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Original Article

Estimation of burnout status of women employees of health centers of Tehran city community

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ABSTRACT

Background & Aim: Burnout is an important reason behind reduced performance, which is not only related to employees' mental health but also their productivity. Thus, identifying the factors affecting it can significantly prevent it and promote the level of services provided. The goal of this research was to assess burnout among female employees of Tehran's urban community health centers.
Methods & Materials: In this descriptive-analytic study, 239 female employees were selected through stratified clustered sampling from a statistical population. Demographic information was collected by a researcher – made questionnaire and the 22-item *Maslach* Burnout Inventory (MBI). The data were analyzed using descriptive and analytical statistical tests.
Results: Based on the results, 11.3% of the employees experienced high levels of emotional exhaustion, 2.5% experienced high levels of depersonalization, and 5.4% experienced a reduced personal accomplishment. There were significant associations between the dimensions of burnout ($p<0.05$). Emotional exhaustion was significantly associated with place of service; depersonalization was significantly associated with age, number of births, physical activity and husband's occupation; and lack of personal accomplishment was significantly associated with age, type of occupation, numbers of pregnancies and numbers of births ($p<0.05$).
Conclusions: The high level of reduced personal accomplishment, as opposed to the status of the other dimensions of burnout was considerable. Given that some of the factors affecting it are changeable, the execution of certain programs for professional promotion in employed individuals and improvement of workplace conditions can play important roles in reducing the resultant harm of burnout.

Introduction

The factors present at the workplace are in extensive contact with the employee's health. And, generally speaking, the inability to meet the demands of the workplace contribute greatly to occupational burnout (1). Meaning-wise, occupational burnout covers feelings of physical, emotional and mental exhaustion, and has many effects on a person's social, physical and psychological life. Based on Maslach et al's theory, burnout consists of three elements of emotional exhaustion, depersonalization, and reduced personal accomplishment (2).

In this syndrome, there is excessive fatigue, sleeplessness, alcohol and drug abuse, familial conflict, reduced personal output, absence from work, changing of jobs, reduced job satisfaction, reduced

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commitment to work or the organization, insensitivity towards clients, reduced productivity, increased healthcare costs, increased errors and accidents at work (4-6).

Moreover, based on literature, burnout can lead to somatic symptoms as well, such as, repeated headaches, nausea, sleep disorders and changes in dietary habits (7).

Generally speaking, over the past 35 years, the prevalence of stress-related disorders such as occupational burnout has significantly increased, such that 19% to 30% of employees of public centers across the world have been affected. Occupational burnout varies from 25% to 75% across service-delivering jobs, particularly medical centers (8).

The healthcare sector is in constant contact with humans and health, and thus, as one of the most important domains of sustainable development across communities, requires healthy, happy and high-spirited personnel (9). Since healthcare personnel are exposed to numerous stressful factors, including psychological, emotional, physical, managerial and interpersonal pressure, they are more prone to burnout as compared to those involved in other jobs. Occupational burnout has increased among healthcare personnel over the past three decades (10-15). Earlier studies have reported job – related burnout at rates of 25% - 60% among physicians and between 15% and 85% among nurses and midwives (3).

Exhaustion or occupational burnout has been recognized as a common problem among healthcare systems and as the most important problem of the 21st century.

Based on statistics, one of every seven employed persons is exhausted at the end of the day (16).

Factors such as, high work load, little social support, exposure to a large number of patients during the day, multiple decision-makings, and the associated responsibility towards these decisions, the psychological pressure associated with the effort to avoid any mistake, exposure to human death and the subsequent emotional involvement, and overall, when the individual's abilities don't meet the workplace's demands, all predispose the individual toward occupational burnout. Furthermore, literature has pointed out the effect of personal factors, such as, age, sex, marital status, number of children, educational status, type of job, professional experience and type of work shift on occupational burnout (17).

The employees' burnout leads to a reduction in quality of healthcare service delivery to clients. Most of the health system personnel are women, and this outcome has been observed more often among women than in men. Given the necessity of preventive strategies for occupational burnout, we designed this study to determine its status among the women employed in Tehran's health and medical centers. Subsequently, and based on the findings of the research, recommendations will be put forth to promote health system workers' health status.

Methods

A cross-sectional descriptive – analytic study was conducted across urban community health centers under coverage of Universities of Medical Sciences in Tehran through clustered sampling. Given the prevalence of burnout in earlier studies, the sample size was estimated at 200 using the cross-sectional study formula. There

were approximately 8- 10 female personnel in each center, so 26 Urban Health Centers across Tehran were chosen as clusters and from each cluster, those who were willing to participate were selected and studied. Independent variables, individual, social and occupational characteristics-related data were collected by the researcher-made questionnaire, and the status of occupational burnout was assessed using the 22-item standard Maslach Inventory.

The inclusion criteria were, being female, being employed in a healthcare center, lack of familiarity with the questionnaire's items, the absence of incurable and chronic diseases, the absence of psychological and physical disabilities in the person or her first-degree relatives, and absence of a history of severe mental or spiritual stress during the past 6 months.

Here, we used two written questionnaires to collect data (the Maslach Burnout Inventory, and the researcher-made demographic questionnaire).

The demographic questionnaire included the following items; age, the participant's and her husband's literacy rates, the participant's and her husband's type of occupations, location of service, marital status, number of pregnancies and deliveries, employment status, current marriage status, professional experience, and physical activity.

After acquiring the license from Tehran University of Medical Sciences' Ethics Board (under ethics code number 8811215232), the research team identified the health centers of each cluster through the Deputies of Health of each university.

We then took formal permission from the concerned health centers' supervisors to conduct the research. Before handing out the questionnaires, we gave a brief description of the research objective and the need for honest cooperation and how to complete the questionnaire. We reminded the participants that writing their names and particulars was not necessary. The employees were reminded that participation in the research was voluntary, and that they should respond to the questions independently from each other.

We used the Persian standardized version of the Maslach Burnout Inventory (MBI) which is a self-administered questionnaire whose validity and reliability have been approved (18). This tool has 22 items; 9 items on emotional exhaustion, 5 items on depersonalization, and 8 items on reduced personal accomplishment. The Likert scale has been used for scoring, ranging from very little (0) to very much (7).

Based on the Likert scale, the frequencies of the relevant emotions are scored from 0 to 6 as follows: never, a few times a year, once a month, a few times a month, once a week, a few times a week, and every day.

For every subscale the scores are classified into groups of high, medium and low. We used frequency analysis in this study. The following scores explain what the tool's scoring represents:

Emotional exhaustion:

high emotional exhaustion: a score ≥ 27; medium emotional exhaustion: a score between 17 – 26; low emotional exhaustion: a score ≤ 16.

Depersonalization:

high depersonalization: a score ≥ 13; medium depersonalization: a score between 7 - 12; low depersonalization: a score ≤ 6.

Reduced personal accomplishment (RPA):

high RPA: a score ≤ 21; medium RPA: a score between 22 – 38; low RPA: a score ≥ 39 (19). Most researchers use the MBI and recognize it as the best tool for measuring

occupational burnout as it has high predictive power and measures all three domains of burnout (20).

In 1995, Waugh et al estimated the validities of the Maslach questionnaire's domains of emotional exhaustion at 0.9, depersonalization at 0.76 and reduced personal accomplishment at 0.76 (21). In 2004, Rasoulian et al estimated the scientific validity of the localized Maslach inventory that has been used many times by the Iranian researchers at over 0.9 (18). Bearing in mind the possible sample loss, 239 persons were investigated. Statistical analysis was done with SPSS version 19; descriptive statistics, ANOVA, t-test and Pearson's correlation were applied and the results were analyzed with an error of less than 0.05.

Results

In this study, we examined 239 female workers employed in the health domain (medical & health centers and central units). The mean age of the participants was 36.6 years (range: 21-63; SD±8.83).

67.4% were married. 55.9% had either one child or none, with a mean number of 1.32 children (range: 0-4; SD±0.95). The majority had had 16 or more years of education, with a mean of 15.18 years (range: 3-23; SD±2.96). Their mean professional experience was 11.03 years (range: 1-30; SD±7.97). 64.9% of the participants were health workers, 10.5% were physicians and the remaining were laborers and administrative staff. 18.8% of the workers were employed in the central units and 81.1% were employed in units delivering services in urban health centers and health bases. The demographic information of our participants has been presented in table 1.

In our study, the mean of the emotional exhaustion domain was 15.15±9.38 (range: 0-49); the mean of the depersonalization domain was 2.59±3.7 (range: 0-24); and the mean of the reduced personal accomplishment domain was 33.1±6.44 (range: 12-48).

Using the MBI, 37.7%, 10.9% and 78.2% of the population under study reported medium and high burnout in the emotional exhaustion, depersonalization and reduced personal accomplishment domains, respectively (table 2).

Based on the MBI classification, 44% were affected with burnout in one of three domains, 32% were affected with two domains, and 6% were affected with all three domains of burnout at medium and high levels. Overall, 83% of the populations under study were affected with medium or higher burnout levels in at least one burnout domain. 16.7% were affected with high levels of burnout in at least one of its three domains. The correlations between occupational burnout domains and the variables of age, years of education, professional experience, and number of children have been presented in table 3.

ANOVA was used to test the association between different domains of burnout and the employees' administrative job title at the workplace, husband's occupation, marital status, physical activity and location of service. Based on our findings, the mean depersonalization score was significantly lower in those employees whose husbands had occupations unrelated to the medical field -as opposed to those who did (2.27 in participants of spouses with non-medical related jobs vs. 3.61 in participants of spouses with medical related medical related jobs; p=0.02).

Also, reduced personal accomplishment was significantly higher in laborers than in workers providing health services (mean=31.67 among laborers vs. mean=37.92 among administrative staff; p=0.05).

Table 1. Demographic characteristics of the population under study

	Variables	Mean ± (SD)	Rang
Quantitative	**Age (years)**	36.6 ± (8.83)	21-63
	Education (years)	15.18 ± (2.96)	0-23
	Husband education (year)	15.36 ± (3.43)	3-25
	Number of children	0.99 ± (1.02)	0-4
	Years of occupation	11.3 ± (7.97)	1-30
		N	**%**
Qualitative	**Job status**		
	pheasion	25	10.5
	Health worker	155	64.9
	Worker	13	5.4
	Employee	46	19.2
	Service		
	Administrative workers	45	18.8
	Health care workers	194	71.2
	Husband occupation	163	
	Medical related	20	8.4
	Medical un related	143	91.6
	Marital status		
	Married	172	72
	Single	67	28
	Physical activity		
	Not	46	19.2
	1-2 times in weak	27	11.3
	3≥ times in weak	166	69.5

Table 2. Percentage frequency of various domains among the three sub-domains of burnout, based on MBI

	Reduced personal accomplishment (PA)			Depersonalization (DP)			Emotional exhaustion (EE)		
	Low	**Moderate**	**High**	**Low**	**Moderate**	**High**	**Low**	**Moderate**	**High**
Cut off	21≥	22-38	39≤	6≥	7-12	13≤	16≥	17-26	27≤
Frequency	1	174	52	213	20	6	149	63	27
(Percent)	(5.4%)	(72.8%)	(21.8%)	(89.1%)	(8.4%)	(2.5%)	(62.3%)	(5.4%)	(11.3%)
Confidence interval 95%CI	2.5-8.4	67.4-77.8	17.2-26.8	84.9-92.9	5.0-12.1	0.8-4.6	55.7-68.2	20.9-32.6	7.5-15.5

Table 3. Correlations between quantitative demographic variables and participants' scores in burnout domains

	Reduced personal accomplishment (PA) (r)	Depersonalization (DP) (r)	Emotional Exhaustion (EE) (r)
Age (years)	0.13401	-0.123	0.038
Education (years)	-0.073	-0.017	0.054
Years of occupation	0.064	-0.115	0.013
Number of children	0.155	-0.161	0.015

The depersonalization score was significantly higher in those who did not have any physical activity as opposed to those who had it at least thrice a week (3.76 vs. 2.22; p=0.04).
The emotional exhaustion score was significantly lower in workers employed in the central units than in those delivering services (14.57 vs. 17.94; p=0.05).

Discussion

Occupational burnout is an organizational issue in the service delivery system. The goal of the present study was to determine the status and determinant factors of burnout among workers in Tehran's urban community health centers. Based on the MBI, 37.7%, 10.9% and 78.2% of the population under study reported medium and high burnout in the emotional exhaustion, depersonalization and reduced personal accomplishment domains, respectively.

Similar results were observed for reduced personal accomplishment by Thorsen et al who studied burnout among midwives in Malawi's referral hospitals (3) and by Ester Grau-Alberola et al who investigated burnout among nursing managers of Spain's hospitals (22). Emotional exhaustion and depersonalization were higher in the Malawi study (72% and 43%, respectively) and the Spanish study (52% and 34%, respectively) as compared to our findings. This difference may be attributed to the difference in type and number of duties in a referral center compared to a health service center.

In our study, 44% of the population under study suffered from one of three domains of burnout at medium or higher level. However, in Brusaferro et al's study that was conducted on hospital healthcare managers this figure was estimated at only 11% (17). This difference may be attributed to the difference in employment positions of the two groups.

A noteworthy point is that if the cutoff points of burnout's domain classifications are changed then the results reported will also change. Thus, the results reported by Keith Waugh in private teachers of the northeast metropolitan area differ from the current study (21), such that their burnout scores in the 3 domains of emotional exhaustion, depersonalization and reduced personal accomplishment were, 70% 47.5% and 85%, respectively.

In our study, the participants mean age was 36.6 years. A significant association was seen between burnout in the two domains of reduced personal accomplishment and depersonalization and age. Similar results were observed by Wu et al among Chinese nurses, wherein younger nurses were found to have higher levels of burnout and in all three of its domains (15). Here, we observed a decrease in reduced personal accomplishment and depersonalization with an increase in age.

The reduction in depersonalization may indicate that as time passes by, individuals' expectations of their jobs become more realistic and that they become more adapted to their occupational status.

Furthermore, remaining in a permanent position, without tangible changes in the type of job and/or considerable promotion with increasing age raises the feeling of reduced personal accomplishment in individuals.

The mean number of years of education among the female workers was 15.18 years, and no significant association was observed between the burnout domains and literacy rate. Ebrahimi et al studied burnout among Shahroud's Medical Emergency Field workers.

They too did not find any significant association between the individual's education and burnout domains (23).

In Wu et al's study, only the reduced personal accomplishment domain was significantly associated with education (15). However, these findings differed from Kabir et al's results from their study on health workers in Golestan province's health houses. In Kabir's research, burnout reduced with an increase in educational status. The reason behind this difference is probably due to the difference in population under study (24).

In the current study, the mean number of children was 1.3. The depersonalization and reduced personal accomplishment domains were significantly associated with the number of children, which is consistent with the results reported by Thorsen and Malawi (3).

According to Behbudi et al's study, no significant association existed between any of the burnout domains of the midwives examined and their husbands' type of occupation.

However, in our study, those participants whose husbands were employed in non-medical related jobs suffered less from emotional exhaustion than those whose husbands were laborers or unemployed (25). Furthermore, in this study, there was a significant association between all three domains of burnout and the location of service, whereas, in our study, this association was only seen in emotional exhaustion (25).

Elsewhere, a study conducted by Sadr-khanloo also indicated a significant association between the location of service and all three domains of burnout (26).

Overall, the frequency of occupational burnout in women employed in healthcare centers was considerable in the reduced personal accomplishment domain as compared to the other domains of burnout; and among the personal-occupational factors examined for burnout, a statistical association existed.

Given the findings of this research, and the importance of the work that these people do in the health domain, the concerned authorities should adopt programs to prevent and reduce burnout in order to maintain and promote the quality of services and to reduce costs.

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Conflict of Interest

The authors of this study declare no conflicts of interest.

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