



Investigating the Relationship between Occupational Stress and Marital Satisfaction in Emergency Medical Technicians in 2023: A Cross-sectional Study

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Abstract

Introduction: Work and family life are two fundamental components of people's lives, each of which affects the other. This study aimed to investigate the relationship between occupational stress and marital satisfaction in Emergency Medical Technicians.

Method: In this study, 200 Emergency Medical Technicians were selected by a stratified cluster method (2023). Data were collected using the Persian version of the Occupational Stress and ENRICH marital satisfaction questionnaires.

Results: The average scores for Occupational stress and marital satisfaction were 112.48 ± 13.38 and 145.94 ± 22.21 , respectively. Occupational stress exhibited a significant negative correlation with marital satisfaction ($r = -0.592$, $p = 0.028$). Education level, employment status, work experience, having a second job, and occupational stress explained 78% of the variance in marital satisfaction among Emergency Medical Technicians ($R = 0.784$, $R^2 = 0.614$, $p = 0.001$).

Discussion: Reducing occupational stress can improve marital satisfaction among Emergency Medical Technicians.

Implications for Practice: Selecting students interested in the pre-hospital profession can help foster a positive work environment among employees. Additionally, pre-hospital managers should pay attention to the factors affecting Occupational stress and marital satisfaction to improve the quality of services provided by Emergency Medical Technicians.

Keywords: Occupational Stress, marital satisfaction, Emergency Medical Technicians, Iran

Introduction

In today's world, Emergency Medical Technicians (EMTs) face significant risks and high levels of stress due to the spread of unknown diseases. Emergency medical staff work in challenging environments, including areas with numerous injured individuals, critically ill patients, anxious companions, tense atmospheres, and inadequate treatment conditions, leading to job-related stress¹.

Occupational stress is an emotional, cognitive, behavioral, and psychological response to the harmful aspects of work and the work environment, caused by individual and organizational stressors, affecting one-third of employees in various professions². Based on a study conducted by Mohammadi et al., the prevalence of occupational stress among medical staff in Iranian hospitals is reported to be 60%³. Occupational stress is

the second job-related disease after musculoskeletal disorders. It occurs when an individual's expectations exceed their abilities and capabilities. Occupational stress is a primary concern for managers, employees, and other stakeholders within the organization⁴.

Occupational stress has psychological, physical, and functional health consequences⁵. Stress leads to job avoidance, violent encounters among employees, vulnerability in professional relationships, dissatisfaction, increased errors in medical procedures³, reduced quality of medical services⁵, and reduced marital satisfaction⁶.

Suppose a person does not have the ability to cope with these tensions. In that case, his/her physical and mental health will be disturbed, and even his/her marital life and family relationships will be affected. Nurses who have better mental health will have more common interests than individual preferences and will come to a general agreement with their spouses on various issues, which affects the improvement of their sexual relations and marital satisfaction⁷.

Marital satisfaction is a personal experience in marriage that can only be evaluated by the individual in response to the level of pleasure they derive from the marital relationship. Many factors affect marital satisfaction, and this feeling plays a crucial role in the level of normal family functioning⁸. Couples with high marital satisfaction tend to have more agreements with each other, are satisfied with the type and level of their relationships, and also with their free time; they manage their time and financial issues effectively⁹.

Roberts and Levonson (2001) demonstrated that occupational stress and physical fatigue impact marital interactions at the end of a workday, with occupational stress being more detrimental to marital interactions than physical fatigue. They also concluded that the occupational stress of each couple creates an emotional and physiological atmosphere, in which both the husband and wife show many symptoms related to turbulence in marital relations and the possibility of separation in the future. In other words, the stress caused by job characteristics and working conditions can affect other areas of a worker's life, including the quality of their relationships and marital satisfaction⁶. It seems that work-related stressors such as a work overload, lack of support and negative interactions with colleagues create feelings of irritability, tension, and frustration in individuals; Following this situation and after a stressful

workday, the employees carry these feelings with them to their homes, and ultimately this issue increases the possibility of getting involved in incompatible interactions with their spouse⁷.

Several studies have been conducted on the relationship between occupational stress and marital satisfaction. In various studies, healthcare workers were found to have high levels of occupational stress. In studies by Adib Haj Bagheri (2021)⁶ and Peyman Pak (2011)⁷, marital satisfaction was found to have a significant relationship with occupational stress among nurses. In other words, in today's complex world, stress is an inseparable part of human life and on the other hand, it threatens the physical, psychological, family, and social behaviors of individuals as a serious risk; however, by understanding and correctly controlling it through studies and research, its adverse effects can be reduced as much as possible⁷.

Considering that family and work are two fundamental dimensions of every individual's life, and each affects the other, work-related stressors and difficult job conditions may have adverse effects on both the individual's family and work environment in specific fields¹⁰. According to data recorded in databases, no study has been reported on occupational stress and marital satisfaction among male EMTs in Iranian medical universities; only a few studies have been conducted on nurses. Therefore, considering the importance of marital satisfaction in maintaining family stability and the existence of reports on the potential impact of occupational stress on marital satisfaction among other healthcare workers, the present study aims to investigate the relationship between occupational stress and marital satisfaction among EMTs.

Methods

This descriptive correlational study was conducted on the EMTs of Qom University of Medical Sciences in May 2023. The stratified cluster sampling method was used. The sample size was calculated based on previous studies using MedCalc version 19.6.1 software.

Based on the results of Peyman Pak et al.'s study⁷, the correlation coefficient between occupational stress and marital satisfaction is equal to 0.20 ($r=-0.20$), the study power is equal to $\beta-1=0.80$, and the confidence interval of 95%, the minimum sample size required for the study is 193. According to the potential attrition, 200 samples were estimated.

The inclusion criteria for this study include having at least an associate degree, having at least 6 months of practical pre-hospital work experience, and not having a history of physical or neurological disorders, as documented by personnel self-report and personnel records in Iran's emergency medical services or 115. The exclusion criteria include unwillingness to continue cooperation. The data collection tools in this study included a "demographic information" checklist (age, education, employment status, work experience, overtime hours per month, having a second job, having a job other than medical career), "The Occupational Stress" and "Enrich short form of marital satisfaction" questionnaires.

The Occupational Stress Questionnaire of the Britain's Health and Safety Institute (HSE) was designed in 1990 by the British Institute Health and Safety to measure occupational stress with 35 items and seven subscales, which consist of role (1, 4, 11, 13, 17), relationships (5, 14, 21, 34), authorities support (8, 23, 29, 33, 35), colleagues support (7, 24, 27, 31), control (2,10,15,19,25,30), demands (3,6,9,12,16,18,20,22) and changes (26,28,32). Scoring is on a 5-point Likert scale, ranging from 1 (never) to 5 (always). The minimum total score in this test is 35, and the maximum score is 175, with higher scores indicating greater occupational stress¹¹. In this study, no standard cut-off point was defined. This questionnaire has been validated and shown to be reliable in a study by Habibi Asghar Abadi (2021), with a Cronbach's alpha of 0.82¹².

The ENRICH Marital Satisfaction Questionnaire's short form consists of 47 items and nine dimensions that cover personality issues (2-4-12-22), marital relationship (41-6-13-23-32), conflict resolution (42-33-24-14-7), financial management (8-15-16-25-34), leisure activities (9-17-26-35-43), sexual relations (10-18-27-36-44), marriage and children (11 -19-28-37-45), people and friends (20-29-31-38-46), and religious orientation (5-21-30-39-47). Of the 47 questions, 31 are graded negatively, and the remaining 16 are graded positively. The questionnaire utilizes a 5-point Likert scale, with responses ranging from 1 (completely agree) to 5 (completely disagree). The minimum score possible is 47, while the maximum score is 235. A higher score indicates greater marital satisfaction (13). Scores less than 35% of the total score are considered low range, 36-60% are medium, 61-80% are high, and scores above 80% are considered very high¹⁴. The questionnaire was

validated and found to be reliable in Nunes' (2022) study, with a reported Cronbach's alpha of 0.84¹⁵.

This study was approved by the Ethics Committee of Qom University of Medical Sciences (project number 2825, approval number IR.MUQ.REC.1401.201) on January 3, 2023. After receiving permission from Iran's emergency medical services, or 115, and explaining the research, a list of EMTs working in operational emergency stations was obtained. Using inclusion criteria, 200 EMTs were randomly selected. At the beginning of each shift, the researcher visited the emergency stations and provided general instructions on how to complete the questionnaire after obtaining written and verbal consent from eligible personnel. The questionnaire was collected after 30-40 minutes, and a code was assigned to ensure confidentiality. Data analysis was performed using SPSS 23 software. Descriptive statistics were used to report demographic variables, while Pearson's correlation test was used to examine the relationship between occupational stress and marital satisfaction. Linear regression analysis was applied to investigate the confounding effect of demographic variables (age, education, employment status, work experience, overtime hours, having a second job, having a job other than a medical career, and occupational stress) on marital satisfaction. A P-value <0.05 was considered statistically significant.

Results

In this study, 200 men participated. Their average age was 37.3 ± 7.06 , with an average work experience of 11.4 ± 5.7 years and an average of 85.06 ± 6.6 overtime hours. More than half of the participants had a bachelor's degree, and most had rotating shifts (Table 1). The average scores for occupational stress and marital satisfaction were 112.48 ± 13.38 and 145.94 ± 22.21 , respectively. The average scores for the dimensions of occupational stress were role (20.3 ± 3.2), communication (11.69 ± 2.6), authorities support (15.05 ± 4.22), colleagues' support (13.84 ± 2.59), control (19.2 ± 3.55), demand (23.76 ± 4.15) and changes (9.25 ± 2.73), while the dimensions of marital satisfaction were personality (12.66 ± 3.12), marital relations (16.14 ± 3.9), conflict resolution (15.06 ± 2.73), financial management (15.70 ± 3.01), leisure activities (16.73 ± 2.29), sexual relations (16.86 ± 3.51), marriage

and children (16.61 ± 3.52), relatives and friends (17.62 ± 3.07), and religious orientation (18.38 ± 3.74).

The Pearson correlation test revealed a statistically significant correlation between occupational stress and marital satisfaction, as well as their respective dimensions ($r = 0.592$, $p = 0.028$) (Table 2).

The multivariate regression analysis revealed that education, employment status, work history, having a second job, and occupational stress explained 78% of the variation in marital satisfaction among EMTs ($R = 0.784$, $R^2 = 0.614$, $p = 0.001$) (Table 3).

Table 1: Demographic characteristics of the EMT in 2023 (n = 200).

Variable		N	%
Education level	Associate degree	80	40
	Bachelor's degree	115	57.5
	Master's degree	5	2.5
Employment status	design	8	4
	corporate	32	16
	Contractual	12	6
	Agreement-based	44	22
	Official	104	52
Shift	Fixed morning or evening	20	10
	Rotating	180	90
Having a second job	No	159	79.5
	Yes	41	20.5
Doing a job unrelated to health care	No	179	89.5
	Yes	21	10.5

Table 2: The correlation between occupational stress and marital satisfaction and its dimensions in EMT in 2023

Variable	religious orientation	people and friends	marriage and children	sexual relations	leisure activities	financial management	conflict resolution	marital relationship	personality issues	Marital Satisfaction	Occupational Stress
Occupational Stress	0.353** 0.001	0.367** 0.001	-0.752 0.030	-0.705 0.037	.523** .001	-0.450 0.079	-0.594 0.049	-0.510 0.061	-0.153 0.129	-0.592 0.032	1 0.001

Table 3: Investigating the effect of confounding variables on participants' Marital Satisfaction based on Multivariate regression

Dependent Variable	Exp(B)	pvalue	LLCI	ULCI
Age	1.498	0.185	-2.908	14.530
Gender	-0.855	0.004	-5.390	-1.093
Employment status	0.505	0.046	-2.390	-0.093
Work Experience	-0.854	0.025	-7.328	-0.529
Overtime hours	-0.301	0.687	-0.606	0.404
Work shift	0.012	0.984	-6.701	4.622
Having a second job	0.694-	0.031	0.094	2.213
Doing a second job unrelated to health care	0.494	0.109	-4.591	4.130
Occupational Stress	0.775	0.041	0.044	2.006

Discussion

The study's results indicated that reducing occupational stress can improve marital satisfaction among EMTs. This conclusion is consistent with previous studies conducted by Adib Haj Bagheri (2021)⁶, Fallahchai (2022)¹⁶, and Ariapooran (2019)¹⁷. Occupational stress is recognized as a significant risk factor in organizations that can impact the physical and mental health of individuals⁶. Probably occupational stress with increasing levels of stress and anxiety in EMT can lead to changes in various body systems, including the endocrine system, and may also decrease social adjustment and marital satisfaction¹⁸.

Adib Haj Bagheri (2021) found that negative emotions associated with occupational stress can lead to conflicts, tension, and distress in family and marital relationships, increasing the likelihood of marital problems such as dissatisfaction⁶.

The current study revealed that EMTs experienced moderate levels of occupational stress, which is consistent with the findings of Bardhan (2019)² and Ghanbari Afra (2023)¹⁹, who reported high levels of occupational stress among nurses.

Healthcare professionals face numerous challenges, including conflicts with colleagues, inadequate resources, poor communication, discrimination, high workload, concerns over treatment, facing death and grief, and long working hours. Failure to comply with occupational health and safety regulations is also a common source of stress for nurses²⁰. Ghanbari's study may have reported a higher level of occupational stress due to the COVID-19 pandemic, which was not a factor in the present study. Overall, reducing occupational stress can improve the well-being of EMTs and their

families.

The present study found that the level of marital satisfaction among participants was moderate. However, previous research conducted by Ouyang (2019) reported low levels of marital satisfaction among nurses¹⁸. Similarly, Azimian's research²¹ found that nearly 40% of nurses reported marital dissatisfaction, a finding consistent with the current study. It appears that irregular working hours and excessive fatigue during work not only hinder the establishment of healthy relationships but also reduce emotional expression towards one's spouse, leading to decreased marital satisfaction¹⁶. Furthermore, factors such as education, employment status, work experience, and holding a second job, along with occupational stress, account for 78% of the variance in marital satisfaction among EMTs. This aligns with the findings of Mukhopadhyay's study (2021), which identified age, education, and economic status as biological and social factors that dynamically affect marital satisfaction²².

As individuals gain more experience in their work and take on additional responsibilities, they may face new challenges both at home and in the workplace that can lead to a decline in marital satisfaction. Healthcare workers who have a second job often have less time to spend with their families, which can create conflict between work and family roles and ultimately impact their marital and family relationships, causing shared social activities with their spouse to break down and reduce marital satisfaction⁶. Additionally, uncertain employment situations such as contract and corporate work can lead to stress and an unpleasant working environment, which can result in mental tension, irritability, and aggressiveness that can spill over into

the home and negatively affect the family environment. These factors can contribute to a decline in marital satisfaction, underscoring the importance of striking a balance between work and family responsibilities to maintain healthy relationships.

One limitation of the present study is that it relied on self-reported data, which may have been influenced by factors such as the respondents' mental state at the time of completing the questionnaire, which was beyond the researchers' control.

Conclusion

This study found that EMTs working at Qom University of Medical Sciences experienced moderate levels of occupational stress and marital satisfaction. The results also suggested that reducing occupational stress can improve marital satisfaction among EMTs. Furthermore, the study identified education, employment status, work experience, having a second job, and occupational stress as factors that affect the marital satisfaction of EMTs. To enhance the satisfaction of EMTs, it may be beneficial to select individuals who are genuinely interested in the profession, provide opportunities for ongoing education, and minimize unnecessary transfers between different emergency stations. Nursing managers should also pay attention to the factors that contribute to occupational stress and marital satisfaction among EMTs to improve the quality of services provided by EMTs.

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Conflict of Interest Disclosures

The authors have no conflict of interest.

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Authors' Contributions

HR. ZKH: Study design, data collection, drafting of the manuscript.

J.SH: data collection, drafting of the manuscript.

A.A: Study design, data collection, implementation supervision

L. GH-A: Study design, data analysis, and interpretation, critical revision of the first draft of the manuscript, study supervision.

Ethical Statement

This study was approved by the Research Ethics Committee of Qom University of Medical Sciences (project number 2825, approval number IR.MUQ.REC.1401.201) on January 3, 2023. By research ethics, informed consent was obtained from all subjects participating in this study.

This research study was conducted according to the Declaration of Helsinki. All methods were carried out according to the relevant guidelines and regulations outlined in the declaration.

Declaration of Generative AI and AI-assisted technologies

Not applicable.

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