

# Research Paper: Mental Health and Job Burnout Among Pre-Hospital Emergency Care Personnel



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## ABSTRACT

**Background:** Workplace creates physical, social, and mental tensions, each of them affects the People's health. Meanwhile, pre-hospital emergency care staff, because of the special nature of their jobs, are exposed to the tensions of emergency situations, which can affect their health. Therefore, this study was conducted to examine the relationship between job burnout and mental health in pre-hospital emergency staff of Qom Province.

**Materials and Methods:** In this descriptive, cross-sectional study, 150 personnel of "Qom 115 Emergency Care" were recruited in the study using census method. The study data were gathered using questionnaires of "background and clinical information", "mental health", and "job burnout". Then, the obtained data were analyzed using SPSS13 and central indices, Pearson correlation test, and multiple linear regression statistical tests were run.

**Results:** The average (SD) age of the participants was 30.8 (5.8) years. The average (SD) values of job burnout and mental health were 69.43 (12.4) and 60 (14.1), respectively. According to Pearson correlation test, the values of the job burnout and mental health had a significant negative correlation ( $r=-0.8$ ) with each other. The results of multiple linear regression test showed that the correlation of the job burnout and mental health considering the confounding variables was significant ( $P=0.05$ ).

**Conclusion:** Pre-hospital employed personnel have desirable mental health and job burnout. Furthermore, improved mental health results in decreasing job burnout. Therefore, it is advisable to consider necessary facilities for caring oneself.

## 1. Introduction

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ob burnout has attracted researchers of mental health since 1970s [1]. Job burnout can be a reaction against chronic pressures and a response to work or organizational pressure [2]. This phenomenon

is a psychological syndrome and seen in jobs that need interaction with people for long hours [3]. This disorder gradually develops and may lead to mental disability to the extent that some experts classify job burnout under adjustment disorders [4]. The person who suffers from burnout feels exhaustion and chronic fatigue, shows ag-

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gressive behavior and moods, and becomes cynical and pessimistic in personal relationships [5]. Consequently, job burnout not only jeopardizes the health of the millions of worker in social service units, but also can cause stress and tension for the relief seekers [6].

Job burnout is one of the main factors in reducing productivity, losing manpower, and causing physical and mental complications, especially in human services careers. If burnout left undiagnosed without a solution to reduce or prevent it, it could lead to loss of person's quality and efficiency, and decrease in physical and mental health. This will impose a huge cost on organizations having such staff with prolonged absences, their relocations, loss of productivity and efficiency or the expenses of healthcare, as well as decrease in energy and competence and a drop in the quality of patient's care services [7, 8].

Therefore, job burnout affects different aspects of a person's life, including physical and mental health and social functions [9]. The staff's mental health is one of the important areas related to occupational medicine and health. According to WHO (2010), mental health is defined as something more than just a lack of mental disorder or disability. Moreover, it is mentioned that mental health is a state of welfare in which a person understands his or her abilities, manages to adapt to the life's natural pressures, works efficiently, and contributes to the society [10].

Mental health of the health centers and hospital staff, regarding the immediate effect on patients' health, is of utmost importance [11]. It is predicted that by 2020, mental disorders accounts for 50% of the burden of disease [12]. According to studies, health center personnel and workers, because of their direct and close relation with all groups of the society, are overly exposed to chemical, physical, ergonomic, security, and mental injuries and dangers [13, 14].

Employees of medical emergency always face with stressful environments such as places full of injured people, seriously ill patients, and so on where working is difficult [15]. Stressful physical, mental and psychological stimuli cause the emergency care staff to face various dangers such as accidents, mistakes, and injuries in a way that their workplace in medical emergency produces environmental excitements or negative stresses [16]. Medical emergency staff have potentially prone to experience mental tensions, because of the time constraints in doing different affairs, patient's critical conditions, accompanying caretakers' expectations, outside working environment, fear of incompetence in rescuing a terminally ill patient, decision making in critical situ-

ations and factors related to manpower [17]. Based on Cicchititi et al. study (2014), at least 60% of pre-hospital emergency care staff and according to Ghaniyoun et al. study (2016), 77.5% of the emergency center operational staff suffer from burnout [18, 19]. By examining the relationship between job stress and job burnout of medical emergency staff (considering the high average value of their burnout at 76.7), Moshtagh et al. (2015) emphasized on the ways to reduce job stress and improvement of mental health of medical emergency staff [20].

Pre-hospital emergency care staff are important resources, owing to the kind of services society expects from them, i.e., services such as saving people who are near death. Therefore, considering the existing stressing factors in their workplace and weak research background in this regard, the researcher decided to determine the relationship between burnout and mental health of pre-hospital emergency care staff. It is hoped that the results can increase the efficiency of these personnel and prevent their work function from decreasing.

## 2. Materials and Methods

The present research is a descriptive cross-sectional study of correlational kind conducted on the personnel of pre-hospital emergency staff in 36 urban and road bases affiliated to Qom University of Medical Sciences and Health Services from April 2016 to September 2016. The sampling was done by census with the sampling size of 216 persons to begin with, of whom 66 were excluded from the study due to the exclusion and inclusion criteria, leaving 150 people to be studied.

The inclusion criteria included not having a known mental illness, currently working in Qom pre-hospital emergencies with at least 2 years work experience, absence of intense domestic conflicts, threatening to divorce, or any other physical and mental illnesses affecting the quality of burnout, including depression, cancers, autoimmune diseases, or disability. The exclusion criterion was the person's non-cooperation in the study.

The study data collection instruments included a background and clinical information checklist (checks age, marital status, children's number, work experience, history of illnesses, medication, drug use and smoking), "Maslach burnout questionnaire", and "mental health questionnaire". Maslach burnout questionnaire includes 22 items. It measures the aspects of emotional exhaustion (questions 1, 2, 3, 6, 8, 13, 14, 16, and 20), the phenomena of depersonalization (questions 5, 10, 11, 15, and 22), and lack of personal success (questions 4, 7, 9, 12,

17, 18, 19, and 21). This instrument is applied to measure and prevent burnout in professional groups such as nurses, teachers, etc. The scoring method of the items on this questionnaire is based on 7-point Likert-type scale (0=definitely not, 1=probably not, 2=possibly, 3=quite possibly, 4=probably, 5=very probably, 6=definitely). Fourteen questions (1, 2, 3, 5, 6, 8, 9, 10, 11, 13, 15, 16, 20, and 22) are scored using reverse scoring. In addition, in the interpretation of this test, the more the score is, the less the burnout is detected to exist. The questionnaire based on Badri Gargoori (1995) study is valid and reliable and its Cronbach  $\alpha$  coefficient was reported to be between 0.75 and 0.84 [21, 22, 23]. In the present study, the obtained Cronbach  $\alpha$  coefficient was 0.91.

Mental health questionnaire includes 28 items. It measures the aspects of physical symptoms (questions 1-7), symptoms of anxiety and sleep disorder (questions 8-14), social function (question 15-21), and syndrome of depression (questions 22-28). This instrument screens both healthy and sick people. The scoring method of the items on this questionnaire is based on 4-point Likert-type scale (A-D, scores 0-3 respectively). Therefore, each participant's score ranges between 0 and 21 on each subscale and between 0 and 84 in all. The scores of each scale is calculated independently and their sums determine the final score. By interpreting these scores, one can detect the severity of the participant's condition. If on each subscale the person's score was over 17 and on the total scale was over 41, the person's condition is not fine. This questionnaire passed validity and reliability on a study by Besharat (2009), and its Cronbach  $\alpha$  coefficient was reported to be between 0.85 and 0.91 [24, 25]. Also, in the present study, the obtained Cronbach  $\alpha$  coefficient was 0.93.

Upon obtaining permission from Department of Research of Qom University of Medical Science, the researcher accessed the information of the personnel who had been working there for a minimum of 2 years. Thus, 216 persons were entered into the study by census method. The people with inclusion criteria were contacted and participated in the study after taking their written consent. Failing to meet inclusion criteria, 66 persons were excluded from the study. To keep confidential the participants' names, they were given codes and furthermore, any participant could break off in case of unwillingness to continue cooperation.

Analyses were carried out using SPSS13. To examine the normality of the data, Kolmogorov-Smirnov test was run. To assess the distribution of background and clinical variables, central indices were employed. Also to investigate the relationship between burnout and its subscales with mental health and its subscales, the Pearson correlation test was applied.

To study the confounding impact of background variables (age, marital status, number of children, work experience, background illness history, medication, drug use, and smoking) with respect to the relation of burnout with mental health, a multiple linear regression model was utilized. Level of significance was considered less than 0.05.

### 3. Results

There were 150 participants in this study. Their average (SD) age was 30.8(5.8) years. Their average (SD) work experience in pre-hospital emergency care was 7(4.1) years. About 62.1% of them were married, 79.3% healthy, 86.2% not on medication, 96.6% not using drug, and 89.7% were non-smokers.

The average (SD) value of their burnout and mental health scores were 69.43(12.4) and 60(14.1), respectively. The average (SD) value of burnout subscales of emotional exhaustion, depersonalization, and lack of success were 23.1(14.41), 11.07(5.41), and 38.0(9.2), respectively. The average (SD) value of mental health subscales of physical symptoms, anxiety, social function, and depression were 14.75(4.5), 13.9(4.3), 14.1 (3.8), and 17.3(4.4), respectively. According to Pearson correlation test, burnout and mental health demonstrate a significant negative correlation ( $r=-0.8$ ) with each other (Table 1).

The results of multiple linear regression tests showed that, considering the confounding variables (age, marital status, number of children, work experience, background illness history, medication, drug use, smoking, and mental health), the relationship between burnout and mental health is significant ( $P=0.05$ ) (Table 2).

### 4. Discussion

The present study was conducted to determine the relationship of job burnout with mental health among the personnel of Qom pre-hospital emergency care. It showed that these personnel enjoy a desirable level of mental health. Chan and Huak (2004) and Asadi et al. (2010), in line with this study, reported that working in emergency rooms, despite the higher occupational injuries, did not negatively affect the physicians' and nurses' mental health [26, 27]. However, Maghsoudi et al. (2015) reported that 70.33% of the nurses under study suffered from mental health disorder [28]. This difference can arise from a different target group compared to that of our study. Also, Moshtaghe Eshgh et al. (2015) found that 75% of Golestan Province medical emergency care staff experience a relatively low mental health [20].

**Table 1.** The association of burnout and its subscales with mental health and its subscales in Qom Pre-Hospital Emergency staff

Aspects	Emotional Exhaustion	Phenomena of Depersonalization	Lack of Success	Burnout	Physical	Anxiety	Social	Depression	Mental Health
Emotional exhaustion	1								
Phenomena of depersonalization	0.844**	1							
Lack of success	-0.780**	-0.709**	1						
Burnout	0.882**	0.800**	-0.432*	1					
Physical	-0.705**	-0.634**	0.632**	-0.582**	1				
Anxiety	-0.672**	-0.682**	0.666**	-0.729**	0.763**	1			
Social	-0.669**	-0.664**	0.584**	-0.583**	0.496**	0.489**	1		
Depression	-0.734**	-0.776**	0.556**	-0.881**	0.623**	0.753**	0.593**	1	
Mental health	-0.814**	-0.822**	0.710**	-0.799**	0.881**	0.899**	0.770**	0.872**	1

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**Table 2.** The relationship between burnout and mental health considering the confounding variables in Qom Pre-hospital emergency staff according to multiple linear regression tests

	B	Beta	P	Confidence Limit for B	
				Low	High
Mental health	-0.555	-0.603	0.019	-1.003	-0.106
Age	-1.004	-0.489	0.410	-3.552	1.544
Marital status	4.914	0.186	0.534	-11.694	21.522
Background illness history	6.965	0.236	0.696	-30.702	44.631
Medication	-7.517	-0.234	0.668	-44.535	29.501
Drug use	12.274	0.206	0.577	-34.124	58.672
Smoking	-16.548	-0.383	0.334	-52.216	19.120
Number of children	-1.444	-0.105	0.819	-14.764	11.877
Work experience	0.295	0.127	0.815	-2.375	2.966

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Considering these study results, one can say that occupational tension among pre-hospital emergency care staff is always scanned because of the working conditions and the possibility of occupational trauma. However, the positive impacts of discretion, innovation at the workplace, and support of the supervisors in some pre-hospital emergency care units have decreased the tension and we can expect dynamism and mental health in these units.

Moreover, the results of the present study show that the pre-hospital emergency care personnel enjoy an acceptable level of burnout. In line with this, Palfine et al.

(2008) showed that only 9.4% of intensive care nurses in Hungary had reported burnout [29]. Furthermore, the study by Popa et al. (2010) in Hungary showed that occupational burnout among medical emergency group was lower compared to other professional groups such as doctors and nurses working in emergency rooms [30].

On the other hand, some other studies showed a higher than average level of burnout among the medical emergency staff. This can result from lack of order, pressure of the atmosphere and overcrowding in hospital emergency [31-33]. Justifying this matter, it seems that dif-

ferent working conditions and related factors can play an effective role in this regard. In other words, job burnout depends on different organizational, interpersonal, and intrapersonal factors. Also culture, individual responses to problems, and the way a person evaluates and assesses his or her accomplishments can play a role in this situation.

In the end, this study illustrated a significant relationship between subscales of mental health (physical symptoms, anxiety, social function, and depression) and subscales of job burnout (emotional exhaustion, depersonalization, and lack of success), but no studies were found to compare these items. Therefore, it is expected that with decrease in person's burnout aspects, his or her anxiety and stress decreases and energy, ability, and motivation increases. Improvement of mental health decreases burnout. This study supports the studies conducted by Asadi (2010) and Yavari (2014) [26, 33]. Maybe with an increase in mental health, people's physical and mental endurance level increase and their stress level decrease which in turn lower job burnout.

Therefore, promoting mental health has to be the managers' priority so that job burnout among emergency staff decreases and their mental health increases. Thus, the researchers suggest that for future studies, interventional procedures be implemented to improve mental health level of pre-hospital emergency care staff and decrease their occupational burnout.

Finally, the only limitation of this study was related to the accurate and correct completion of the questionnaires with regard to the participants' hard work and tiredness, for which the study objectives and its importance were explained to the research units of the hospitals.

## 5. Conclusion

The study results show that pre-hospital emergency care staff have a desirable level of burnout and mental health. Also, improved mental health decreases job burnout. Therefore, it is advisable to consider necessary facilities for self-care such as compulsory leaves after busy shifts, counselling sessions, and periodic counseling.

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## Conflict of Interest

The authors declared no conflicts of interests.

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