

A study of job stress and burnout and related factors in the hospital personnel of Iran

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Abstract

Introduction: Job stress has become one of the main factors in reducing efficiency and the loss of human resources that may cause physical and psychological adverse effects in employees. Hospital personnel are facing different stressful events, such as birth, pain and death, in a single day. Hence, identifying the job stress rates and related factors may be effective in offering proper strategies. Therefore, the present research was done to study the rate of job stress and burnout in hospital personnel and compare some of the related factors in hospitals personnel of Yazd, Iran.

Methods: This cross-sectional study was conducted on 306 hospital personnel (Male: 114, Female: 192) in Yazd in 2015-16. The data were collected using a demographic questionnaire, Maslach Burnout Inventory (MBI), and Hospital Stress (HSS-35). SPSS-16 software and Pearson-product moment correlation and independent-samples t-test were used for data analysis.

Results: The mean job stress score was above average. The mean burnout dimensions that were above average included emotional exhaustion (21.7 ± 7.27), depersonalization (9.61 ± 3.74) and personal accomplishment (26.80 ± 6.17). While Pearson correlation revealed a significant positive relationship between job stress, emotional exhaustion, and depersonalization, there was a negative relationship between job stress and personal accomplishment ($p < 0.01$). Independent-samples t-test results showed that the rate of job stress, emotional exhaustion, and depersonalization in males is higher than females, married people have more emotional exhaustion than single ones, and, finally, health staff have more job stress than administrative staff. At the same time, the administrative staff and females have better personal accomplishment than other groups ($p < 0.05$).

Conclusion: Since the rate of job stress in hospital personnel is worrying and it has adverse effects on personnel health, effective strategies on physical and mental health, such as employment support and stress management training, seem crucial to enhance physical and psychological health of hospital personnel.

Keywords: Burnout, Job stress, Hospital personnel

1. Introduction

Nowadays burnout has become one of the main problems in all health systems and is increasing day by day under the influence of different pressures in life and especially at work (1). Burnout not only leads to the appearance of

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negative effects on the physical and mental health of personnel, but also leads to reducing efficiency, reducing quality of nursing services, and increasing hospital costs. 'Burnout' was defined for the first time by Freudenberg in 1974 when he observed the symptoms of tiredness in his employees. He determined this phenomenon to be the physical and mental exhaustion of one's energy. Those who are broken down by stress and tiredness are called burned out. Hence, burnout causes disability, tiredness, and exhaustion because of inappropriate or excessive use of one's energy (2). Maslach (1980) defined and explained burnout by using available concepts and also created the Maslach Burnout Inventory (MBI) scale. According to this method, burnout is a type of psychological syndrome which is a result of long-term stress reactions that impact various dimensions, include emotional exhaustion, depersonalization, and personal accomplishment reduction (3). In his opinion, this syndrome becomes apparent as soon as a person's ability becomes inadequate for the demands of his/her workplace. He defined Emotional Exhaustion as including chronic fatigue, sleep disorder, and various physical symptoms like loss of energy and being emotionally discharged. Depersonalization is also a negative senseless reaction combined with extreme indifference toward colleagues and clients, feelings of guilt, isolation, loss of daily work and activities which is known as psychological separation of one's job. On the other side, personal accomplishment is a feeling of competence and success with one's occupation, which reduces job dissatisfaction, feelings of failure and disability, loss of judgment and understanding, permanent sense of extortion, and efficiency reduction (3-5). Burnout is the product of long-term stress in the workplace (6). People who are working in various organizations receive mental stress from their working environment, which is called job stress. Job stress is now one of the major health problems that unfortunately put staff's life at risk. This stress at work can cause physical and mental fatigue, irritability, excitability, anxiety, lack of confidence, and an increase in blood pressure and it can also be a threat for one's general health (7-9). Previous studies have shown that job stress is costly for organizations and the health sectors and has serious effects on reducing work incentives, job satisfaction, and productivity in the workforce. On the other hand, all jobs have a level of stress because of the job itself and career changes, such as organizational changes, salary and promotion in a workplace can cause agitation and anxiety (10, 11). The personnel who work in a health care sector have more stress than others because this syndrome has different effects on their social, physical, and psychological life. Health personnel (doctors, nurses, and nursing assistants) are exposed to many kinds of stress, including pain, morality, low social support, high work pressure, interpersonal problems, dealing with large number of patients per day, facing violence and intimidation, decision-making based on insufficient information in case of emergencies and responding to the results of that decision, and stress to avoid any mistakes in the workplace. These workers have more readiness than others to exhibit this syndrome (12, 13). Health care has been known to be one of the most stressful jobs due to the sensitive nature of hospital personnel's job and their permanent exposure to extreme amounts of stress, tiredness, and weakness. An occupation which can threaten its personnel's physical and mental health can disrupt their social functions, as well as reducing the performance and productivity of an organization (13-15). Generally it can be said that job stress and burnout are associated with personnel's mental health and productivity. Therefore, becoming acquainted with effective and appropriate methods of dealing with stress and overcoming burnout can help improving mental health and enhancing the effectiveness and productivity of human resources in hospitals (16, 17). Hospital personnel relate closely to people and are responsible for the health and lives of human beings that are weak and ill, so job stress and burnout can affect the quality of patient care. Hence, identifying the most influencing factors in raising the quality of provided services will be useful in the field of health care. For this reason, we decided to define the necessary actions and solutions to improving the general health of hospital personnel in Iran by studying the rate of job stress and burnout and comparing related factors.

2. Material and Methods

2.1. Research Design and Setting

A Cross sectional descriptive- analytic study was designed to evaluate the rate of job stress and burnout and compare related factors in hospitals personnel in 2015-2016. Yazd City was selected as the site to perform research. The population consisted of all hospital personnel.

2.2. Sampling and Eligibility Criteria

For doing sampling according to the number of participants in former research and also by means of Morgan Table, 340 personnel (170 from health sector, 170 from administrative sector) of two hospitals of Yazd (Shahid Sadoughi and Shohadaye Kargar) were selected. The convenience sampling method was used in this study. To this end, all of personnel (health and administrative sectors) from the selected hospitals were asked to participate in the research. Those who were agreed to participate and met the inclusion criteria were selected. Inclusion criteria were: 1) Working at least 1 year in a hospital, 2) Being 20-50 years old, 3) Working in health or administrative sectors, 4)

The ability to read and complete the questionnaire. The exclusion criteria were: 1) Not filling out the informed consent, 2) Not completely filling the information requested in the questionnaire.

2.3. Research Instrument and Statistical Analyses

The data was collected using a demographic questionnaire, hospital job stress questionnaire (HSS-35), and the Maslach Job burnout inventory (MBI).

2.3.1. Demographic questionnaire

This questionnaire included some information about hospital personnel, including age, gender, marriage, education level, economic status, employment history, field of study, and work shift.

2.3.2. Hospital job stress questionnaire (HSS-35)

This 35 items questionnaire was made to evaluate job stress in hospitals. Each item has been graded on the Likert five part scale (from score 1 for “never” to score 5 “always”). The scores from 35 to 175 were classified as Low job stress (35-59), Average job stress (60-119), and finally High job stress (120-175) (18). The reliability and validity of this inventory in Iran was done by Badaghi (19). He reported a high reliability for this test with Cronbach’s alpha of 84 % which indicates the appropriateness of this questionnaire to assess job stress in hospital personnel.

2.3.3. Maslach Job burnout inventory (MBI)

This 22 item inventory was designed by Maslachin 1981 for measuring the intensity of the triple dimensions of job burnout that includes emotional exhaustion, depersonalization and reduced personal accomplishment. Although it has been graded by the Likert five parts scale (1: never, 5: always), the range of scores are different based on the previously mentioned factors (emotional exhaustion, depersonalization, and reduced personal accomplishment). The high level of emotional exhaustion and depersonalization, but low level of personal accomplishment shows a high-level of job burnout. Maslachand Jackson reported the good internal reliability of this questionnaire from 0.77 to 0.91, mental exhaustion ($r = 0.90$), depersonalization ($r = 0.79$) and personal accomplishment ($r = 0.71$). The scientific reliability was more than 0.90 (20, 21).

2.4. Data Collection and Research Ethics

First, we acquired written permission from Shahid Sadoughi University of Yazd to perform this research. Then researchers went to the selected hospitals, where they gave the necessary explanation of the research’s methods and purposes to the personnel and recruited them to participate in the research by filling out the written consent. All data were coded and kept in a safe place. At the end, researchers ensured that the officials were informed of the published paper.

2.5. Statistical analysis

SPSS version 16 (SPSS Inc., Chicago, Illinois, USA) was used to analyze data. First, descriptive statistics, including frequency, mean, standard deviation and percent, were used to analyze data. In the next stage, inferential statistics, specifically a Pearson-product moment correlation to assess the relationship between variables and independent-samples t-test to compare the mean scores of numerical variables between two groups of hospital personnel, were used.

3. Results

Data was obtained from November 2, 2015 to April 7, 2016 from 340 hospital personnel who had completed the questionnaires. Reviewing data revealed that 36 questionnaires were not fully completed and were therefore questionnaires were excluded and total of 306 cases were analyzed. In that number, 62.7% were female and 37.3% were male. The mean age and standard deviation of the participants was 30.03 ± 8.27 . Meanwhile, 59.2% were married, 40.8% were single, 55.6% had completed a bachelor degree or higher, 23.8% had a high school diploma, 20.6% did not have a high school diploma, 60.5% had average economic status, 31.7% good and 7.8% poor. Furthermore, 53.9% of the personnel work in the health sector and 46.1% in the administrative sector, of which 61.1% had circulation shift, 33.7% had administrative shift, and 5.2% worked a unit shift. Job history mean and standard deviation was 10.84 ± 6.32 (Table 1). Table 2 shows the frequency and percentage of job stress and burnout dimensions in order from low to high. Results reveal that job stress total mean was 100.34 ± 12.78 in hospital personnel, which ranged from average to high. On the other hand, the mean of emotional exhaustion (21.7 ± 7.27), depersonalization (9.61 ± 3.74), and personal accomplishment (26.80 ± 6.17) were about average. This means that hospital personnel experience and endure high pressures in their workplace, so burnout rates are on the rise. Table 3 shows the results of the Pearson correlation coefficient among the main variables. Results reveal that there was a positive significant relationship between job stress, emotional exhaustion ($r = 0.435$), and depersonalization ($r = 0.261$) ($p < 0.01$) while there was a negative significant relationship between job stress and personal

accomplishment ($r = -0.240$) with a 99 % probability. There was also correlation between job stress and job history ($r = -0.142$) with a 95 % probability. There was no relationship between job stress and the age of the hospital personnel ($p > 0.01$). On the other hand, there was a positive significant relationship between emotional exhaustion and age ($r = 0.224$) and between personal accomplishment and job history ($r = 0.123$). There was a negative relationship between depersonalization and age ($r = -0.121$) and job history ($r = -0.18$) in the hospital personnel ($p < 0.05$).

Table 1. Demographic feature of participants (n = 306)

Variable	Classification	n	%
Gender	Males	114	37.3
	Females	192	62.7
Marital status	Single	125	40.8
	Married	181	59.2
Occupation	Administrative	141	46.1
	Health	165	53.9
Economic status	poor	24	7.8
	average	185	60.5
	good	97	31.7
Shift status	In circulation	187	61.1
	administrative	103	33.7
	Work unit	16	5.2
Education level	Under High school	63	20.6
	High school diploma	73	23.9
	College	170	55.6

Table 2. The job stress means and burnout dimensions in hospital personnel

Variables		Classification	n	%	Mean ± SD
Job stress		High (More than 120)	18	5.9	100.34 ± 12.78
		Average (From 60 to 120)	278	90.9	
		Low (Less than 60)	10	3.2	
Job burnout	Emotional exhaustion	High (More than 30)	50	16.3	21.75 ± 7.27
		Average (From 15 to 30)	210	68.6	
		Low (Less than 15)	46	15.1	
	Depersonalization	High (More than 16)	18	5.9	9.61 ± 3.74
		Average (From 8 to 16)	178	58.2	
		Low (Less than 8)	110	35.9	
	Personal accomplishment	High (Less than 14)	146	0.7	26.80 ± 6.17
		Average (From 14 to 27)	158	51.6	
		Low (More than 27)	2	47.7	

Table 3. Pearson Correlation Coefficient between the main variables

Variables	Job stress		Age		Job history	
	r	sig	r	sig	r	sig
Emotional exhaustion	0.435	0.001	0.224	0.001	0.002	0.968
Depersonalization	0.261	0.001	-0.121	0.035	-0.158	0.005
Personal accomplishment	-0.240	0.001	0.089	0.121	0.123	0.031
Job stress	-	-	-0.096	0.095	-0.142	0.013

Table 4 shows the results of an independent t-test to compare the main variables among male and female hospital personnel. The results indicate that the rate of job stress, emotional exhaustion, and depersonalization in males are higher than females, while personal accomplishment in females was higher than males. The mentioned difference was statistically significant ($p < 0.05$). Table 5 shows the other results of independent t-tests comparing the main variables among married and single hospital personnel. Results reveals that married personnel have more emotional exhaustion in their workplace than single ones. These differences were statistically significant ($p < 0.01$). Table 6

shows another result of an independent t-test to compare the main variables among administrative personnel and health personnel. Results indicate that health personnel have more job stress than administrative ones and, instead, administrative personnel have more personal accomplishment than health personnel. The mentioned differences were statistically significant ($p < 0.05$).

Table 4. Comparison of basic variables in males and females

Variable	Group	Mean	SD	t	p-value
Job stress	Males	102.95	12.76	2.77	0.006
	Females	98.7	12.58		
Emotional exhaustion	Males	22.81	7.33	1.96	0.049
	Females	21.13	7.18		
Depersonalization	Males	10.66	4.1	3.86	0.001
	Females	8.9	3.3		
Personal accompaniment	Males	25.68	6.09	-2.465	0.014
	Females	27.46	6.1		

Table 5. Comparison of main variables in married and single hospital personnel

Variable	Group	Mean	SD	t	p-value
Job stress	Single	100.5	10.41	0.179	0.858
	Married	100.23	14.22		
Emotional exhaustion	Single	19.6	6.25	-4.424	0.001
	Married	23.24	7.57		
Depersonalization	Single	9.63	3.27	0.056	0.956
	Married	9.60	4.04		
Personal accompaniment	Single	26.88	6.37	0.179	0.304
	Married	26.7	6.04		

Table 6. Comparison of the basic variables in administrative personnel and health personnel

Variable	Group	Mean	SD	t	p-value
Job stress	Administrative	97.47	11.55	-3.706	0.001
	Health	102.8	13.3		
Emotional exhaustion	Administrative	22.26	7.32	1.121	0.263
	Health	21.32	7.23		
Depersonalization	Administrative	9.85	4.08	1.008	0.314
	Health	9.4	3.42		
Personal accompaniment	Administrative	25.41	5.83	-3.705	0.001
	Health	27.98	6.22		

4. Discussion

The results presented here show that the rate of job stress in hospital personnel is average to high, which is in line with Enjezab (22), Zeighami and Asgharzadeh (23), and Sotodeh (24). It seems that too much worry may have negative effects on the mental and physical health of hospital personnel and cause helplessness and depression feeling. Since hospitals need cheerful and motivated personnel to achieve their goals, paying attention to the physical and mental health of nursing personnel is essential. In this regard, boosting morale and finding strategies to create vitality, happiness, and motivation in personnel has important role. Studying the triple dimension of job burnout in hospital personnel showed that their emotional exhaustion is approximately average and Dashti et al. (25) support these result in their study. Moderate to severe level of emotional exhaustion may be due to a conflict of roles and assuming too much responsibility at work. It is believed that emotional exhaustion can decrease the emotional and psychological power of someone so much that it causes indifference to work and clients. It can be concluded that most personnel are probably not able to prove their competence at work due to the lack of positive conditions in the workplace (26, 27). Findings revealed that the average depersonalization in hospital personnel that is in line with results from Khajeddin et al. (28). While Khazaei et al. (29) reported high depersonalization among personnel (21). It can be said that if people are not encouraged properly in their workplace, they do not fully understand their duties, they defy laws and policies, and the workplace would not be pleasant for them. All of which results in mental confusion in the hospital personnel. Findings show a moderate sense of personal accomplishment among hospital

personnel, which is also confirmed by Galletta (30). A sense of mastery and success arises when one can influence organizational policy and thereby demonstrated abilities and achieved a positive attitude towards clients (17, 30). Other results showed that there is a significant relationship between job stress and burnout dimensions. The higher rate of job stress in personnel leads to the higher rate of emotional exhaustion and depersonalization. Moreover, these job stress enhancements cause a personal accomplishment reduction in hospital personnel. Wu et al. (31) indicated that there is a significant relationship between job stress and emotional exhaustion, as well as depersonalization and personal accomplishment (5). Results show that there is no relationship between job stress and age, while there is a direct relationship between job stress and job history. The study of burnout dimensions revealed that there is a significant positive relationship between emotional exhaustion and age and between personal accomplishments and job history, but there is a negative relationship between depersonalization and age and job history. This means that more job history causes more job stress during new events. Increasing age also raises employees' emotional exhaustion, but it should be noticed that a higher age and job history causes lower confusion and depersonalization in personnel due to their prior experience and knowledge. Zeighami (23) did not find any significant relationship between stress, age, and job history and showed that those who have higher education level have higher job stress as well. Other results on the differences between job stress and burnout dimensions showed that health personnel have more job stress than administrative personnel, while administrative personnel have a better sense of personal accomplishment than health personnel. Health personnel face more stressors to provide necessary solutions and treatments to reduce pain and death of patients and to provide health services, so they would experience more job stress and low personal accomplishment in comparison with administrative personnel. Other differences show that males have more job stress than females and that they have less personal accomplishment than females. On the other hand, married personnel have more emotional exhaustion than single ones. It can be said that males, especially married ones, endure more psychological pressures in life because their society expect them to provide socio-economic prosperity for their family. This issue in the workplace might causes problems due to low salary, lack of proper work, mobbing, and too much responsibility. The mentioned problems lead to increasing job stress and burnout and decreasing personal accomplishment and job satisfaction in personnel.

5. Study limitations

Like any research, there are some limitations to the conclusions that can be reached. There is a risk of loss in any investigative work and the authors thought it was better to consider more samples in this study due to the loss of 36 participants. In order to achieve results that could be extended to all Iranian Hospital communities, it was better to access all hospital staffs in Iran, but the researchers used only the personnel of Yazd hospitals due to the high costs and difficulty of the study.

5. Conclusions

Generally, the results shown here indicate that the rate of job stress and burnout in hospital personnel is approximately average to high. According to the research findings, getting further information and also studying the causing factors of burnout, as well as taking actions in the field of prevention, control, treatment, proper training and skills to deal with stress and to address factors underlying this phenomenon seems essential. Actions, such as training problem-solving skills, stress management, assigning a percentage of the budget to health care facilities, increasing material and moral incentives for staff on various occasions, creating sports clubs and healthy entertainments, providing human resources, managers' financial and spiritual support of health personnel, hold regular meetings discussions between managers and employees, can help employees to provide health care services. Paying attention to the personnel's view and favorites by managers may decrease their job stress and burnout dimensions. It is suggested that in future studies researchers study effective actions and intervention strategies for promoting physical and mental health and decreasing job stress in hospital personnel.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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