

# Job Burnout and its Association With Work Schedules and Job Satisfaction Among Iranian Nurses in a Public Hospital: A Questionnaire Survey

Baratali Asghari,<sup>1</sup> Ahmad Bazazan,<sup>2,\*</sup> Soheil Nasouhi,<sup>3</sup> Qorbanali Aghighy,<sup>4</sup> Farhad Ahmadi,<sup>5</sup> Amirhosein Talebian,<sup>2</sup> Maryam Asadi,<sup>6</sup> Ali Raei,<sup>7</sup> and Parvin Mohammadpour<sup>8</sup>

<sup>1</sup>Health Management Research Center, Baqiyatallah University of Medical Sciences, Tehran, IR Iran

<sup>2</sup>Department of Occupational Health and Ergonomics, Faculty of Health, Tabriz University of Medical Sciences, Tabriz, IR Iran

<sup>3</sup>Toxicological Research Center, Loghman Hakim Hospital, Tehran, IR Iran

<sup>4</sup>Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, IR Iran

<sup>5</sup>Shahid Sattari University, Tehran, IR Iran

<sup>6</sup>Department of Occupational Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, IR Iran

<sup>7</sup>Planning Management Training, Payame Noor University, Tehran, IR Iran

<sup>8</sup>University of Applied Science and Technology, Tehran, IR Iran

\*Corresponding author: Ahmad Bazazan, Department of Occupational Health and Ergonomics, Faculty of Health, Tabriz University of Medical Sciences, Tabriz, IR Iran. Tel: +98-9368668873, E-mail: bazazan\_a@yahoo.com

Received 2016 March 16; Revised 2016 June 14; Accepted 2016 June 20.

## Abstract

**Background:** Job burnout, defined as a syndrome derived from prolonged exposure to stressors at work, is often observed in health care workers. Shift work and job satisfaction are considered two of the occupational risks for burnout in nurses. Nurses have stress and health complaints. In addition, nurses are likely to job burnout.

**Objectives:** The current study aimed to determine the prevalence of job burnout and its association with work schedules and job satisfaction among Iranian nurses in a public hospital.

**Methods:** This cross-sectional study was conducted in one of the largest Iranian public hospitals among 362 nurses (response rate: 80.44%) in Tehran, Iran. The Maslach burnout inventory (MBI-22) and demographic factors questionnaire were used in the present study. The relationship between job burnout with work schedules and job satisfaction was investigated with multiple logistic regression analysis.

**Results:** The mean age and work experience of the participants were  $36.14 \pm 8.59$  and  $15.23 \pm 9.30$  years, respectively. The result indicated a relatively high prevalence of burnout (particularly, personal accomplishment) among the study population. In general, 64.4% of participants reported low personal accomplishment level. The nurses engaged in shift work reported higher levels of emotional exhaustion (odds ratio (OR) = 1.02, 95% confidence interval (CI) = 1.006 - 1.041, P-value = 0.008); there was no relationship between work schedules with depersonalization and personal accomplishment. The result showed significant relationship between job satisfaction and emotional exhaustion (OR = 0.945, 95% CI = 0.928 - 0.963, P-value < 0.001) and personal accomplishment (OR = 1.003, 95% CI = 1.014 - 1.058, P-value = 0.001).

**Conclusions:** The current study revealed that the Iranian nurses are exposed to a considerable risk of personal accomplishment. Also, job burnout is in association with shift working and low job satisfaction level. In this regard, working pressure, type of job and income may affect job burnout. Ergonomic interventional programs are recommended to improve the working conditions.

**Keywords:** Circadian Rhythm, Burnout, Occupational Health, Job Satisfaction

## 1. Background

Nursing is a stressful job that deals with intense human aspects of health and sickness (1, 2). Subsequently, the nursing profession can ultimately lead to job burnout and job dissatisfaction (1, 3). Job satisfaction is defined as a disturbing state that depends on the interaction between people, their personal individualities, expectations and values

with the work environment and the organization (4). A study indicated that job satisfaction has a protective influence against the harmful consequences of work stress (5).

Nurses have stress and health complications owing to the individualities of their work and their contact with death and patients (6). In health care professionals, nurses are likely to job burnout (7). According to two epidemiological studies, job burnout affects about 25% of all nurses

(8). Job burnout was first expressed into the literature by Freudenberg. He explained burnout as a state of fatigue resulted from a failure in achieving rewards in profession (9). Burnout is a bad consequence of extended stress in work place, which occurs when the work demands and individual capabilities are not in balance (10). Job burnout is related to occupational stress (11), which affects the patient care, organizational effectiveness and employees' health (12). Health-care workers and medical staff are at high risk for job burnout (13, 14).

Shift work is another important issue which can be considered as another consequence of nursing. Wisetborisut et al. reported a higher prevalence of job burnout among shift workers compared to non-shift workers (15). The term shift worker is generally used for individuals who work at any schedules other than the standard daylight hours (7:00 AM - 6:00 PM) (16); 15% - 30% of the work force in the developed countries works as shift workers (17, 18).

It is known that shift work system has some adverse effects on health and work-life harmony of the employees. Reduced job satisfaction, fatigue, reduced alertness, daytime sleepiness and diminished job performance are the common shift work consequences (19-21). Besides decreased physical and mental health, uneven work schedules may result in social disorder and familial conflicts (19). Various studies reported that ergonomic factors can improve health, safety, satisfaction and the employees' performance (22-27).

Although several studies are conducted on the prevalence of burnout among nurses, there is limited information about the relationship between job burnout with work schedules and job satisfaction.

## 2. Objectives

The current study aimed to: a, determine the prevalence of job burnout among Iranian nurses; b, examine the relationship between job burnout with work schedules and job satisfaction.

Authors believed that the results of the present study can be an appropriate base to implement and plan interventional ergonomic programs in the workplace and improve nurses' health.

## 3. Methods

### 3.1. Study Design and Setting

This cross-sectional study was carried out from September 2015 to December 2015 in one of the largest public hospitals in Tehran, Iran. All the 450 nurses of the hospital were included in the study, as a census method.

Of the 450 distributed questionnaires, 362 were returned with an overall response rate of 80.44%. Work experience of less than one year and also, having mental diseases or physical disabilities were considered as the exclusion criteria. No nurses were found to correspond with these criteria. The nurses were categorized into two groups: nurses who worked during the day (37.23%) and nurses who worked in shifts (62.77%). Nurses who worked in shifts have to rotate working the day, the evening and the night shifts. Nurses in both groups performed the same duties. All of the nurses involved in the study were oriented about the purposes of the study and the way to complete the questionnaire. The participation was strictly on a voluntary basis and it took about 30 minutes to complete the whole questionnaire. All data were gathered by one person. Each nurse received the questionnaire in his/her workplace. Each participant signed a written informed consent form before participation in the study and was given the opportunity to refuse participation. The ethical review committee of Tabriz University of Medical Sciences, Tabriz, Iran, reviewed and approved the study protocol.

### 3.2. Data Collection

A questionnaire, consisting of two sections and including demographic characteristics and job burnout, was used for data collection. Demographic details included: gender, age, weight, height, educational level, smoking, marital status, work experience, exercise and work schedules. Also, job satisfaction was evaluated based on the survey question: How much are you satisfied with your job? Low, moderate and high, it should be noted that its validity and reliability were confirmed in the previous studies by Dianat et al. (28-30).

Job burnout was measured by the 22-item Maslach burnout inventory (MBI) (10). The MBI comprises of three scales: the emotional exhaustion scale with nine items (reflecting the sensation of being emotionally exhausted due to the job resulting in a lower ability to dedicate to other works), the depersonalization scale with five items (defines lower personal involvement with person, cynicism and emotional detachment from job) and the personal accomplishment scale with eight items (measures feelings of lower professional competence and reduced ability to have positive individual interactions at work). The items were scored on a 7-point Likert scale ranging from 0 (never) to 6 (daily). High scores on the emotional exhaustion and depersonalization and low scores on personal accomplishment are job burnout indices. The items of personal accomplishment were reversed (31). In the current study, the total sums of the scores of the emotional exhaustion subscales ranged lower than 17, between 18 and 29 and higher than 30 and were labeled as low, intermediate, and high

levels of job burnout, respectively. For the depersonalization subscales, the total sums of the scores were lower than 5, between 6 and 11, and higher than 12 labeled as low, intermediate and high levels of burnout, respectively. For the personal accomplishment subscales, the total sums of the scores were lower than 33, between 34 and 39, and higher than 40 labeled as high, intermediate, and low levels of burnout, respectively. The English version of MBI is translated and revised into Persian with established validity and reliability. This revised version was used in the current study (32, 33).

### 3.3. Statistical Analysis

The analysis of the data, including descriptive statistics was carried out using SPSS software version 18.0. Multiple logistic regression analysis was used to estimate the relationship between the shift working and moderate to high job satisfaction levels with job burnout scales of the MBI-22 as independent variables in the multivariate context. The odds ratio (OR) and 95% confidence interval (CI) were also calculated by logistic regression analyses. Since the number of the nurses categorized with high job satisfaction was small, to perform meaningful statistical analysis, the high and the moderate levels were combined to form moderate-high job satisfaction level. The results are expressed as mean  $\pm$  SD.  $P < 0.05$  was considered as the level of significance.

## 4. Results

Table 1 summarizes demographic and work related characteristics of the nurses who participated in the study. The mean age and work experience were  $36.14 \pm 8.59$  and  $15.23 \pm 9.30$  years, respectively; 60.3% of the subjects were female and 39.7% male. Most of the nurses were married (77.6%) and their educational level ranged from associated degree (21.2%) to master's degree (5.9%). The mean of nurses' body mass index (BMI) was  $25.13 \pm 3.59$  kg/m<sup>2</sup>. More than half of the nurses, 62.77% (228 subjects), were involved in shift working and 37.23% (134 subjects) were day workers. It was revealed that 9.13%, 58.65% and 32.22% of the study subjects had high, moderate and low level of job satisfaction, respectively.

According to Table 2, the mean and prevalence of nurse's burnout subscale is divided into three levels (low, intermediate and high). It was revealed that the majority of nurses had a low degree of burnout in emotional exhaustion and depersonalization components (48.9%, 61.7%), respectively. While, more than half of the participants (64.4%) had a low level of personal accomplishment; 23.9% of emotional exhaustion and 21.7% of depersonalization had high levels of burnout components. In contrast,

only 17.2% of the subjects had a good level of personal accomplishment.

The results of the multiple logistic regression indicated that in shift working nurses, the emotional exhaustion scores were higher than those of the day workers (OR = 1.02, 95% CI = 1.006 - 1.041 and P-value = 0.008) (Table 3). No significant relationship was found between shift working with depersonalization and personal accomplishment.

Table 4 shows the association between moderate to high job satisfaction levels and job burnout scale based on multiple logistic regression analysis. It was revealed that moderate to high job satisfaction levels were significantly related to emotional exhaustion (OR = 0.945, 95% CI = 0.928 - 0.963, P-value < 0.001). Indeed, lower levels of emotional exhaustion were associated with moderate to high job satisfaction levels. In contrast, the score of personal accomplishment was significantly higher among nurses with moderate to high job satisfaction levels than the ones with low levels (OR = 1.003, 95% CI = 1.014 - 1.058, P-value = 0.001).

## 5. Discussion

According to the literature review, few studies were found on the relationship between job burnout with work schedules and job satisfaction in nurses. Therefore, this study was designated to evaluate the prevalence of burnout and its association with work schedules (shift and day work) and job satisfaction among Iranian nurses in a public hospital in Tehran, Iran.

The results confirmed that the personal accomplishment was poor. Lack of personal accomplishment at this high level needs more attention. In contrast, emotional exhaustion and depersonalization were at a good level, which might reflect workload and working condition of this group. The obtained results were not in agreement with those of Ashtari et al. (34). The score of the burnout subscales indicated that the personal accomplishment was more problematic than other components of burnout, in the nurses. It is also interesting to note that the mean score of depersonalization was very low among the respondents.

The result of present study confirms a significant relationship between the work schedules and job satisfaction levels with job burnout subscales (emotional exhaustion, depersonalization and personal accomplishment).

The results of the study indicated that work schedules (shift and day work) are associated with emotional exhaustion; hence, shift nurses have emotional exhaustion. While, no relationship was found between work schedules with depersonalization and personal accomplishment. The result of the study by Jamal et al. on Cana-

**Table 1.** Demographic and Work Related Characteristics of the Study Nurses (n = 362)<sup>a</sup>

Characteristics	Data
Age, Mean $\pm$ SD	36.14 $\pm$ 8.59
Body mass index, Mean $\pm$ SD	25.13 $\pm$ 3.59
Work experience, Mean $\pm$ SD	15.23 $\pm$ 9.30
Range, y	1 - 32
<b>Gender</b>	
Male	143 (39.7)
Female	219 (60.3)
<b>Smoking</b>	
Yes	14 (3.7)
No	348 (96.3)
<b>Education level</b>	
Associate	76 (21.2)
Bachelor	264 (72.9)
Master	22 (5.9)
<b>Marital status</b>	
Married	280 (77.6)
Single	82 (22.4)
<b>Exercise</b>	
Yes	142 (39.2)
No	220 (60.8)
<b>Job satisfaction</b>	
Low	116 (32.22)
Moderate	213 (58.65)
High	33 (9.13)
<b>Work schedules</b>	
Shift work	228 (62.77)
Day work	134 (37.23)

<sup>a</sup>Values are expressed as No. (%) unless otherwise indicated.

**Table 2.** The Mean and Prevalence of Burnout Subscales Among Nurses (n = 362)

Burnout Subscales	Mean $\pm$ SD	Low, %	Intermediate, %	High, %
Emotional exhaustion	19.56 $\pm$ 12.50	48.9	27.2	23.9
Depersonalization	5.93 $\pm$ 7.18	61.7	16.7	21.7
Personal accomplishment	28.91 $\pm$ 10.36	64.4	18.3	17.2

dian nurses showed no relationship between shift time and job burnout (35); that is inconsistent with results of the current study. In another study among health care workers in Thailand, a significant association was found between shift work and job burnout (15), which is consis-

tent with the current study results. Also, a study on Iranian nurses demonstrated a significant relationship between night shift and depersonalization (36); while, in the current study, there was no association between shift work and depersonalization. The difference between the current

**Table 3.** The Relationship Between Shift Working and Job Burnout Scale based on Multiple Logistic Regression Analysis Among Nurses (n = 362)<sup>a</sup>

Job Burnout Scale	OR	95% CI	P Value
Emotional exhaustion	1.02	1.006 - 1.041	0.008
Depersonalization	0.98	0.952 - 1.010	0.185
Personal accomplishment	1.008	0.988 - 1.029	0.437

<sup>a</sup>Shift workers: 62.77% (228 nurses); day workers: 37.23% (134 nurses).

**Table 4.** The Relationship Between Moderate-High Job Satisfaction Level and Job Burnout Scale Based on Multiple Logistic Regression Analysis Among Nurses (n = 362)<sup>a</sup>

Job Burnout Scale	OR	95% CI	P Value
Emotional exhaustion	0.945	0.928 - 0.963	< 0.001
Depersonalization	0.991	0.961 - 1.021	0.546
Personal accomplishment	1.003	1.014 - 1.058	0.001

<sup>a</sup>Low job satisfaction level: 32.22% (116 nurses); Moderate-high job satisfaction level: 67.78% (246 nurses).

study results and those of other studies may be due to cultural and ethical differences between the countries. In addition to working pressure, type of job and income can be effective in this regard.

The findings of the study suggest a significant relationship between job satisfaction and job burnout. Therefore, nurses who have lower job satisfaction are more likely to experience emotional exhaustion. There was also a significant relationship between personal accomplishment and job satisfaction; the mean score of personal accomplishment was higher in nurses with higher job satisfaction. Some studies on nurses found a significant relationship between burnout and job satisfaction (13, 37, 38), which is consistent with the results of the current study. Similar results in this regard indicated that job satisfaction is most likely one of the major factors contributing to job burnout in the nursing profession. Therefore, attempts to ergonomic interventions can improve job satisfaction, and ultimately lead to a reduction in job burnout among nurses.

The study had limitations that should be taken into account, when considering the implications of the findings. The current study was cross-sectional in design; therefore, no causal inferences can be drawn. The study used self-reported measures; hence, it is possible that respondents did not provide correct data to the researcher for different reasons.

In conclusion, the results of the current study suggest that the high level of personal accomplishment should be considered. The findings of the study also revealed a relatively high prevalence of job burnout among nurses with shift working and low job satisfaction level. In this regard, working pressure, type of job and income may affect job burnout. The findings showed a significant rela-

tionship between job burnout subscales with shift work and job satisfaction in the study population. In comparison with other studies, the prevalence of job burnout subscales and their relationship with work schedules (shift and day work) in the current study were nearly different. Ergonomic interventional programs are recommended to improve the working conditions.

### Acknowledgments

Authors appreciate the nursing station and contribution of all participants in this project.

### Footnotes

**Authors' Contribution:** Baratali Asghari, study supervision; Ahmad Bazazan, manuscript writing, study design and statistical data analysis; Soheil Nasouhi, Qorbanali Aghighy, Farhad Ahmadi, Amirhosein Talebian, Maryam Asadi, Ali Raei and Parvin Mohammadpour, data collation

**Competing Interests:** There was no conflict of interest regarding the material used in the current study.

**Funding/Support:** The current study received no funds.

### References

- Happell B, Martin T, Pinikahana J. Burnout and job satisfaction: a comparative study of psychiatric nurses from forensic and a main-stream mental health service. *Int J Ment Health Nurs*. 2003;12(1):39-47. [PubMed: 14685958].
- Arafa MA, Nazel MW, Ibrahim NK, Attia A. Predictors of psychological well-being of nurses in Alexandria, Egypt. *Int J Nurs Pract*. 2003;9(5):313-20. [PubMed: 14531854].

3. Adams A, Bond S. Hospital nurses' job satisfaction, individual and organizational characteristics. *J Adv Nurs*. 2000;**32**(3):536-43. [PubMed: [11012794](#)].
4. Mueller CW, McCloskey JC. Nurses' job satisfaction: a proposed measure. *Nurs Res*. 1990;**39**(2):113-7. [PubMed: [2315065](#)].
5. Visser MR, Smets EM, Oort FJ, De Haes HC. Stress, satisfaction and burnout among Dutch medical specialists. *CMAJ*. 2003;**168**(3):271-5. [PubMed: [12566331](#)].
6. Augusto Landa JM, Lopez-Zafra E, Berrios Martos MP, Aguilar-Luzon Mdel C. The relationship between emotional intelligence, occupational stress and health in nurses: a questionnaire survey. *Int J Nurs Stud*. 2008;**45**(6):888-901. doi: [10.1016/j.ijnurstu.2007.03.005](#). [PubMed: [17509597](#)].
7. Poncet MC, Toullic P, Papazian L, Kentish-Barnes N, Timsit JF, Pochard F, et al. Burnout syndrome in critical care nursing staff. *Am J Respir Crit Care Med*. 2007;**175**(7):698-704. doi: [10.1164/rccm.200606-806OC](#). [PubMed: [17110646](#)].
8. Landau K, editor. Psycho-physical strain and the burn-out phenomenon amongst health care professionals. *Ergonomie al Hopital*. 1992; Toulouse. International symposium paris.
9. Freudenberger HJ, Richelson G. Burn-out: The high cost of high achievement. New York: Doubleday; 1980. p. 316.
10. Maslach C, Jackson SE, Leiter MP. Evaluating stress: A book of resources. 3. USA: Scarecrow; 1997.
11. Beckstead JW. Confirmatory factor analysis of the Maslach Burnout Inventory among Florida nurses. *INT J NURS STUD*. 2002;**39**(8):785-92. doi: [10.1016/S0020-7489\(02\)00012-3](#).
12. Akroyd D, Caison A, Adams RD. Burnout in radiation therapists: the predictive value of selected stressors. *INT J RADIAT ONCOL*. 2002;**52**(3):816-21. doi: [10.1016/S0360-3016\(01\)02688-8](#).
13. Piko BF. Burnout, role conflict, job satisfaction and psychosocial health among Hungarian health care staff: a questionnaire survey. *Int J Nurs Stud*. 2006;**43**(3):311-8. doi: [10.1016/j.ijnurstu.2005.05.003](#). [PubMed: [15964005](#)].
14. Hansen V, Pit S. The Single Item Burnout Measure is a Psychometrically Sound Screening Tool for Occupational Burnout. *Health Scope*. 2016;**5**(2).
15. Wisetborisut A, Angkurawaranon C, Jiraporncharoen W, Uaphanthasath R, Wiwatanadate P. Shift work and burnout among health care workers. *Occup Med (Lond)*. 2014;**64**(4):279-86. doi: [10.1093/ocmed/kqu009](#). [PubMed: [24550196](#)].
16. Wright KP, Bogan RK, Wyatt JK. Shift work and the assessment and management of shift work disorder (SWD). *Sleep Med Rev*. 2013;**17**(1):41-54. doi: [10.1016/j.smrv.2012.02.002](#). [PubMed: [22560640](#)].
17. Boivin DB, Tremblay GM, James FO. Working on atypical schedules. *Sleep Med*. 2007;**8**(6):578-89. doi: [10.1016/j.sleep.2007.03.015](#). [PubMed: [17481949](#)].
18. Akerstedt T, Kecklund G. The future of work hours—the European view. *Ind Health*. 2005;**43**(1):80-4. [PubMed: [15732308](#)].
19. Harrington JM. Health effects of shift work and extended hours of work. *OCCUP ENVIRON MED*. 2001;**58**(1):68-72. doi: [10.1136/oem.58.1.68](#).
20. Bazazan A, Rasoulzadeh Y, Dianat I, Safaiyan A, Mombeini Z, Shiravand E. Demographic Factors and their Relation to Fatigue and Mental Disorders in 12-Hour Petrochemical Shift Workers. *Health Promot Perspect*. 2014;**4**(2):165-72. doi: [10.5681/hpp.2014.022](#). [PubMed: [25648196](#)].
21. Rasoulzadeh Y, Bazazan A, Safaiyan A, Dianat I. Fatigue and Psychological Distress: A Case Study Among Shift Workers of an Iranian Petrochemical Plant, During 2013, in Bushehr. *Iran Red Crescent Med J*. 2015;**17**(10):28021. doi: [10.5812/ircmj.28021](#). [PubMed: [26568862](#)].
22. Dianat I, Vahedi A, Dehnavi S. Association between objective and subjective assessments of environmental ergonomic factors in manufacturing plants. *INT J IND ERGONOM*. 2016;**54**:26-31. doi: [10.1016/j.ergon.2015.12.004](#).
23. Dianat I, Nedaei M, Mostashar N. M. A. The effects of tool handle shape on hand performance, usability and discomfort using masons' trowels. *INT J IND ERGONOM*. 2015;**45**:13-20. doi: [10.1016/j.ergon.2014.10.006](#).
24. Nazari J, Mahmoudi N, Dianat I, Graveling R. Working Conditions in Carpet Weaving Workshops and Muscu-loskeletal Complaints among Workers in Tabriz - Iran. *Health Promot Perspect*. 2012;**2**(2):265-73. doi: [10.5681/hpp.2012.032](#). [PubMed: [24688943](#)].
25. Vahedi A, Dianat I. Employees' perception of lighting conditions in manufacturing plants: associations with illuminance measurements. *J Res Health Sci*. 2013;**14**(1):40-5.
26. Rasoulzadeh Y, Gholamnia R. Effectiveness of an Ergonomics Training Program on Decreasing Work-Related Musculoskeletal Disorders Risk among Video Display Terminals Users. *Health Promot Perspect*. 2012;**2**(1):89-95. doi: [10.5681/hpp.2012.011](#). [PubMed: [24688922](#)].
27. Abdollahzade F, Mohammadi F, Dianat I, Asghari E, Asghari-Jafarabadi M, Sokhanvar Z. Working posture and its predictors in hospital operating room nurses. *Health Promot Perspect*. 2016;**6**(1):17-22. doi: [10.15171/hpp.2016.03](#). [PubMed: [27123432](#)].
28. Dianat I, Sedghi A, Bagherzade J, Jafarabadi MA, Stedmon AW. Objective and subjective assessments of lighting in a hospital setting: implications for health, safety and performance. *Ergonomics*. 2013;**56**(10):1535-45. doi: [10.1080/00140139.2013.820845](#). [PubMed: [23879884](#)].
29. Dianat I, Salimi A. Working conditions of Iranian hand-sewn shoe workers and associations with musculoskeletal symptoms. *Ergonomics*. 2014;**57**(4):602-11. doi: [10.1080/00140139.2014.891053](#). [PubMed: [24588329](#)].
30. Dianat I, Kord M, Yahyazade P, Karimi MA, Stedmon AW. Association of individual and work-related risk factors with musculoskeletal symptoms among Iranian sewing machine operators. *Appl Ergon*. 2015;**51**:180-8. doi: [10.1016/j.apergo.2015.04.017](#). [PubMed: [26154216](#)].
31. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol*. 2001;**52**:397-422. doi: [10.1146/annurev.psych.52.1.397](#). [PubMed: [11148311](#)].
32. Filiyan E. The examination of burnout and its relationship with coping mechanisms in nurses (Unpublished master thesis). Tehran, Iran: Tarbiat Modarres University; 1992.
33. Khorasani Niasar N, Taheri Kharamé Z, Koohbor M, Aghaziarati M. Professional burnout and the affecting factors in operating room nurses in Qom teaching hospitals. *Jentashapir*. 2013;**4**(4):305-14.
34. Ashtari Z, Farhady Y, Khodae MR. Relationship between job burnout and work performance in a sample of Iranian mental health staff. *Afr J Psychiatry (Johannesbg)*. 2009;**12**(1):71-4. [PubMed: [19526650](#)].
35. Jamal M, Baba VV. Shiftwork, burnout, and well-being: A study of Canadian nurses. *INT J STRESS MANAGE*. 1997;**4**(3):197-204.
36. Toubaei S, Sahraeian A. Burnout and job satisfaction of nurses working in internal, surgery, psychiatry burn and burn wards. *Horizon Med Sci*. 2007;**12**(4):40-5.
37. Dolan N. The relationship between burnout and job satisfaction in nurses. *J Adv Nurs*. 1987;**12**(1):3-12. [PubMed: [3643938](#)].
38. Kalliath T, Morris R. Job satisfaction among nurses: a predictor of burnout levels. *J Nurs Adm*. 2002;**32**(12):648-54. [PubMed: [12483086](#)].