

# Job burnout in medical school staff of Iran University of Medical Sciences in 2016

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## Abstract

**Introduction:** Job burnout causes physical, psychological and social disturbances due to chronic work-related stress. This disturbance can be seen between different types of occupations at different levels and leads to a reduction in the quality of their work and their lives.

**Objectives:** The purpose of this cross-sectional study was to determine the burnout of the staff of the medical school of Iran University of Medical Sciences in 2016.

**Methods:** After re-confirming the validity and reliability, the Persian version Maslach Burnout Questionnaire was completed by 102 people of medical school staff of Iran University of Medical Sciences who were selected through simple random sampling. The data were classified into three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. SPSS software version 20 was used for statistical analysis.

**Results:** The content validity index of questionnaire and Cronbach's alpha coefficient were 0.659 and 0.761. Emotional exhaustion (4.9%), depersonalization (40.2%) and personal accomplishment (38.2%) were reported as high levels of burnout, respectively. There was a significant correlation between depersonalization with emotional exhaustion and personal accomplishment ( $P < 0.05$ ). There was also a significant reverse correlation between emotional exhaustion with work experience ( $P = 0.036$ ). On the other hand, personal accomplishment had a significant association with female gender ( $P = 0.019$ ).

**Conclusion:** Due to different degrees of job burnout reported in a high percentage of the staff, and job burnout affects on their performance and ultimately reducing organizational achievement, it is necessary to pay attention to appropriate preventive policies and problem-solving strategies in accordance with the needs of staffs.

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## Introduction

People spend more than one-third of their lives in working environments, therefore physical and mental health of employees has a positive and significant impact on job motivation, job satisfaction, productivity, and ultimately the quality of life of individuals (1). Employees tend to adapt themselves to their work but continuing to work in a stressful environment and admitting constraints face them with health risks called job burnout (2). In fact, burnout is the result of long-term anxiety in workplace (3).

Job burnout imposes a lot cost to compensate job losses, absence from work, continuous unwanted changes in job positions, and lower quality of staff performance (2). Various factors have been mentioned as job burnout risk factors including; uncertain job expectations of employees (role ambiguity), inappropriateness of individual skills with company's position, congestion in affairs, disagreement with colleagues and executives,

## Key point

In this study, low to moderate burnout in all dimensions affected women and 10 to 20 years of work experience more than other groups.

limitation on decision making, failure to make career progress and dynamism. When a person has a problem with work environment, his or her personal life is also troubled, which would exacerbate the stress and loss of work quality in a closed cycle (4,5).

Friedenberg defined job burnout as: frustration because of fatigue and stress due to work affairs. Subsequently, Maslach defined job burnout with tangible concepts and designed the Maslach Job Burnout Questionnaire (MBI) (3). This questionnaire, which is currently the most common instrument used to measure occupational burnout, consists of three dimensions; emotional exhaustion, depersonalization, and personal accomplishment (6). Emotional

exhaustion includes cases such as chronic fatigue, sleep disturbances, lack of energy and psychological evacuation. Depersonalization is also considered as a complex of negative reactions, neglecting other colleagues and clients, feeling guilty, isolation and leaving the work due to loss of motivation for daily activities and tasks which leads to conflicts about the competence and success of a job that can affect satisfaction, judgment, and efficacy (3).

Through the recent 25 years studies, it is approved that various features of burnout are experienced by employees of organizations,(7). Given the preventive approach to prevent work-related burnout, it seems to be necessary to evaluate and manage the associated factors. In the health sector, clinical staffs suffer from administrative burdens because they are exposed to various stresses, such as high work pressure, the need for daily interaction with a large number of patients, the need for emergency decisions and anxiety caused by avoiding mistakes at work (3). Therefore, the jobs of medical group, in particular surgery and emergency medicine, as well as nursing, are considered as stressful jobs in health care setting (8). Although most of the burnout studies have been carried out about this field, few of them have been conducted in the educational contexts (2).

### Objectives

The present study aimed to determine the job burnout at the medical school staff of Iran University of Medical Sciences.

### Methods

This is a cross-sectional study. The sample contains 102 employees of the medical school of Iran university of medical sciences in educational, research, administrative, financial and service departments. The number of those who were present at the time of offering the questionnaires Maslach Burnout Inventory was asked to participate in research.

To increase the precision of results, we re-tested the validity and reliability of the Persian version of questionnaire. Maslach Job Burnout Questionnaire (MBI) was designed by Cheristina Maslach and Susan E. Jackson in 1980(3). The Questionnaire consisting of three dimensions and 22 questions (including; 7 questions for emotional exhaustion, 7 questions about depersonalization and 8 questions in domain of personal accomplishment) with Lickert scaling from zero (never) to six (every day), was arranged in Persian version and reviewed by 10 faculty members. The validity of the questionnaire was confirmed by taking the viewpoint of experts regarding its translating and adapting to the type of activity of the colleagues. Then test re-test method was used to determine the reliability of the tool. First, the questionnaires were completed by 10 employees and the process was repeated again within two weeks to estimate intra-class correlation coefficient.

To complete the questionnaires, after collecting

the staff identification list from the administrative affairs department and in collaboration with them, the questionnaires were offered through simple random sampling among the staff of the medical school in different groups including; educational, researchers, administrative, financial and services and were collected over next two days.

The score obtained in each of three domains was based on the reference score in low, medium and high categories. Accordingly, emotional exhaustion was considered as; low score (17 and lower), moderate score (18-29) and high score (30 and above). Also, depersonalization was considered as; low score (5 and below), moderate score (6-11) and high score (12 and higher). In personal accomplishment, rankings were arranged to reduce the performance or negative viewpoints of individuals towards themselves, though the overall score was reversed, respectively, high score (33 and lower), moderate score (34 -39) and low-grade (40 and above). Data were anonymous and answering was optional.

### Ethical issues

Tenets of Helsinki Declaration were regarded. Written informed consent was taken from the participants in the research. The ethics committee of Iran University of Medical Sciences (#13317) with project tracking code (#11164) had approved this study. In order to address ethical issues, unnamed questionnaires were given to all employees and those who were willing to complete and deliver the questionnaire without any insistence. Meanwhile, for each questionnaire, a code was considered that was not applicable to individuals.

### Statistical analysis

Considering the equivalence of some of the items in the questionnaire, the present study was conducted to assess the validity and reliability of the questionnaire. Data were collected from 102 subjects and were analyzed by SPSS software version 20 (SPSS Inc., USA). After determining the normality of the data, a significant difference between the groups was tested by ANOVA. The LSD post hoc test was used to examine the difference between the groups. Other statistical tests were also explained in the result section. The statistical significance level was set as 0.05.

### Results

In our study, 102 employees of medical school (64.7% female and 35.3% male) completed questionnaires.

The age group of 40-50 had the highest frequency of age distribution (47.1%), and the highest rate of work experience was between 10-20 years (48% of total). Bachelor's degree holders (36.3%) had the highest abundance of degrees, and finally administrative staffs were most participants in the study (45.1%).

The adequacy of the sample size was checked through KMO and Bartlett and  $P < 0.001$ . The Kolmogorov-

Smirnov test was used to ensure the normal distribution of the data. The value of ( $P=0.843$ ) obtained from this test indicates that there is no reason to reject the hypothesis that “the sample is obtained from a normal distribution”.

The validity and reliability of the instrument were assessed first and burnout score was determined then. Content validity index was estimated 0.89 and Cronbach’s alpha coefficient was 0.761. ICC was calculated as 0.7 for overall questionnaire (Table 1).

Based on the results of the study, in emotional exhaustion domain, 39.2% of the subjects had low, 47.1% moderate and 4.9% had high burnout. Also, in depersonalization domain, 59.9% showed moderate burnout and 40.2% high burnout. The low burnout was not reported in this dimension.

In personal accomplishment domain, 51% of subjects had low, 3.9% moderate and 38.2% had high burnout. Among those with high depression, 29% were in one domain, 34% in two domains, and 3% in three domains had high depression scores (Table 2).

According to the research findings, in all three dimensions, there was a high proportion of burnout among men and women, but low exhaustion was observed in women in all three areas, especially in terms of personal accomplishment. In this regard, there was a statistically significant relationship between personal accomplishment and female gender ( $P=0.019$ ). There was no significant association between burnout and other demographic variables.

There was a significant relationship between emotional exhaustion and work experience ( $P=0.036$ ). People with 10-20 years of work experience had the most burnout level. No significant relationship with other demographic variables was detected. The relationship between the domain of depersonalization and demographic variables was not significant. Additionally, we found a significant difference between age groups >50 years old and <30 years

old people with a mean difference of -18.25 in personal accomplishment score ( $P=0.03$ ).

There was a significant mean difference in burnout score between service job group and administrative educational, research and financial group. Service staff experienced the most burnout among job staffs

On the other hand, the research staff experienced the least burnout among job staffs (Through ANOVA and LSD post hoc test; Table 3).

Finally there was no significant difference in other two dimensions of burnout score in different job staffs. Educational levels of participants had no significant relationship with domains scores and burnout.

**Discussion**

In the current study, content validity index was 0.659 and the reliability index (Cronbach’s alpha coefficient) was 0.761 Maslach and Jackson, reported the Cronbach’s alpha coefficient of the questionnaire as 0.71 to 0.9 (9). Khatiban et al and Babamiri et al, in their study, reported Cronbach’s alpha of 0.84 and 0.9, respectively (10,11). Khmour et al also obtained this coefficient by more than 0.7 in his study for all fields (12). Adekola also reported Cronbach’s alpha coefficient of 0.9 and 0.76 in the emotional exhaustion and other domains, respectively (13). However, the high coefficient of this study in various studies suggests the desirable reliability of Persian translated version of Maslach’s questionnaire (10). It seems that the slight difference in Cronbach’s alpha reported in various studies can be attributed to the differences in setting of questions related to three areas of Maslach questionnaire in these studies.

Based on the results of this study, in one third of studied units, no burnout was reported in none of areas. However, the remaining two-thirds showed some degrees of job burnout.

Out of people that showed burnout, one-third only in one area, about one third in two areas, and a little (less than 0.5%) in three areas had high burnout. Meanwhile, the highest reported burnout rate was related to depersonalization area. The study by Verdugo et al in Colombia on burnout of nurses showed that 36.4 %

**Table 1.** Cronbach's alpha coefficient by questionnaire

Areas of the questionnaire	Cronbach's alpha coefficient
Emotional exhaustion	0.639
Depersonalization	0.614
Personal accomplishment	0.955
Total	0.761

**Table 2.** Average and standard deviation of employees' job burnout in terms of triple

Job staffs		Mean difference of burnout section score	P value
Research	Administrative	-5.821	0.022
	Educational	-5.688	0.029
	Service	-10.762	0.001
Service	Administrative	4.941	0.038
	Educational	5.014	0.037
	Financial	7.804	0.01

**Table 3.** Mean difference of employees' job burnout in different job groups

Areas of the burnout	Mean + SD	Degree	Frequency	%
Emotional exhaustion	1.62 ± 0.588	Low	40	39.2
		Moderate	4	47.1
		High	5	4.9
Depersonalization	2.58 ± 0.497	Low	-	-
		Moderate	41	40.2
		High	56	54.9
Personal accomplishment	1.86 ± 0.974	Low	52	51
		Moderate	4	3.9
		High	39	38.2

experienced low emotional exhaustion, 68.2% in the area of depersonalization (the highest percentage) and 9.1% in personal accomplishment was involved burnout (14). Similarly, the study by Popa, et al in Romania on burnout of emergency physicians showed a high burnout in emotional exhaustion, depersonalization and low fatigue in field of personal accomplishment (15). The results of the study by Ang et al on occupational burnout of nurses at the 3<sup>rd</sup> floor hospital in Singapore reported their worst burnout in two areas of depersonalization and emotional exhaustion (16). Similar results from this study were also obtained by Ferreira Bortoletti et al in Brazil. In their study, female specialists showed higher exhaustion in two areas of depersonalization and emotional exhaustion (17). Additionally, Farsi et al indicated that the general health status score of the nurses was positively related to emotional exhaustion and depersonalization scores (18). All of which is consistent with the results of our study.

However, some studies also reported different results, Parola et al in health professional working in palliative care suggests a higher burnout in the context of emotional exhaustion (19).

Ebrahimi and colleagues' study on emergency medical staff reported high levels of burnout in the emotional exhaustion and moderate burnout in other two dimensions. (20). Amiri et al showed the most severe burnout among primary health care providers in field of personal accomplishment (21). Findings of Abarghouei et al showed that the rate of exhaustion in area of depersonalization was moderate and reported a high level of personal accomplishment (3). Asai et al found that physicians associated with malnourished cancer patients in Japan also showed moderate emotional loss, and low depersonalization and personal accomplishment (22). Depersonalization usually occurs after fatigue and as a direct response to occupational stress and indicates dissatisfaction with job conditions (7). It seems that a steady work and frequent recruiting of students and staff to relevant units would lead to this finding.

According to this study, there was a significant relationship between personal accomplishment with female gender ( $P=0.019$ ). Hence, low burnout was more frequent in women in personal accomplishment domain.

The findings of Izadi Mazidi et al is a study on Jundishapur university of medical sciences staff showed that women are more vulnerable in three areas, especially personal accomplishment (23).

Based on the study of Hozor et al on employees of Saveh's health centers, the relationship between emotional exhaustion and gender was significant ( $P<0.006$ ) and women more exhaustion were in emotional and functional areas (24). Their results are in line with our study. In most studies, the same job burnout rate was reported as our study more in women than men.

Khodabakhsh and Mansoori showed there was a significant difference between male and female nurses in

terms of emotional exhaustion ( $P<0.021$ ), and women were more emotional exhausted than men. In his study, gender relations with depersonalization and personal accomplishment were not significant (25). In the study of Mirabzadeh et al, the relationship between job burnout and gender was significant in both the medical and administrative staff ( $p=0.04$ ), which was higher in women (26). A study by Koohpayehzadeh et al also showed that women are at higher levels of burnout than men (27). Conversely, some studies have reported higher rates of burnout in men.

Ziaei et al showed higher burnout score in men (2). Some other studies on burnout, such as the study of Adekola et al (13) Amiri et al (20) and Dashti et al (28), showed no significant difference between men and women in burnout scores ( $P>0.05$ ). It seems that the differences in results of different studies may be due to personality differences, job accountability, interpersonal relationships and expectations in the workplace, occupational status, family responsibilities and income earning among women and men (2,18,23,27).

In the present study, there was a significant relationship between emotional exhaustion and work experience ( $P=0.036$ ). The subjects with 10-20 years of work experience had the highest degree of burnout.

Mohammadpoorasl et al found night shift and education level have an association with professional burnout in research on prevalence of professional burnout and its related factors among nurses in Tabriz (29).

The study of Koohpayehzade et al also showed that there is a significant relationship between work experience and three dimensions of burnout, so that people with a work experience of less than 5 years and 6 to 10 years had higher levels of emotional exhaustion (27).

Ang et al, in their study, showed a significant association between work experience and job burnout, suggesting that employees with a higher history experience would have less burnout (16). On the other hand, Shahnazdoust et al showed that for each year, increasing in work experience the amount of emotional exacerbation increases 0.9 times (30).

In the study of Lin et al, a significant relationship between work experience and emotional exhaustion and personal accomplishment was showed (31). Also, Parola et al reported a significant positive correlation between work experience and burnout (19). In some studies, such as Amiri et al (20) and Dashti et al (28), there was no significant association between work experience and burnout ( $P>0.05$ ).

In justifying the differences in findings in various studies, it can be pointed out that increased work history probably reduces personal accomplishment, since the ability to counter psychological pressures would be lower. On the other hand, people with a higher work record find out how to deal with clients in order to get away from emotion and stress in a constructive interaction with them (27).

## Conclusion

Since job burnout affects employee performance as a sustainable development resource and leads to a reduction in its performance and eventually a reduction in organizational achievement. Planners and policy makers need to focus on burnout issues. In this regard, the adoption of appropriate preventive policies and problem-solving approaches can help meet the needs of employees and with their participation.

## Limitations of the study

All employed staff were included in the research, and those retired or in attendance were excluded from the research. There was no other restriction in the research.

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## Authors' contribution

Each of the authors contributed to the implementation of the research and compilation of the article. JK run the project, managed for reliability and validity of the questionnaire, finalized approval of the proposal and the article. MBA performed statistical tests, edited the text. HS handled the completed questionnaires, helped in data collection, and prepared the draft.

## Conflicts of interest

The authors declare no conflicts of interest.

## Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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Since this research was part of the project registered in the research system of the university, the costs and replicating the questionnaires were provided by the administrative department.

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