setting. Various amounts of Bacillus coagulans extract were utilized to treat the CT26 cell line after it had been cultured. The anticancer effects of the probiotic were determined using MTT (cell proliferation) tests, ROS production rate, LDH release rate, and survival rate. $P<0.05$ was used as the threshold for significance in all tests.

Results: Bacillus coagulans extract resulted in a significant reduction in proliferation, a significant increase in the percentage of cells that went into apoptosis, a major increase in ROS generation, and a significant increase in LDH release when compared to the control group.

Conclusion: The usage of Bacillus coagulans probiotic appears to be a strong contender for the treatment of colon cancer, according to the findings of this study.

Keywords: Colon, carcinoma, Probiotic, Bacillus coagulans, Cell viability

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Trauma Monthly
Abstracts

Abstract 272: The relationship between soy intake and risk of gastric cancer: a systematic review

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Abstract

Introduction: Gastric cancer (GC) is one of the most common types of cancer which dietary factors have been reported to play an important role on its development. Soy bean has a number of bioactive phytochemicals, such as isoflavones that have been shown to reduce the incidence of many cancers. However, its effect on gastrointestinal (GI) cancer remains controversial. Therefore, the purpose of this review is to investigate the relationship between soy bean intake and the risk of gastric cancer.

Method & material: Systematic search was conducted in the online databases including PubMed, Web of science, Scopus and google scholar up to June 2023 without publication date or language restrictions. The following search terms were used for the systematic search: "soy" OR "soybean" OR "bean" OR "legume" OR "tofu" OR "miso" OR "natto" AND "gastric cancer" OR "stomach cancer" OR "gastric tumor" OR "stomach tumor". In addition, the references of the studies have been checked for inclusion the related articles.

Result: Out of 129 articles that were found, finally 20 articles met the inclusion criteria. Among 15 case-control studies, 7 articles could not find any significant relationship between soybean consumption and gastric cancer, while 8 articles stated that soy bean consumption is inversely associated with gastric cancer. Additionally, among the 5 cohort studies, 4 articles did not find any significant relationship between soy consumption and gastric cancer, however, a recent study in Japan showed an inverse relationship between soybean consumption and gastric cancer. The possible mechanism is that soybean can promote the immune function of gastric cells. It is also suggested that soy-based diets might increase the number of 'beneficial bacteria' (such as lactic acid bacteria) in the gut microbiota, which may be one of the reasons why soy foods can decrease the risk of GC. According to studies, the other possible mechanism could be the interactions between IL-10 gene variants

Conclusion: Considering the results of this review, a high amount of nonfermented soy foods consumption can potentially reduce the risk of GC as a result of having influence gut microbiota, immunological and inflammation functions. However, to draw better conclusions, it seems necessary to conduct high quality Randomized clinical trial studies with in this field.

Keywords: Soy, gastric cancer, GC, cancer, soy products

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Trauma Monthly
Abstracts

Abstract 273: The role of artificial intelligence (AI) in medical laboratory in next decade

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Abstract

Introduction: Artificial intelligence (AI) is revised to leverage computers and machines to imitate the problem-solving and decision-making capabilities of the human brain. Now we face the question of what happens if we implement AI in laboratories? The implementation of AI in laboratories will result in a significant increase in the speed and efficiency of test diagnosis, allowing for the estimation of more parameters in a shorter amount of time. However, this change in technology also demands an academical shift about how AI equipped laboratory systems operate. While automation can greatly enhance efficiency, it is crucial to recognize that AI should not be regarded as a substitute for human expertise, but rather as a tool to supplement and improve it. Therefore, human professionals will still be essential in the laboratory workforce. By combining the expertise of humans and the capabilities of AI, faster test diagnosis and improved healthcare quality can be achieved.

Method & material: We navigated the literature search using the terms of "Artificial Intelligence" and "medical laboratory" in the databases (PubMed, Scopus, EMBASE, and Science Direct) until May 25, 2023.

Result: Laboratory specialists and technicians play a crucial role in improving analytical capabilities and diagnostic accuracy. With the help of automation and other innovative technologies, laboratory turnaround times are becoming faster and more efficient, allowing quicker diagnoses and treatment plans. As laboratory sub-specialization continues, there are more opportunities for professionals to excel in their chosen field, and the complexity of tasks undertaken by specialists and technicians is continuously increasing. Overall, the laboratory industry is constantly evolving, with new advancements and innovations shaping the future of diagnostics and healthcare. The use of AI in combination with increased automation in laboratory workflows can generate large amounts of clinical data which can be used to develop new diagnostic and prognostic models.

Conclusion: As AI becomes widely accessible, laboratory specialists can take advantage of this technology to streamline their processes, reduce errors, and enhance their overall efficiency. With its ability to analyze vast amounts of data quickly and accurately, AI can help laboratorians make more informed decisions. According to the review research, although AI can assist experts to increase the speed and accuracy of tests and perform different ranges of tests at the same time, it cannot replace them wholly. The solution is to make optimal use of the positive aspects of these developments in order to increase society's level of health, instead of resisting the progress of science.

Keywords: Artificial intelligence (AI), medical laboratory, next decade

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Trauma Monthly
Abstracts

Abstract 274: The role of artificial intelligence applications in the treatment and management of complications of chronic diseases Community Verified icon

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Abstract

Introduction: Since the 21st century, significant advances have been made in the field of artificial intelligence technology, in such a way that this leads to the application of artificial intelligence in various aspects of medicine, including health care. Due to its multifactorial nature, the prevalence of chronic diseases has created a challenge for treatment and healthcare delivery. On the other hand, artificial intelligence applications also show significant potential in improving the quality and care of this category of patients, especially chronic patients.

Method & material: A systematic review was conducted using PubMed, scholar, Medline, web of science databases in the period from 2017 to 2022, emphasizing the articles of the last 3 years. 45 articles related to the keywords (prediction model), (artificial intelligence), (diabetes), (liver disease) and their English equivalents were extracted. Finally, by removing 22 articles that had little relation to the topic or were letters to the editor, 23 articles were analyzed for content .

Result: The findings indicated that artificial intelligence has an effective and practical role in disease management. According to the existing studies, artificial intelligence can be very helpful in diagnosing liver fibrosis and non-alcoholic fatty liver disease, helping ophthalmologists to diagnose the type of IRD, as well as choosing specialized medical treatments for the patient, managing diabetes and preventing complications related to the disease. Also, in heart failure, machine learning (ML) approaches can perform better than conventional methods. In the field of rehabilitation, robotic rehabilitation is generally recommended to improve lower limb function, including walking.

Conclusion: The reviewed studies showed that artificial intelligence can be useful and effective in the management of many diseases and help the medical staff in controlling diseases. Although the adaptation of artificial intelligence to the clinical field brings valuable results by reducing the workload of healthcare workers, improving patient care by providing patient-specific treatment solutions, and generally reducing costs, it should not be considered the only method. Rather, it is better to always overcome with research, analysis and interdisciplinary perspective in search of more effective methods and improvement of these methods.

Keywords: Artificial intelligence, chronic diseases, treatment management

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Trauma Monthly
Abstracts

Abstract 275: The role of drones in missions outside medical centers

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Abstract

Introduction: The rapid advancement of technology has led to innovative solutions in the delivery of health services. UAVs, remotely guided birds have emerged as a potential tool to improve medical services in remote or challenging areas. The aim of this review is to investigate the role of drones in missions outside traditional medical centers by highlighting their advantages and challenges.

Method & material: To investigate the role of drones in health missions, a thorough search was conducted on the site of SID and Google Scholar. The search focused on the applications of drones in providing medical supplies, emergency response and telemedicine services in remote areas. The collected data was carefully analyzed to identify common patterns and trends.

Result: The findings of the literature review show that drones have great potential in tackling health challenges outside traditional medical centers. They have successfully been sent to remote areas with limited access in providing essential medical supplies, including medicines, vaccines, and blood samples. Drones have also been instrumental in providing rapid emergency response, providing timely medical assistance in areas affected by disasters. In addition, telemedicine services invited by drones have improved access to medical and diagnostic advice for people living in underserved communities.

Conclusion: In short, drones have the potential to revolutionize health services in missions outside traditional medical facilities. Their use in providing medical supplies, emergency response, and telemedicine has shown acceptable results. However, there is a need for further research and development, along with careful consideration of legal and logistical factors, to get the most complete benefit of drones in the healthcare field.. Implementing drone technology in health missions could improve access to medical services, especially for underrepresented populations in remote or challenging areas.

Keywords: Drones, missions outside medical centers

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Trauma Monthly
Abstracts

Abstract 276: The Role of miRNAs in the Treatment Efficacy of Tamoxifen in Breast Cancer Patients: A Systematic Review

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Abstract

Introduction: Breast cancer is one of the leading causes of death in women. In Iran, the incidence of this disease is increasing every year. Tamoxifen has been used in many patients; however, resistance to tamoxifen is often encountered. Some patients have shown poor responses to initial therapy. changes in the expression of miRNAs are effective in drug resistance. This systematic review study, investigated the miRNAs that are effective in the treatment efficacy of tamoxifen.

Method & material: The present study follows the PRISMA instructions. Web of Science, PubMed, and Scopus databases were searched to retrieve English articles. Searches were conducted up to September 11, 2022. The search strategy included the terms "Tamoxifen", "Breast neoplasm", and "Micro RNA". The inclusion criteria of this study are English, original, and experimental studies which investigated miRNAs that are effective in the treatment efficacy of tamoxifen. After selecting the studies according to the inclusion criteria, data was collected using the data extraction form based on the objectives of the study. Then the data was analyzed through the content analysis method.

Result: 565 articles were retrieved and imported into the Endnote reference management software. In the end, 75 studies met our inclusion criteria. In this systematic review study, 105 miRNAs were investigated, of which 44 miRNAs have a positive effect and 47 miRNAs have a negative effect on the treatment efficacy of tamoxifen. 14 miRNAs have a controversial effect which means some studies showed a positive effect and some studies showed negative effect. The most studied miRNAs with a positive effect are Mir-342, 135a, 27a, 200a, 200b, 200c, and 146a. The most studied miRNAs with a negative effect are Mir- 9-5p, 221, 10a, 181b, 181a, 551b, 519a, 409-3p, and 455-3p. MiRNAs with controversial effects are Mir101, let-7c, let-7e, 222, 29a, 23b-3p, 22, 27b-3p, 486, 489, 205, 125-5p, 21, and 375.

Conclusion: Although the actual mechanism of tamoxifen resistance remains unclear and more studies should be conducted to understand the molecular basis, miRNAs with negative effect can be a therapeutic target to overcome tamoxifen resistance, and restoring the expression of miRNAs with a positive effect may represent a novel therapeutic approach for sensitizing cancer cells to tamoxifen.

Keywords: miRNAs, treatment efficacy, Tamoxifen, breast cancer, systematic review

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Trauma Monthly
Abstracts

Abstract 277: The use of telenursing in the elderly with Alzheimer's disease: a systematic review

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Abstract

Introduction: Alzheimer's is one of the neurogenerative diseases that causes gradual deterioration of cognitive function and memory. Since about 90% of Alzheimer's patients are cared for at home, remote nursing methods can be used to increase the quality and effectiveness of health care delivery and reduce caregiver burden. The purpose of this study is to review the use of telenursing on the cognitive and psychological performance of the elderly with Alzheimer's disease.

Method & material: This study was conducted in 2023 as a systematic review. Keywords Alzheimer's, telenursing and elderly were searched in PubMed, SID, Scopus, Science direct, Magiran, Sid, Irandoc and Google Scholar search engine without time limit. After applying the inclusion and exclusion criteria, finally 21 articles were included in the study.

Result: The conducted studies show that telenursing is a suitable tool for improving the care of the elderly with Alzheimer's disease. Telephone telenursing follow-up is effective in improving the lifestyle and improving the health and self-management behaviors of Alzheimer's patients and helps the patient and his family to actively participate in the care of the patient at home. Studies point to the positive effects of remote nursing in terms of improving patients' quality of life, reducing patients' depression and anxiety, and it can also be effective in reducing maintenance costs, improving cognitive processes, and reducing the care burden of these patients. However, for the optimal use of this solution, it is necessary to examine the appropriate techniques to improve physical and social activities; For example, it is possible to identify, classify and examine the treatment process of these patients by analyzing the walking pattern using sensors based on information technology.

Conclusion: Remote nursing is very effective and helpful in the fields of care, education, support, follow-up and counseling of Alzheimer's patients and can be used as a useful, low-cost and accessible tool to provide services to these patients.

Keywords: Alzheimer, telenursing, elderly

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Trauma Monthly
Abstracts

Abstract 278: Therapeutic effects of L-carnitine against an amyloid-bets induced rat model of Alzheimer disease: a behavioral study.

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Abstract

Introduction: Alzheimer's disease is a neurodegenerative disease leading to cognitive and memory impairment. Beta-amyloid (Aβ) stimulates the types of activated oxygen and causes oxidative stress and the death of nerve cells. . L-carnitine is one of the effective compounds in mitochondrial function and energy production. This compound is found naturally in most tissues of the body, including the brain. The antioxidant function of this compound has been proven. It has been reported that carnitine compounds show protective effects for central and peripheral neurons. The ability of both compounds to reduce oxidative stress, DNA oxidative damage and lipid peroxidation can be the basis of their protective effect for neurons. The purpose of this research is to investigate the effect of L-carnitine on the process of memory and learning due to it's antioxidant and neuroprotective effects in Alzheimer's disease, so that , we can prevent the rapid progress of the disease .

Method & material: 28 male rats were randomly divided into four groups with 7 rats in each group: control, , Alzheimer (ICV injection of Aβ solution), control+ (0.1 g/kg of L-carnitine), and treatment (0.1 g/kg of L-carnitine after the ICV injection of Aβ). The l-carnitine solution was administered for 30 days by oral gavage. Following treatments, the animal's learning and memory were investigated using passive avoidance learning (PAL) task, elevated plus maze , barnez . maze, and novel object recognition (NOR) tests

Result: The results of this study demonstrated that the intraventricular injection of beta amyloid Aβ caused a decrease in passive avoidance memory as well as spatial memory and new object recognition memory. Whereas, L-carnitine improved passive avoidance memory, new object recognition memory and spatial memory. The results of the elevated plus maze showed the anti-anxiety effect of L-carnitine and decrease in the time spent in the dark and administration of l-carnitine increased the discrimination index of the NOR test.

Conclusion: The findings of the present study demonstrate that l -carnitine can improve memory and learning impairment following Aβ infusion. These effects are likely due to the antioxidant properties of l -carnitine and its ability to scavenge free radicals.

Keywords: L-carnitine, amyloid-beta, Alzheimer disease, rat model, behavioral study

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Trauma Monthly
Abstracts

Abstract 279: Therapeutic potential of Mesenchymal stem cells exosome in AML: A Systematic Review

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Abstract

Introduction: Acute myeloid leukemia (AML) is a genetically heterogeneous disease characterized by the successive acquisition of mutations in HSCs that cause unchecked proliferation and a coincident differentiation arrest. New reagents or biologicals for the treatment of AML are urgently needed, and exosomes have been distinguished as candidate biomarkers for disease diagnosis and prognosis. Exosomes are a very small models of cells that are secreted by most cells in the body under physiological and pathological conditions. They have found a special place in the treatment of different diseases such as hematological malignancies because of their very small structure and biodegradability. MicroRNAs (miRNAs) are short (20–24 nt) non-coding RNAs that are involved in post-transcriptional regulation of gene expression. Certain miRNAs have been proven to be enriched in MSCs-derived exosomes and play a role in the pathogenesis and development of various diseases.

Method & material: An extensive review of medical literature was conducted to establish a consensus about the feasible therapeutic effect of this treatment. This systematic review was conducted in the PubMed database up to May 2023. The screening was done by using the following **Keywords:** ("AML") and ("Mesenchymal stem cells ") and ("exosome"). We exclude animal studies, review articles and case reports. Also randomized controlled trials (RCTs) and noncomparative studies were included.

Result: After reviewing records, we identified four studies that met the inclusion criteria. All studies demonstrate a significant reduction of proliferation, progression, chemosensitivity and enhance AML cell apoptosis after treatment with BMSCs-derived exosomes. In the first study, Hsa-miR-124-5p inhibits KG-1a (The AML cell line) cell proliferation and cell cycle progression and promotes apoptosis by BMSCs-derived exosomes. In the second, study HMSC-exos induced the apoptosis of AML cells by delivering miR-23b-5p. In the third study, BM-MSCs delivered miR-222-3p via exosomes to inhibit cell proliferation and promote cell apoptosis by targeting IRF2 and negatively regulating IRF2/INPP4B signaling in THP-1 cells (the AML cell line). In the last study, BMSCs-derived exosome, miR-7-5p suppresses tumorigenicity of AML in vitro. In all studies we see significant differences between our control group and treatment group (P 0.05).

Conclusion: The findings of this systematic review of current evidence found that mesenchymal stem cell exosomes have a remarkable effect on decreasing pathogenesis of AML. However, the efficacy and toxicity of exosomes used clinically require more in vivo studies. Characterization of exosomes using multimodal techniques may help to further characterize the stability and function of exosomes in vivo. This topic still requires an immense amount of research to fill the gap in adequate knowledge.

Keywords: Mesenchymal stem cells, exosome, AML, systematic review

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Trauma Monthly
Abstracts

Abstract 280: Toxicological effects of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) on thyroid function: a systematic review and meta-analysis of animal studies.

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Abstract

Introduction: 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) has been found as an endocrine-disrupting chemical that may affect thyroid function as indicated by animal studies. Several recent studies have indicated that association between TCDD exposure and thyroid dysfunction; but, there is several controversial reports in this issue. This systematic and meta-analysis study was designed to find evidence related to TCDD effects on the thyroid function as evidenced by change in the serum thyroid hormones concentration in animals.

Method & material: A systematic search was performed in Scopus, PubMed, and Web of Science literature databases and motor engine search Google Scholar, (until Dec, 2021), searching for animal studies (rodents) that assessed the impact of TCDD on thyroid function. The risk of bias was evaluated by the SYRCLE's RoB scale. The quality of each article was evaluated using a random-effects meta-regression. Heterogeneity among the articles was assessed with the I square and Q test.

Result: The overall size effects indicated that TCDD significantly increased serum T3 and T4 levels in the exposed animals versus the control groups [(SDM: 140.24, SE= 19.97; 95% CI: 101.09, 179.39, p = 0.0001), (SDM: 35.23, SE= 4.27; 95% CI: 26.85, 43.61, p = 0.0001), respectively]

Conclusion: Our meta-analysis findings indicated that TCDD could induce hyperthyroidism in rodents. However, due to limited number of studies included in our studies, we could not strongly suggest this association. Therefore, more studies should be designed to address this question in humans and animals.

Keywords: Toxicological effects, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), thyroid function, animal studies, systematic review

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Trauma Monthly
Abstracts

Abstract 281: Using Artificial intelligence for detection of polyps and adenomas in colonoscopy: An umbrella review

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Abstract

Introduction: Colonoscopy is the main screening tool of colorectal cancer (CRC) detection. However, one-fourth of neoplasia were missed during this procedure. Artificial intelligence (AI) is emerging tool in medicine for better diagnosis and treatment of diseases. Several studies showed that AI could increase the accuracy of colonoscopy for detection of neoplasia. The aim of this study is summarizing systematic reviews and meta-analysis using AI in colonoscopy for detection of polyps and adenomas.

Method & material: Pubmed/Medline(Ovid), web of science, scopus, Proquest, chocrane, and embase were used for finding systematic reviews and meta-analyses from inception until 20 may 2023. Artificial intelligence, systematic review and meta-analysis, colonoscopy and their synonyms were used for initial search in databases. Two independent reviewers undertook screening, data extraction, and quality appraisal based on JBI critical appraisal tool. If an article included meta-analyses of both cohort and case-control studies and analysis was only performed separately without overall outcome, the data were extracted by study design. Cochran's Q test and I2 statistic were used for the estimation of heterogeneity between studies. Additionally, Egger's regression test was used as an estimate for publication bias in each study.

Result: Our primary search returned 133 results. After excluding duplicates, unrelated researches, and studies which had not satisfied JBI criteria, 29 studies were chosen finally. Research results showed that AI-assisted colonoscopy (AIC) is a safe approach for increase the detection rate of adenomas and polyps. Moreover, due to the enhancement of accuracy rate, decrease of interval CRC and improvement of prognosis could be expected. Additionally, one of the main problems of routine colonoscopy is its high missing rate in detection of small size tumors. AIC with its features such as transformers and pretrained data could improve detection rate of these tumors significantly.

Conclusion: Overall, using AIC is an effective way to detect CRC. Decrease advance types of CRC and its metastasis due to early detection of these tumors by AIC could be expected.

Keywords: Artificial intelligence, polyp detection, adenoma, colonoscopy, umbrella review

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