COVID-19 and the Need for A Knowledge Translation Model in Iranian Nursing: A Systematic Review Study

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Abstract

Introduction: Increasing knowledge in nursing and existing contradictions is the main challenge for the health system in a pandemic such as a corona pandemic. Knowledge translation is an effective strategy in strengthening the acceptance and application of research results in the field. Interaction between researchers (research nurses) and users (nursing caregivers) is one of the main features of knowledge translators. This study was conducted to explain the need for a knowledge translation model in Iranian nursing.

Methods: The systematic review studies about knowledge translation were searched between 2005 and 2020 in the valid databases Medline, PubMed, Scopus with keywords included COVID-19, Knowledge Translation Model, Knowledge translation in Nursing, Knowledge- to - Action Cycle. Overall, 1231 documents were extracted, and after removing irrelevant and duplicate articles, 46 articles related to the subject were included.

Results: Knowledge translation in nursing needs a model to develop testable and useful interventions. Despite the need to develop theory and model in the last four decades, there is currently no complete and satisfactory model of knowledge translation in nursing. Many people who believe that change should take place after the production of knowledge, believe that due to the various obstacles in the process, the factors affecting the knowledge translation in nursing should be presented as a model.

Conclusion: Research about the knowledge translation process in nursing, and health policymakers' reaction, increase insight into the problems and shortcomings of this process. At present, there are no coherent models appropriate to the local conditions in nursing in Iran to explain the model of knowledge translation in such a way that the conditions prevail over the three areas of policy-making, academic and clinical in general.

Introduction

New coronavirus (2019) (nCoV or COVID-19 (COVID-19) was identified by the World Health Organization (WHO) in Wuhan, China, in early 2020[1-3]. COVID-19 is a dangerous disease that is a severe warning to all countries of the world[4]. Studies showed that coronavirus outbreaks occurred between 2002 and 2004 (SARS virus pandemic) and 2012 to 2015 (MERS virus pandemic). Currently, there is an exponential growth of science production[5]. Also, the results of

the Danesh and Gavidel study (2020) showed that there is a direct relationship between coronavirus outbreaks and the amount of global science production in this area[6].

At present, along with the challenging and global spread of coronavirus, medical researchers are also doing a lot of research on ways to prevent and treat this virus. The results of their studies are presented at conferences and published in prestigious scientific journals. The fight against this virus is

being carried out universally and comprehensively in all countries. However, control of this pandemic has been restricted because it is novel, and there is low information about the pathogenicity[7]. In this regard, the Knowledge Translator Unit of the University of Cape Town, Elsevier and many world-renowned centers help manage coronary heart disease. They educate the general public and medical staff, especially nurses, about its care and treatment methods. They have published scientific products from around the world. However, due to the rapid and sometimes contradictory nature of the COVI-19 scientific output, all centers have stated that they are not responsible for applying this information in clinical practice. Healthcare professionals strongly recommend that this information be used. Consultation with competent authorities is necessary. Therefore, it is the duty of knowledge users (nurses) to ensure that the information contained in this document is appropriate with the essential care and services for each of their patients and geographical areas[8]. In their study, Ashrafi Rizzi et al. Expressed the challenges related to Corona in information diversity, information audience diversity, media diversity, variety in information stability and public health literacy, strategy and program inconsistency[9]. Amiri et al. also stated in their review study that the most crucial challenge in the progression of COVID-19 disease is the problems related to acquiring knowledge[10]. Here, the importance of knowledge translation in the right way and having a model becomes clear. Today, societies expect universities to respond to their needs. This is possible through the transfer and exchange of knowledge between the university, as a producer of knowledge and organizations and the community as a recipient of knowledge. The university (as one of the principal sources of knowledge development) should have a good relationship with the organizations that consume knowledge. So that effectively transfer knowledge to the organizations. of the main parts of knowledge transfer is the translation of research findings into

the language of the audience and stakeholders[11]. Knowledge translation is a dynamic interactive process between researchers, and research users, including the production, dissemination, exchange and ethical application of knowledge, which leads to health promotion and the provision of more effective health services to strengthen the health system[12]. Various definitions have been proposed by other institutions, such as the United States National Disability Research Center and the World Health Organization (WHO). A common element between these definitions is the actual use of knowledge, beyond the mere dissemination of knowledge. To ensure the application of knowledge in clinical decision making, the production of summaries and dissemination of knowledge alone is not sufficient[13].

Health care systems face the challenge of connecting the gap between what we know and do. This gap is called the knowledge transfer gap, and knowledge translation has emerged as a possible response to this challenge. In medical education, decision-making based on evidence is essential for using research to improve the quality of health services[14]. Filling the gap between research and practice in health, whether providing more appropriate clinical care by service providers or decision-making and policy-making in the health system, requires linking study and training and closing the researchers and decision-makers together[15]. The gap between knowledge production and its use in the health sector can have dire consequences for society, especially patients. In other words, research and evidence have a massive impact on policies and practices, and in the field of health, bringing evidence into action and using it can improve the lives of millions[16].

If the knowledge produced is not used in practice, it will incur irreparable costs and damages for individuals and society. The necessary infrastructure must be provided to use this knowledge. One of these factors is to create a suitable platform for communication and

interaction between researchers and consumers of knowledge. The concept of knowledge translation is closely related to the application of knowledge in the clinic and has recently become popular in the health sciences. To preserve life and prevent disease and disability, accelerate the cycle of knowledge-to-action, strengthen the health care system, knowledgeable and informed decision-making and policy-making, and obtain feedback from the research target group, the need to implement the knowledge translation process in organizations. Research and other related health care centers are increasingly being felt[17]. It is currently believed that effective use of research findings in clinical practice improves the quality and cost of health and treatment[18]. Knowledge translation is an effective strategy in strengthening the acceptance and application of research results in the field. The increasing importance of knowledge in the present age forces individuals and organizations to pay more attention to knowledge management, production, transfer, and knowledge translation. Over time, the importance of transferring and translating knowledge and using research results for health sector decision-makers has increased in developed and developing countries. On the other hand, low-income countries also face many challenges in applying knowledge due to a lack of resources [19].

Interaction between researchers (research nurses) and users (nursing caregivers) is one of the main features of knowledge translation that this interaction in intensity, complexity, level of interaction, context importance (physical, structural, organizational and social factors) [20]; And knowledge users are different. To knowledge translation be used in health-related approaches, such as familiarity with knowledge translation, identifying problems related to relevant research, expanding collaboration between researchers and knowledge users, developing and using the knowledge translation model, and including. knowledge translation in the research budget. The

quality of clinical research[21], the accuracy of interventions, and the reliability of information should be considered[22]. Health systems research and its evidence are not effective, and health systems managers haven't the skills, tools, and capacities to find and use evidence [23-24]. Therefore, paying attention to the methods and models of knowledge translation is vital [25]. The knowledge translation models can use to achieve research results. Models find and determine the role of participation of researchers and users [26]. Medical staff, including physicians and nurses, are at the forefront of the fight against coronavirus [27]. With the onset of the coronavirus, one of the main contributors to this phenomenon is health workers, especially nurses. The effects of this phenomenon on the individual and health organizations can be studied and considered. Increasing knowledge production, existing contradictions, and instability of newly produced knowledge are main challenges for the health system, especially for nurses. Understanding the knowledge translation model in nursing can be a solution to the challenges in the correct approach. Understanding the knowledge translation model in nursing can be a solution to the challenges in the correct approach. The practical use of new knowledge and discovering the obstacles in this method can cause the procedure to be more accurate[12]. Therefore, this study was conducted to explain the need for a knowledge translation model in Iranian nursing.

Methods

In this present systematic review, a research group of knowledge translators was formed to determine the type of papers, search method, and inclusion and exclusion criteria. Then two researchers (first author and librarian specializing in systematic database search) independently searched for articles on knowledge translation in nursing at Medline, PubMed, Scopus from 2005 to July 2020 without any language restrictions. Search strategy using keywords, Knowledge Translation Model Nursing, Knowledge translation, Knowledge - to -

Action Cycle COVID-19 and AND, OR, NOT indexes were the main articles in English and Persian. The initial search resulted in 1231 records. Subsequently, 47 duplicate articles were removed from the study, and the total number of identified records was 1184. Ultimately, 46 related articles were included for identification. The process of identifying, evaluating, and selecting articles based on preferential reporting items for systematic review and meta-analysis (PRISMA) is presented in Figure 1[28].

Data evaluation: Data extraction was completed independently by two people (first author and librarian specializing in systematic database search) based on search terms in Medline, PubMed, Scopus databases to achieve the purpose of the study. The qualifications of the articles were discussed in the research team. If there was a dispute, they reviewed the material to reach an agreement.
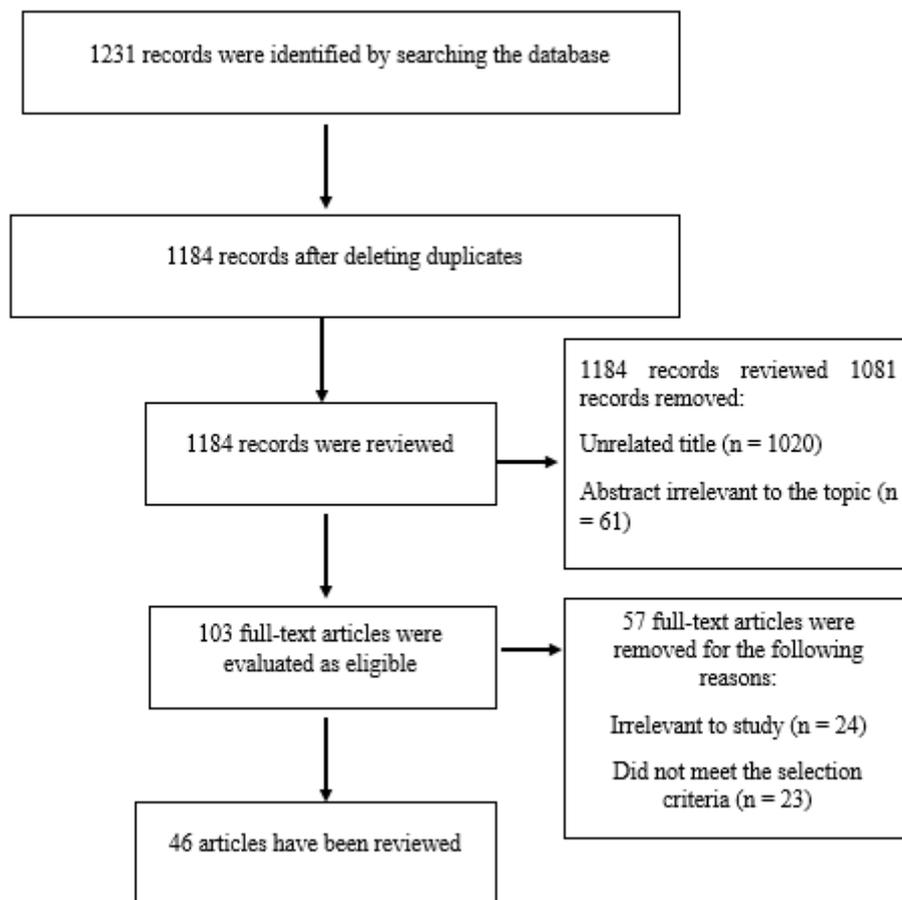

Figure 1: The process of identifying, evaluating, and selecting articles based on preferential reporting items for systematic review and meta-analysis (PRISMA).

Results

In reviewing the literature, it was found that the boundaries between knowledge translators, guidelines and evidence-based practice and knowledge transfer should be identified as a prerequisite, then the need for a knowledge translator model in nursing should be addressed.

Relationship and difference between guideline and knowledge translator

The knowledge or evidence pyramid indicates the hierarchical classification of medical studies based on the degree of validity and bias in clinical evidence reporting, with the explanation that the higher we go from the bottom of the pyramid, the more credible the evidence and the lower the level of bias. The use of pyramid evidence, including clinical trial studies, synthesized or meta-analytical studies, and guidelines, is emphasized in translating knowledge[29]. Therefore, one way to translate knowledge can be to use guidelines[30]. The guidelines are a combination of the best evidence available to support decision-making about the organization and the provision of health care by physicians, managers, and policymakers. But population-based studies show that guidelines provided by leading organizations for conditions chronic and acute are rarely used[31]. Passive and passive dissemination of instructions (guides) to health care professionals is not enough to change practices. Martin et al. (2003) found that three weeks after sending the National Asthma Diagnosis and Treatment Guide to New Zealand GPs, only 46% of specialists could find the location of the instructions received. 12 % have studied them thoroughly and only 20 % of the performance changes have been due to instructions[32]. Given the nature and importance of knowledge in health systems, the question arises as to why some of the evidence-based clinical guidelines are not used or strongly resisted [33]. In the face of a wealth of information and burnout among health

professionals, there is evidence that active dissemination with a simple practical message may also be effective [23]. According to articles, knowledge translation is a framework for active and effective dissemination. The knowledge translation cycle for healthcare professionals is a framework for designing and testing effective intervention strategies to improve and enhance the implementation of guidelines [32,34].

Relationship between knowledge translation and medicine or evidence-based practice:

The idea of bridging the gap between research and practice in recent decades with different names such as knowledge transfer in the 1970s, application of knowledge in the 1980s, evidence-based practice in the 1990s, and in Finally, after 2000, the term knowledge translator was coined by the Canadian Institute for Health Research with a new perspective[35]. Knowledge translator[36] tries to close the gap between knowledge production and consumption by targeting knowledge users and shortening the delivery time of research results to the clinic and practice. Evidence-based medicine (EBM) is the proper use of the accumulated evidence available to guide clinical decisions. KT is designed to accelerate the consumption of recent research. While KT focuses primarily on developing and producing the best knowledge for the right audience in a short period, EBM focuses on the quality of knowledge and clinical decision making[37]. Stetler discusses translation / application research as one of the components of evidence-based practice development[38]. WHO also considers evidence-based practice as a result of the introduction and familiarity with knowledge translators[39].

The difference between knowledge translation and knowledge transfer

Knowledge transfer is a process with a linear and passive nature that conveys the results of research to users and delivering knowledge to users does not necessarily mean the use of knowledge[36]. Lomas

has shown that this approach will not significantly change the performance of health care providers. In support of this view, Rich also states that the mere fact that the knowledge is up-to-date and related to the subject, the objective nature of the content and its presentation to the appropriate customers in a practical and usable form, do not guarantee its use[25]. Knowledge translation is the transferring of knowledge from research to the actual application in different places and clinical practice conditions. Knowledge translation is a complex, and multidimensional concept that requires a comprehensive understanding of its mechanisms, methods, and measurements. Also, it should be understood factors affecting the individual and environmental levels and the interaction between them[40]. Coronavirus (COVID-19) and the need for knowledge translation in Iranian nursing: Strategies that have so far been used to enhance the transfer of scientific achievements and their application in decision-making have not had the desired success. Therefore, "Action" is a difficult and complex task that requires several factors such as strong discipline and intellectual framework, creativity, skill, awareness, and perseverance at the organizational and individual level[41]. Examining much of the evidence from research implementation and practice shows that most knowledge translation strategies to improve the care of health care professionals and clients are somewhat successful[42]. Siddiqi et al. reviewed articles on knowledge translation in developing countries, which show that the success of these interventions is highly dependent on local (context-based) factors[43]. Hosseini et al. introduced the most important barriers to knowledge translation in Iran that include lack of participation of users of research results in designing and conducting research, application of research results by end users, insufficient financial resources, equipment and time to prepare appropriate content for the research audience, lack of structure (office or unit) Organizational), the necessary manpower, a specific method and process to strengthen

knowledge translation activities such as model[14]. Yazdizadeh et al. reported that the exploitation of knowledge in the sectors of producers and users of knowledge and the space of exchange between them at different levels have problems. The mentioned problems were classified in the axes of research characteristics, researchers and decision-makers, human capital management and research management and programs, finally, policy in research and decision making. The lack of a precise timetable for communication between producers and users of knowledge is also one of the obstacles to achieving the ideal level of knowledge translation[44].

Research is not consistently used to make decisions about health care. This lack of research to improve health is a global problem. But it is even more troubling in developing countries, as resources cannot be wasted in care that is ineffective or causes more harm due to limited resources. In addition, in developed countries, the effectiveness of some strategies to ensure the use of knowledge in policies, clinics and health improvement is not conclusive. As a result, it is in a state of ambiguity in developing countries. However, it seems that the effectiveness of these strategies is highly variable and depends on the environment. The degree of their success depends on whether they are designed based on the context or not. As a result, more research is needed on effective knowledge translation strategies in developing countries[19]. Annually, a significant budget is spent on research in the country. Naturally, to prevent the waste of the country's resources, the optimal use of the results of this research is essential. Therefore, trying to create a vision of knowledge translators should be to provide its principles, i.e. continuous interaction and participation of knowledge producers (researchers) and its users (professionals and health policy makers) in all stages between production and application of new knowledge, gaining feedback from stakeholders[45]. In the scientific field of Iran, how research affects the health system is one of the

main issues that has received more attention in recent years. At present, a clear picture of the extent to which researchers' research activities are adapted to the needs of the health field is not available, but the general consensus is that existing knowledge production capacities are not used optimally[10]. Joybari et al. showed nursing students claimed that if they witnessed the achievement of their research results, they do it well, and also, it would also

Discussion

In nursing as a social and human discipline, knowledge and its application in the care process can be used in connection with world phenomena, increasing developments, identifying ways to adapt to the disease, and providing care. Methods for doing this include: pursuing knowledge (studying and searching for answers to clinical nursing phenomena), building notional theoretical models to guide the research process and its implementation, and allocating knowledge from other disciplines to increase the quality of care[26]. Nursing science knowledge can improve health outcomes and advance new technologies in care, so it is necessary to increase the speed of application of research results in policy and practice. Although this need is increasingly perceived, issues such as the volume of new information and insufficient time prevent it from being done properly. This trend is evident in nursing and health system research. There is little involvement of key stakeholders and a lack of participation between researchers and knowledge users in the research process. Most research groups in nursing have no legal relationship with health systems[22]. Many people who deal with knowledge production believe that given the many obstacles to turning research into action, the factors that affect the knowledge translation should be presented in a model way. The existence of a workable and expressive model makes the selection of intervention points better and can improve the effectiveness of research knowledge[10]. In this regard, Kikuchi Babian argues that the existing

satisfy them and motivate them to continue the research. It is important to note that after conducting a research project, most of the project results are communicated to the audience only through the publication and to transfer the research results to the main audience and apply them, appropriate measures (knowledge translation) are not taken. Therefore, it is necessary to implement the knowledge translation model correctly [44].

models and frameworks in nursing do not correspond to different cultures. Today, nursing needs theories and models that are based on the cultural beliefs and values of the society that uses them[46]. A review of coronavirus studies and care processes showed that a model is needed in nursing knowledge translation to develop experimental and practical interventions. Despite the development of theory and model over the past four decades, there is no complete and satisfactory model in nursing knowledge translation[47]. Due to the prevailing conditions in nursing and the involvement of nurses with different people and cultures and working in patriarchal health systems, theorists, researchers, and nursing specialists are developing specific nursing models based on the cultural values of communities in many cases[48]. Therefore, knowledge translators are no exception. And according to the conditions in nursing, a suitable model should be provided.

Conclusion

The conflict between the world and Iran with the Coronavirus showed that research on how knowledge translation in the field of nursing and how educational, research, health and medical institutions and managers and health policymakers react, increases insight into the problems and shortcomings of this process. At present, there are no coherent models appropriate to the local conditions in nursing in Iran to explain the model of knowledge translation in such a way that the conditions prevail over the three areas of policy-making, academic and clinical in general. In Iran, a

study on the knowledge translation model in nursing and its challenges has not been conducted, and no model has been proposed for it. As a result, the use of studies and actions taken and approaches to translating knowledge of other countries with particular attention to the areas, experiences, and evaluation of these approaches should be considered. Studies showed that the priority of planning in many countries to apply research results in practice is the translation of knowledge. Knowledge translation strategies are planned according to the needs and resources available in each country. Establishing a community-based knowledge translation model can reduce the costs of the health system. Also, it improves the quality of services and care provided to patients and their families and ultimately increases community satisfaction (patients, families and staff). The development of a comparative model of translating nursing knowledge based on principles, resources, needs and goals is the perceived need of the health system. Therefore, a study will be conducted to design and validate a comparative model of knowledge translation in Iranian nursing.

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Conflict of Interest Disclosures

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Ethical Statement

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