

Research Paper

Relationship Between of Mental Health and Job Satisfaction With Professional Ethics in Emergency Medical Personnel



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ABSTRACT

Background: Emergency medical personnel are among the people who play a major role in reducing the mortality and disability of the injured. This study determines the relationship between mental health and job satisfaction with professional ethics in emergency medical personnel.

Materials and Methods: The present cross-sectional study included 126 emergency medical personnel in Hamadan City, Iran. The data were collected using a 3-part demographic information questionnaire, the 28-item general health questionnaire, the Barry Field and Ruth job satisfaction questionnaire and the Cadozier professional ethics questionnaire. The data were analyzed using Stata software, version 14. Meanwhile, the significance level was considered $P < 0.05$.

Results: Most of the participants in the study were married (53.17%), technicians (80.95%), in contractual employment (75.4%), with rotating shift type (84.92%), had a bachelor's degree (55.56%) and were not satisfied with their monthly income (76.98%). The results showed that the mean scores of mental health, professional ethics and job satisfaction were 50.9, 81.45 and 35.58, respectively. There is a direct and significant relationship between mental health and professional ethics ($P=0.007$, $r=0.24$). Additionally, there is a direct and significant relationship between professional ethics and job satisfaction ($P=0.001$, $r=0.41$). However, no significant relationship was observed between mental health and job satisfaction ($P=0.24$, $r=0.10$).

Conclusion: Mental health workshops and fun facilities can improve emergency medical personnel's professional ethics and job satisfaction due to their direct relationship.

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Introduction

Professional ethics is a collection of accepted ethical principles, standards, actions, and reactions prescribed by organizations to professional associations to provide their members with the best possible social relations while performing professional duties [1]. Compliance with professional ethics is part of the fundamental character of health activities, and the mission of the various professions in this field is to provide the diagnostic, treatment, care and health services necessary to assure, maintain and promote the health of society at the highest standard level [2]. Although ethical behavior is necessary in all professions, it is especially important in the health and treatment fields, where the health and recovery of patients depend on the spiritual and responsible conduct of employees [3]. Employees of healthcare service centers who observe ethical standards enhance the quality of their services. One of the organizations providing healthcare is the emergency medical service, which plays a significant role in pre-hospital operations [4]. Medical emergency personnel are among those who are directly and closely connected with all layers of society and who affect the problems of individuals from another perspective [5]. Pre-hospital systems play an important role in minimizing injury mortality and disability. This close relationship doubles their great responsibility for individual health and lives, aside from the fact that providing the mental health of emergency medical personnel to enter the scene of an accident, correctly identify the injured and save patients' lives is of particular importance [6].

The **World Health Organization (WHO)** defines mental health as something beyond the absence of mental disorders, which includes mental well-being, adequacy, and self-actualization of potential intellectual and emotional capabilities [7]. Mental health, which is one of the pillars of evaluating the health of various societies, plays an important role in ensuring the dynamism and efficiency of any society and it consists of balanced and harmonious behavior with society, recognition and acceptance of social realities, the ability to adapt to them, and the flourishing of inherent talents [8]. Mental health includes a variety of mental, emotional, social and behavioral functions. It is an essential issue that is linked to social, psychological, behavioral and biological aspects and can have an important effect on daily life and work [9]. Medical emergencies are one of the jobs of the medical staff where there is more stress and risk to the individual's mental health. As a result, these employees cannot effectively engage with patients, which is a risk concern. The

number of errors will increase, and the consequences will ultimately affect the injured person and themselves [10]. Job satisfaction, according to many studies, is one of the elements affecting mental health in jobs, such as emergency medicine, which has an important effect on its personnel [11-13].

Job satisfaction is a challenging organizational concept that serves as the foundation for many management policies aimed at increasing the organization's productivity and efficiency [14]. Job satisfaction refers to the accumulation of positive feelings that individuals have toward their jobs. A sense of fairness in the workplace is typically associated with high job satisfaction. These employees show remarkable performance, and an organization with such employees is going to achieve success [15]. Job satisfaction affects significant issues, such as tardiness, absenteeism, and departing the organization, as well as individual efficiency and effectiveness, such as a person's level of production and productivity [16]. Meanwhile, the effects of job satisfaction extend to society. When people are satisfied with their employment, they enjoy their work and work harder for the well-being of their community [17]. Long working hours and working in an accident-prone, traumatic and challenging environment are some of the characteristics of the emergency medical profession, and a lack of job satisfaction causes the quality of providing healthcare services to the injured and patients to decrease, leading to a longer hospital stay for patients and increasing the negative social, economic, and psychological effects caused by a lack of health and health care [18].

Many studies have examined the relationship between mental health, job satisfaction, and professional ethics, but no paper has examined the three variables specifically in emergency medical personnel. Also, considering that emergency medical personnel are under a lot of psychological pressure due to the nature of their job, which can affect job satisfaction and professional ethics. Accordingly, more research is needed in this field. Because of that, the researchers decided to conduct this study among the emergency medical personnel of hospitals in Hamadan City, Iran. Hence, this study determines the relationship between mental health and job satisfaction with professional ethics in emergency medical personnel.

Materials and Methods

This was a cross-sectional study that investigated the relationship between mental health and job satisfaction with professional ethics. The participants in this study

included 126 emergency medical personnel in Hamadan City, Iran, in 2022. They were selected via the simple random sampling method. The sample size was calculated as 126 according to the Equation 1:

$$1. N = \left[\left(\frac{Z_{1-\alpha/2} + Z_{1-\beta}}{C} \right)^2 \right] + 3$$

The inclusion criteria were consent to participate in the research, having at least a diploma degree in emergency medicine, and having at least 1 year of experience working in emergency medicine. Meanwhile, the exclusion criterion was the non-completion or incomplete completion of questionnaires. The data gathering tools in this study were the demographic information questionnaire, Goldberg’s general health questionnaire (GHQ-28), the Barry Field and Ruth job satisfaction questionnaire and the Cadozier professional ethics questionnaire.

A checklist of demographic information for emergency medical personnel, including age, marital status, education, place of residence, type of residence, employment status, type of working base, base status, type of shift, satisfaction with monthly income and level of interest in work, has been approved by 10 faculty members of Hamadan University of Medical Sciences.

GHQ-28 includes 28 items that measure the components of general and physical health, anxiety, depression, and social dysfunction. To evaluate the level of general health, a 4-point Likert scale was used. Among the 28 items of the questionnaire, items 1 to 7 were related to physical symptoms, items 8 to 14 were related to anxiety and sleep disorders, items 15 to 21 were related to social dysfunction, and, items 22 to 28 were related to depression. The questionnaire’s cut-off scores were none or the lowest (0 to 22), mild (23 to 40), moderate (41 to 60) and severe (61 to 84). According to this questionnaire, the final score obtained by individuals falls into one of two categories as follows: Healthy (no disorder or the lowest score of 0–22) or unhealthy (in one of three categories of mild, moderate, or severe disorder with a total score of more than 22). Najafi et al. obtained the reliability of this questionnaire with a test re-test method at 0.89 [19].

Cadozier’s professional ethics questionnaire includes 16 items that are measured based on a 5-point Likert scale. Each of the questions is graded in such a way that the very low gets a score of 1, the low gets a score of 2, a mean score of 3, a high score of 4 and a very high score

of 5. Higher scores obtained from this questionnaire indicate a higher level of professional ethics, and vice versa. Mohammad Davoudi et al. obtained the reliability of this questionnaire using the Cronbach α method >0.70 [20].

Barry Field and Ruth’s job satisfaction questionnaire includes 19 items with five options. In this questionnaire, the respondents are asked to specify their feelings and attitudes toward their jobs based on a 5-point scale. In items 1-2-3-4-6-8-18-16-14-13-10, for the options “I strongly disagree,” “I disagree,” “I am undecided,” “I agree,” and “I strongly agree,” respectively, the score is 1-2-3-4-5 and the rest of the items are scored inversely. In this way, the minimum score of the total items of this tool is 19 and the maximum score is 95. The reliability of this questionnaire has been reported by Moshtagh Eshgh et al. [21] as 0.78 using the bisect method.

After obtaining the code of ethics, questionnaires were distributed to the research units. First, the research units were provided with information about the questionnaire and how to respond and it was made clear that participation in the study is voluntary. The Pearson correlation test was used to determine the relationship between mental health, professional ethics and job satisfaction. In addition, the Mean \pm SD, the frequency and the frequency percentage were used to examine the demographic characteristics. All data were analyzed using the Stata software, version 14, at a significance level of 0.05.

Results

A total of 126 emergency medical personnel participated in this research. The obtained results indicated that all the participants in the study were men (100%), most of them were married (53.17%), technicians (80.95%), contractual employment (75.4%) with rotating shift type (84.92%), had a bachelor’s degree (55.56%), owned a home (76.98%), lived in the city (92.86%), worked in an urban base (86.51%) and were not satisfied with their monthly income (76.98%). The Mean \pm SD of the age of personnel was 31.15 \pm 6.63 years, the Mean \pm SD of work experience was 7.47 \pm 5.87 years and the Mean \pm SD of monthly working hours was 269.85 \pm 75.68 (Table 1).

The mean mental health score was 50.09 \pm 12.45, with the lowest score at 26 and the highest score at 81. According to the self-assessment, a large percentage of personnel suffered from mild, moderate, or severe disorders. On average, the score of professional ethics of emergency medical personnel according to self-evaluation was 81.45 \pm 16.37. The lowest score was 51 and the highest

Table 1. Demographic data in emergency medical personnel

Variables		Mean±SD/No. (%)
	Age (y)	31.15±6.63
	Monthly working (h)	269.85±75.68
	Work experience (y)	7.47±5.87
Educational degree	Diploma	38.89(49)
	Bachelor	55.56(70)
	Master	4.76(6)
	PhD	0.79(1)
Marital status	Married	53.17(67)
	Single	46.83(59)
Place of residence	City	92.86(117)
	Village	7.14(9)
Type of residence	Personal	76.98(97)
	Rental	23.02(29)
Type of employment	Formal	24.60(31)
	Contractual	75.4(95)
Type of base	City	86.51(109)
	Road	10.32(13)
	Motor	3.17(4)
Base status	Technician	80.95(102)
	Driver	6.35(8)
	Dispatch	8.73(11)
	Medical care monitoring center	3.97(5)
Satisfaction with monthly salary	Yes	23.02(29)
	No	76.98(97)
Type of shift	Fixed	11.11(14)
	Rotating	84.92(107)
	Full time	3.97(5)

Table 2. Mean±SD of the descriptions of social mental health, professional ethics and job satisfaction

Variables	Mean±SD
Mental health	50.09±12.45
Professional ethics	81.45±16.37
Job satisfaction	35.58±8.93

score was 120. The employees' professional ethics level was at a favorable level, according to the self-evaluation. Also, the mean score of the job satisfaction of the personnel was 35.5±8.93. The lowest score was 19 and the highest score was 61. Thus, job satisfaction among these emergency medical personnel was weak (Table 2).

The Pearson correlation coefficient test showed a direct and significant relationship between mental health and professional ethics ($r=0.007$, $P=0.24$). There is a direct and non-significant relationship between mental health and job satisfaction ($r=0.24$, $P=0.10$). There is a direct and significant relationship between professional ethics and job satisfaction ($r=0.001$, $P=0.41$) (Table 3).

The results predicting job satisfaction using the linear regression model showed that with each unit increase in job satisfaction, professional ethics increased by 0.19 points ($P=0.001$). With each unit increase in job satisfaction, age decreased by 0.59 points ($P=0.005$). With each unit increase in job satisfaction, the type of residence (urban or rural) decreased by 5 units ($P=0.06$). With each unit increase in job satisfaction, the type of residence increased by 2.15 points; however, this relationship was not statistically significant ($P=0.21$). Also, with the increase in each unit of job satisfaction score, work experience increased by 0.47 points ($P=0.04$) (Table 4).

Discussion

The present study was conducted to determine the relationship between mental health and job satisfaction with professional ethics among emergency medical personnel in Hamadan City, Iran.

The results of our study showed that the level of mental health in emergency medical personnel is low and that the possibility of mental disorders in them is very high. Moshtagh Eshgh et al. (2016) showed in their study that 75.1% of medical emergency personnel experienced low mental health [21]. Also, according to the results of studies by Roggenkamp et al. (2018), the mental health of emergency medical personnel is at a critical level [6], which requires a lot of attention to consider important interventions to improve the level of mental health of this group of medical staff. Zolghadr and Rahimpour (2021) also reported that nurses' mental health was in a poor state [22], because the group of nurses and medical emergencies need to have good mental health due to their direct contact with patients, so additional attention and necessary planning are needed to improve their mental health.

On the other hand, according to this study's results, the job satisfaction level among emergency medical personnel is weak. The results of the study by Mohebian and

Table 3. Correlation between professional ethics, job satisfaction and mental health in emergency medical personnel

Variables		Professional Ethics	Job Satisfaction	Mental Health
Professional ethics	r	1	-	-
	P	-	-	-
Job satisfaction	r	0.41	1	-
	P	<0.001	-	-
Mental health	r	0.24	0.10	1
	P	0.007	0.24	-

Table 4. Predictor variables of job satisfaction in emergency medical personnel

Predictive Variables Model	β	95% CI	P
Professional ethics	0.19	0.10, 0.28	<0.001
Type of residence	2.15	-1.24, 5.55	0.21
Place of residence	-5.43	-11.09, 0.23	0.06
Work experience	0.47	0.008, 0.93	0.04
Age	-0.59	-1, -0.18	0.005

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Habibi (2015) showed that emergency medical personnel have a high level of dissatisfaction with their jobs [23]. Also, given the high level of dissatisfaction among medical emergency personnel in this study, it is probably possible to increase their job satisfaction by improving the working conditions of the personnel by reviewing the amount of salary and benefits because emergency medical personnel work in a stressful environment. Sedlár's study (2019) showed that Slovak emergency medical personnel have a good level of job satisfaction from their work [24]. Also, Tagharrobi et al. (2021) showed in their study that the job satisfaction of nurses is at an average level [25]. Concerning the inconsistency of this finding with our study, we can point to reasons, such as giving regular feedback to employees, fostering friendly relations, higher monthly salaries compared to Iran, and giving importance to their mental health in foreign employees. Also, long-term stress in emergency medical workers leads to burnout, which is one of the main factors in reducing job satisfaction. Sahebi et al. (2021) showed that job burnout dimensions, such as depersonalization and lack of personal accomplishment in emergency medical workers were at a medium level and a high level, respectively [26]. Habibisaravi et al. (2023) also reported that a large number of personnel (94.2%) were at severe and moderate levels of burnout [27] and according to a study by Shareinia et al. (2017), there is a significant relationship between job satisfaction and emotional exhaustion and depersonalization [28]. Therefore, it is necessary to determine the status of personnel in terms of job burnout by conducting periodical reviews and preventing job burnout by moving the workplace and transferring them to positions with less stress and work pressure, resulting in increased job satisfaction.

Regarding professional ethics, the results of this study showed that the level of professional ethics among emergency medical personnel is favorable. Hojjatoleslami et al. (2023) also reported that the professional ethics of

79.2% of nurses in their study were favorable [29]. Kamrani et al. (2023) also showed in their study that the professional ethics of nurses are at an excellent level [30]. Contrary to the results of this study, Shahbazi et al. (2021) showed in their study that only 25.25% of the personnel believed that they applied the principles of professional ethics in carrying out missions [31]. The importance of professional ethics for emergency medical personnel is doubled due to the methods utilized in the care of patients in accidents and incidents, as well as the typical boundaries of society in the areas of life and honor, property, and individual privacy.

The regression model used in this study examined the relationship between job satisfaction, professional ethics, and demographic variables. The results showed that employees with greater professional ethics had significantly higher job satisfaction scores compared to those with lower professional ethics. Consistent with the current research, the study conducted by Małkowska et al. (2021) demonstrated that professional ethics is a strong predictor of job satisfaction [32].

Conclusion

According to the findings of the present study, given the stressful nature of the emergency medical profession, work pressure, and encountering unexpected situations, as well as the high prevalence of mental health disorders, it is recommended that mental health training workshops be held to improve facilities and income. In addition, amenities facilities, such as free membership cards in sports clubs, life insurance, and bank facilities should be implemented to improve the mental health of emergency medical personnel, thus improving their professional ethics and job satisfaction.

Study limitations

The main limitation of this research was the non-cooperation of the personnel because of too many questions in the questionnaire.

Ethical Considerations

Compliance with ethical guidelines

The present study has been registered in the Ethics Committee of [Hamadan University of Medical Sciences](#) (Code: IR.UMSHA.REC.1401.290). Written consent was obtained from the participants in this study.

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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