

Occupational Burnout and Its Determinants among Personnel of Emergency Medical Services in Iran

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Abstract- Several observations have addressed high rates of occupational burnout among personnel of emergency medical services (EMSs) centers. Occupational burnout influences EMS personnel's well-being and quality of life. The main objective of this study was to assess burnout and its determinants among Iranian EMS personnel. This study was carried out at all EMS centers in two provinces of Kermanshah and Hamadan located at the west of Iran. The sample consists of 260 personnel (110 in Hamadan and 150 in Kermanshah) that were consecutively entered. The information was collected by researcher attendance at their workplaces using a self-administered questionnaire. Occupational-burnout was measured using the Maslach Burnout Inventory. An average of 46.54% of personnel displayed high frequency in the subscale emotional exhaustion, 38.85% displayed high frequency in the subscale depersonalization, and only 2.69% of them displayed high frequency in the subscale incompetence/lack of personal accomplishment. Regarding the severity of burnout, severe emotional exhaustion and depersonalization were detected in an average of 25.39% and 37.69 of the personnel, respectively; while, an average of 97.31% expressed a low level of the lack of personal accomplishment. Frequency and severity of burnout were adversely affected by younger age, single status, history of smoking, lower income, higher work experience, longer shifts, and even work status of the spouse. Iranian EMSs personnel considerably suffered from emotional exhaustion and depersonalization. This should be effectively managed and improved by organizational supports, psychological consultations, and effective management aimed to improve determinants of appearing occupation-related burnout.

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Introduction

Several observations have addressed high rates of occupational burnout among personnel of emergency medical services (EMSs) centers. Occupational burnout influences EMS personnel's well-being and quality of life and interactions with their family members and co-workers (1,2). Also, the occupational health of these professionals can negatively affect both the quality of care delivery and their degree of professional training (3-6). Thus, potentially serious consequences of burnout for

EMSs staff are potentially predictable. Occupational burnout is mainly identified as a psychological phenomenon characterized by three statements of emotional exhaustion, depersonalization, and lack of personal accomplishment. These conditions can result in numerous self-reported measures of personal distresses such as depression, apathy, tension, fatigue, and anxiety (7,8).

Many factors in the work environment can influence appearing occupational-related burnout in EMSs personnel such as role overload, role conflict, perceived

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Occupational burnout in emergency services

organizational support, socioeconomic status, as well as their different psychological aspects (9-11). In this context, work redesign plans, psychological consultation, as well as early assessment and appropriate interventions of managers can be effectively helpful in the reduction of occupational burnout in these personnel (12,13).

In Iranian medical staff and nurses, socioeconomic problems have a major role in burnout. According to some recent observations, more than half of the nurses, especially in emergency settings associate with pressures of foreclosure for mortgage or loan (14). Besides, in some other studies, the impact of shift work and high workload on personnel's behavior and adverse health outcomes has been more highlighted (15).

Although some studies have been published about occupational burnout among hospital nurses and personnel in emergency wards of the hospital, no study was available regarding this subject in Iran. Thus, the main objective of this study was to assess burnout and its determinants among Iranian EMS personnel

Materials and Methods

This descriptive and the analytical-prospective study were conducted at all EMS centers in two provinces of Kermanshah and Hamadan located in the west of Iran. The target population for the study was members of the personnel of these EMS centers. We received 110 out of 121 questionnaires in Hamadan province and also received 150 out of 161 questionnaires in Kermanshah province (92.2%). Hence, the sample of this study consisted of 260 participants (110 in Hamadan and 150 in Kermanshah) that were consecutively entered into the study after they signed informed consent forms attached to questionnaires. The Ethics Research Committee of the Hamadan University of Medical Sciences approved this project. The study information was collected by researcher attendance at their workplaces using a self-administered questionnaire consisted of the questions focused on different aspects of living status and

working situations, including demographic information, educational level, type of employment, job history, work shift, mean of monthly income, marital status, history of smoking, and regular physical activity.

Occupational burnout was measured using the Maslach Burnout Inventory (18), self-reported survey using a Likert scale including three statements of emotional exhaustion (the worker's feelings in relation to the job-characterized as emotional burden), depersonalization (insensitivity and dehumanization of care, when individuals start to treat clients and colleagues with coldness and indifference), and incompetence or lack of professional accomplishment (low efficiency and productivity at work).

The questionnaire has 22 items (comprising of 8 items for emotional exhaustion, 9 items for depersonalization, and 5 items for reduced personal accomplishment) that can measure both frequency and severity of burnout. For measuring burnout frequency, respondents were asked to respond to each statement in terms of the following; never, a few times in a year or less, once a month or less, a few times a month, once a week, a few times in a week and, every day. Also, for determining burnout severity, respondents were asked to respond to each statement in terms of the following; never, very low, low, occasionally, moderate, often, high and, very high. The final scores in both conditions were categorized as three levels of low, moderate, high described as Table 1. High scores indicate greater hence more emotional exhaustion and depersonalization and low scores indicate greater hence more lack of accomplishment. To determine the questionnaire's validity we used a Persian version of the Maslach Burnout Inventory; we translated the questionnaire into Persian first and retranslated to English, and then we used a native for check and rechecked with the original version. Following the translation, an expert panel confirmed the face and content validity of the questionnaire.

Table 1. Scores of Maslach Burnout Inventory

Statements	Component	Low	Moderate	High
Emotional exhaustion	Frequency	≤ 17	18 - 29	≥ 30
	Severity	≤ 25	25 - 39	≥ 40
Depersonalization	Frequency	≤ 5	6 - 11	≥ 12
	Severity	≤ 6	7 - 14	≥ 15
Lack of personal accomplishment	Frequency	≥ 40	39 - 34	≤ 33
	Severity	≥ 44	43 - 37	≤ 36

For internal consistency, the Cronbach's alpha coefficient for this measure was estimated at 0.89 for

emotional exhaustion, 0.77 for depersonalization and 0.74 for personal accomplishment in determining

burnout frequency and also at 0.86 for emotional exhaustion, 0.72 for depersonalization and 0.74 for personal accomplishment in determining burnout severity in the Cronbach's alpha scale. In addition, the test-retest result of 10 completed questionnaires by the similar personnel in two-week interval showed a desirable reliability as well ($r=0.88$).

Results were reported as mean \pm standard deviation (SD) for the quantitative variables and percentages for the categorical variables.

Results

The primary results (Table 2) showed that more than half of participants in two provinces aged lower than 40 years (59.4% in Kermanshah and 57.2% in Hamadan).

Most of them were married. With respect to education level, the personnel with a bachelor degree were the maximum number of both provinces (40.0% in Kermanshah and 43.6% in Hamadan). Only 49% of the subjects had daily physical activity. With regard to years of work experience, 38.0% in Kermanshah and 39.2% in Hamadan had worked experience higher than 10 years. Also, with respect to monthly income, only 11.3% in the first and 11.9% in the second province had an income higher than 6,000,000 Iranian Rials.

An average of 46.54% of the personnel displayed high frequency in the subscale emotional exhaustion, 38.85% displayed high frequency in the subscale depersonalization, and only 2.69% of them displayed high frequency in the subscale incompetence/lack of personal accomplishment (Table 3).

Table 2. Baseline, characteristics of study participants

Characteristics	Kermanshah (n=150)	Hamadan (n=110)
Age group, (%)		
20 – 29 years	40 (26.7)	31 (28.1)
30 – 39 years	49 (32.7)	32 (29.1)
40 – 49 years	40 (26.7)	26 (23.6)
> 49 years	21 (14.0)	21 (19.2)
Marital status, (%)		
Married	110 (73.3)	81 (73.6)
Single	40 (26.7)	29 (26.4)
Educational degree, (%)		
Diploma degree	30 (20.0)	20 (18.2)
Associate degree	60 (40.0)	42 (38.2)
Bachelor degree	60 (40.0)	48 (43.6)
History of smoking, (%)	36 (24.0)	27 (24.5)
Regular physical activity, (%)	72 (48.0)	56 (50.9)
Educational field, (%)		
Medic	30 (20.0)	30 (27)
Medical emergency	36 (24.0)	24 (23)
Anesthesiology	24 (16.0)	18 (15)
Nursing	60 (40.0)	38 (35)
Type of employment, (%)		
Corporate Employment	38 (25.4)	30 (27.3)
Indentured employment	71 (47.3)	45 (40.9)
Official employment	41 (27.3)	35 (31.8)
Work experience, (%)		
< 1 year	3 (2.0)	4 (3.6)
1 – 5 years	37 (24.7)	27 (24.5)
6 – 10 years	53 (35.3)	36 (32.7)
11 – 15 years	40 (26.7)	26 (23.6)
16 – 20 years	17 (11.3)	17 (15.6)
Shift work, (%)		
7 – 9 am	0 (0.0)	0 (0.0)
9 – 11 am	12 (8.0)	11 (9.0)
11 – 13 am	18 (12.0)	16 (14.5)
13 – 15 am	120 (80)	83 (75.5)
Monthly income, (%)		
< 5,000,000 rials	18 (12.0)	16 (14.5)
5,000,000 – 6,000,000 rials	115 (76.7)	81 (73.6)
6,000,000 – 9,000,000 rials	17 (11.3)	13 (11.9)

Regarding the severity of burnout (Table 4), severe emotional exhaustion and depersonalization were detected in an average of 25.39% and 37.69 % of the

personnel, respectively; while, an average of 97.31% expressed a low level of the lack of personal accomplishment.

Table 3. Frequency of occupational burnout components in study participants

Item	Low	Moderate	High
Emotional exhaustion			
Kermanshah	74 (49.3)	4 (2.7)	72 (48.0)
Hamadan	57 (51.9)	4 (3.6)	49 (44.5)
Depersonalization			
Kermanshah	72 (48.0)	18 (12.0)	60 (40.0)
Hamadan	53 (48.3)	16 (14.5)	41 (37.2)
Lack of personal accomplishment			
Kermanshah	134 (89.3)	13 (8.7)	3 (2.0)
Hamadan	97 (88.2)	9 (8.2)	4 (3.6)

Table 4. Severity of occupational burnout components in study participants

Item	Low	Moderate	High
Emotional exhaustion			
Kermanshah	65 (43.3)	45 (30.0)	40 (26.7)
Hamadan	52 (47.3)	32 (29.1)	26 (23.6)
Depersonalization			
Kermanshah	60 (40.0)	30 (20.0)	60 (40.0)
Hamadan	50 (45.5)	22 (20.0)	38 (34.5)
Lack of personal accomplishment			
Kermanshah	147 (98.0)	0 (0.0)	3 (2.0)
Hamadan	106 (96.4)	0 (0.0)	4 (3.6)

Emotional exhaustion had the most frequency at the age ranged 40- 49 years, depersonalization had the most frequency at the age ranged 30-39 years ($P<0.001$), and personal accomplishment had the most frequency at the age ranged higher than 49 years ($P<0.001$). Also, the most severe emotional exhaustion and depersonalization were showed in the subjects aged 40- 49 years ($P<0.001$), and the most severe of personal accomplishment in the subjects older than 49 years ($P<0.001$). The frequency and severity of burnout are statistically comparable in the two provinces ($P>0.05$). There was more frequent of both statements of emotional exhaustion and depersonalization ($P<0.001$), and severity of emotional exhaustion ($P<0.01$) and depersonalization ($P<0.05$) in singles than married ones, whereas both groups, were similar in terms of frequency and severity of the lack of personal accomplishment ($P>0.05$). There was a higher prevalence of emotional exhaustion ($P<0.001$), depersonalization ($P<0.01$), and personal accomplishment ($P<0.001$) in smokers than non-smokers. The severity of both statements of emotional exhaustion and depersonalization were also higher in smokers than non-smokers ($P<0.001$), but both

groups were alike in terms of severity of the lack of personal accomplishment ($P>0.05$). Emotional exhaustion had the same frequency and severity at the sportsmen and non-ones ($P>0.05$), whereas there were higher frequency and severity in depersonalization and personal accomplishment ($P<0.001$) in the sportsmen than non-ones. The three studied burnout statements were more frequent and more severe in that personnel with employed spouse compared with whose spouses were a housewife ($P<0.001$).

Personnel with the different levels of monthly income had partially high frequency and severity of the personal accomplishment ($P<0.001$), however, emotional exhaustion and depersonalization statements had higher severity and frequency in the group with moderate income compared with other two groups with higher or lower monthly income ($P<0.001$).

Also, those with basic work experience and longer shifts had more frequency and severity of burnout ($P<0.001$). In this context, there were no significant correlations of frequency as well as the severity of burnout and variables of educational level, and type of employment.

Discussion

According to results of the current study and with regard to the frequency of different statements of occupational burnout, a considerable number of study population suffered from emotional exhaustion and sense of depersonalization, while the lack of professional accomplishment was in an appropriate condition with a low prevalence of only 2.8%. The similar findings were obtained with respect to the severity of these statements of occupational burnout in EMSs personnel. The emotional exhaustion aspect is accompanied by feelings of anxiety and hopelessness, irritability, guilt, frequent mood swings, and depressive symptoms. In some cases, individuals with burnout may exhibit aggressive behaviors, experience frequent emotional outbursts, uncontrollable crying, negativity, and pessimism (17). Depersonalization is also a self-protective mechanism induced by the unresolved, occupational-related stressors, and is characterized by an individual's detachment or distancing response while interacting with clients and others. It may also manifest as negative, cold, and cynical reactions to various situations (16).

Occupational burnout is theoretically defined as a feeling that individual is emotionally drained, strained and frustrated by working directly with people (16-19). According to the first findings and definitions by Freudenberger, initial conceptualization of burnout is mainly focused on the characteristics of individuals prone to burnout including behaviors such as being very dedicated and committed to the clients, working many long hours for very little financial compensation, and ignoring personnel own needs for the benefit of the job. In addition, these employees took very few vacations and replaced their social lives with time spent on the job. According to his belief, this personnel believed that the workplace cannot survive unless they are always present. It seems that in the current study, emotional exhaustion and depersonalization feeling might be strongly related to these beliefs and can be originated from this knowledge. It also seems that occupational burnout can be psychological withdrawal from work in response to excessive stress or dissatisfaction (20). Thus, in this study, the two components of emotional exhaustion and depersonalization were influenced by these stress or dissatisfaction.

The frequency and severity of the lack of professional accomplishment were considerably low and acceptable in this population. The third phase of occupational burnout is reduced personal

accomplishment. This phase is characterized by feelings of inadequacy and doubt about one's ability to make a difference in the lives of clients and to relate to others, including co-workers, in a constructive and helpful manner (21). During this phase, these individuals feel professionally incompetent and are extremely dissatisfied with their work performance and level of productivity (16,22). Although this phase was not inversely affected by occupation status, but it might be deteriorated following increasable workload, organizational supports, or appearing triggering factors leading stresses or negative job interactions.

We also showed that the two statements of emotional exhaustion and depersonalization were more affected in younger personnel than older, in smokers than non-smokers, and in singles than married ones. Also, these components were significantly influenced by unacceptable income and even job status of the spouse. Few studies are available in the assessment of the main determinants of burnout in EMSs personnel. According to our best knowledge, no observation was published regarding effects of smoking, marital status or even works status of the spouse on burnout in these personnel. It seems that the mentioned factors might indirectly affect burnout statements via impairment of psychological health that should be more investigated in further studies. Limitations of the present study were comparing only two provinces close together and questionnaire-based analysis. Qualitative researches are needed to explore more aspects of burnout and relative factors.

A considerable number of Iranian EMS personnel suffered from emotional exhaustion and sense of depersonalization while the lack of professional accomplishment was in an appropriate condition. Frequency and severity of burnout were adversely affected by younger age, single status, history of smoking, lower income, higher work experience, longer shifts, and even work status of the spouse.

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