Occupational Burnout and Its Related Factors Among Iranian Nurses: A Cross-Sectional Study in Shahroud, Northeast of Iran

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Abstract

BACKGROUND: Good physical and mental health of employees is one of the major characteristics of a healthy organisation.

AIM: Due to the importance of occupational burnout and its potentially negative consequences, the aim of this study was to assess occupational burnout and its related factors among Iranian nurses.

METHODS: In this cross-sectional study, 205 nurses who were working in two educational hospitals affiliated with Shahroud University of Medical Sciences were included. Forty-two of the nurses were male, and 163 were female (mean age: 31 years). Maslach Occupational Burnout Inventory, demographic and job characteristics questionnaires were completed for each nurse. Questionnaires were then collected, and data were analysed statistically by SPSS, version 22.

RESULTS: In the assessment of occupational burnout, the highest level was observed in emotional exhaustion and then in personal performance. There was a significant difference between the frequency of nurses’ emotional exhaustion domain in terms of gender (P < 0.05), so that, women suffered more from emotional exhaustion. There was a significant difference between the frequencies of nurses’ performance in terms of marital status (P < 0.05) so that married people had more personal performance disorder.

CONCLUSION: The results of this study showed that nurses suffered from low occupational burnout. Female gender, sleeping disorders, awakening at night and employment in stressful wards such as the emergency ward was associated with a higher level of occupational burnout in nurses.

Introduction

Employees’ physical and mental health is one of the major characteristics of a healthy organisation. In a healthy society, the responsibility of manufacturing organizations is not limited to producing as much as profitable goods and services, and the managers of the organizations of such communities know that more production is the result and outcome of effective management; this important issue is not obtained without the attention and believing in the employees’ mental health [1, 2, 3]. So, one of the duties of every competent, forward-looking and resourceful manager is to provide the mental health of the employees in the organisation. Therefore, mental health in the workplace means the prevention of psychological distresses and behavioural disorders in employees due to the pathogenic factors in the workplace; making the mental work environment and space healthy is also very important in the workplaces [4], [5], [6], [7].

One of the concepts that in recent years has attracted the attention of psychologists to itself is being exhausted, disability, lethargy, weakness, immobility in employed individuals, so-called occupational burnout [8], [9], [10]. Occupational burnout is a phenomenon in which the cumulative effects of workplace stress gradually make individuals desperate, forcing them to withdraw mentally [11], [12]. Occupational burnout is a common syndrome in occupations that most of their time is spent on supporting others and has been widely studied among the employees of medical professions [13], [14], [15], [16]. Occupational burnout has been associated with specific reports of decreased ability in paying attention to the patients. Psychological distress harms
professional satisfaction feeling and also the quality of patient care [17], [18], [19], [20]. Personal, interpersonal, and organisational factors have a relationship with occupational tension and burnout [21], [22], [23].

It has previously been shown that occupational burnout is common among nurses. However, the intensity of occupational burnout is varied among nurses working in various fields. The comparison made between various wards of the hospital, including the operating room, pediatric, gynaecology and surgery wards indicate the impact of the environment on the occupational burnout [24], [25], [26]. Nurses are more prone to occupational burnout progress, and its reason is mainly the nature of the job and their emotional demand [27], [28], [29]. As occupational burnout develops in response to the chronic emotional stress, it disrupts the nurses' relationship with patients, colleagues, family, and the social environment [30], [31]. Also, occupational burnout is closely related to the work absence of nurses and abandoning nursing job which ultimately leads to the decreased attention and care for patients [32], [33]. Due to importance of occupational burnout and available controversies in the literature in this regard among nurses, as well as lack of sufficient evidence among nurses in northeast Iran, the present study has been conducted aiming to assess occupational burnout and its related factors among the nurses who worked in Northeast Iran.

Material and Methods

In a cross-sectional study, a total of 205 nurses who were working in two educational hospitals affiliated with Shahroud University of Medical Sciences (Imam Hossein and Bahar hospitals) in 2017, were included. Forty-two of the nurses were male, and 163 were female (mean age: 31 years). After obtaining informed consent, Maslach Occupational Burnout Inventory, demographic and job characteristics questionnaires were completed for each nurse. The questionnaires were completed by the nurse him/herself, and preferably when it did not disrupt the work of the nurse and also when the nurse was not psychologically and mentally tired.

Maslach Occupational Burnout Inventory is the most common tool to assess occupational burnout among various people with professional and career backgrounds has been used [34]. The validity and reliability of this questionnaire have been confirmed in previous studies [35], [36]. This questionnaire has 25 questions and is especially applied for measuring occupational burnout follow-up in professional groups, such as nurses. This questionnaire has three main scales of emotional exhaustion (9 questions), depersonalization (5 questions), personal performance (8 questions), and a subtest called involvement (3 questions). Subjects are asked to read each sentence and describe themselves in front of it concerning the frequency of the characteristic's proposed and also its intensity in the desired sentence. Two points are assigned for a person for scoring the scale in each question, the frequency score and the intensity score. Each individual gets a score from 1 to 6 in frequency and a score from 1 to 7 in intensity. Finally, according to the questions of each subtest, the scores of each subtest are calculated separately, and the mean of scores is obtained [34], [35], [36]. The data were statistically analysed using SPSS, version 22. Mann Whitney U test and independent-sample t-test were used to compare the quantitative variables in the two groups. Significance level was considered at p < 0.05.

Results

In this study, 147 (71.7%) of nurses were married, and 58 (28.3%) were single. The educational level of 186 (90.7%) of the nurses was a bachelor, and 19 people (9.3%) had mastered. The employment status of 67 nurses (32.7%) was formal, 76 people (37.1%) had treaty status, 48 people (23.4%) had project status, 6 people (2.9%) had contractual status, and 8 people (3.9%) had another status. The time duration of nurses' work experience was between 1 - 31 years with the mean and standard deviation of 6.76 ± 5.77 years. The time duration of nurses' working experience in the emergency ward was between 1 to 20 years (mean: 2.97 ± 2.78 years). The nurses' working hours in a day were between 6-12 hours (mean: 7.19 ± 1.2 hours). The mean time of nurses' working hours at night was 10.8 ± 2.37 hours. 194 (94.6%) of the nurses had a rotating shift, and 163 (79.5%) of the nurses had the physical activity of more than half an hour in a day.

The sleeping time duration of nurses was between 3-12 hours (mean: 6.48 ± 1.48 hours). The desired sleeping time duration of nurses was between 5-14 hours (mean: 8.51 ± 1.56 hours). In 159 (77.5%) of the nurses, the usual hour of beginning to sleep at night was between 10 PM and 1 AM. In 158 (77%) of the nurses, the usual wake-up time in the morning was between 5 AM to 8 AM. The length of time nurses fall asleep was between 3 to 120 minutes (mean: 30.41 ± 19.58 minutes). 155 (75.6%) of the nurses had an afternoon nap. Nurses' sleeping time duration during the weekend and holidays was between 5-12 hours (mean: 8.17 ± 1.71 hours). Nurses' satisfaction with their recent sleep pattern was as follow: 35 (17.1%) were very dissatisfied, 62 (30.2%) were dissatisfied, 73 (35.6%) were somewhat satisfied, 23 (11.2%) were highly satisfied, and 12 (5.9%) were very satisfied. The interference of nurses' sleeping
difficulties with their daily activities was as follows: 47 (22.9%) had rarely, 76 (37.1%) had somewhat, 51 (24.9%) had high, 25 (12.2%) had very high and the rest, 6 (2.9%), did not have difficulties. Dimensions of nurses’ burnout have been described in Table 1.

Table 1: Descriptive Characteristics of Frequency and Intensity of Four Dimensions of Nurses’ Occupational Burnout

| Occupational Burnout Dimensions | Scale | Minimum | Maximum | Mean | Standard Deviation |
|---------------------------------|-------|---------|---------|------|-------------------|
| Emotional exhaustion           | 5     | 0       | 5       | 2.85 | 1.38              |
| Personal exhaustion            | 5     | 0       | 5       | 2.03 | 1.17              |
| Performance                    | 6     | 0       | 6       | 2.75 | 1.09              |
| Depersonalization              | 5     | 0       | 5       | 3.13 | 1.00              |
| Involvement                    | 5     | 0       | 5       | 2.83 | 1.16              |

According to Table 2, except for gender and employment status in emotional exhaustion, marital status, working hours at night and number of waking up while sleeping during the night in personal performance, and work experience duration in ED in depersonalization and usual hour of beginning sleep at night, number of waking up while sleeping during the night and time duration of being awake during the night in involvement dimension (P < 0.05).

Table 2: Descriptive characteristics and comparison of nurses’ occupational burnout frequency in terms of demographic characteristics and sleeping status variables

| Variables                          | Emotional exhaustion | Personal exhaustion | Performance | Depersonalization | Involvement |
|------------------------------------|----------------------|---------------------|------------|-------------------|-------------|
| Age                                | 0.04                 | 0.02                | 0.22       | 0.39              | 0.24        |
| Gender                             | 0.47                 | 0.4               | 0.75       | 0.56              | 0.6         |
| Employment status                  | 0.82                 | 0.83                | 0.77       | 0.85              | 0.77        |
| Year of experience in ED           | 0.05                 | 0.06                | 0.14       | 0.07              | 0.12        |
| Length of time t                   | 0.28                 | 0.39                | 0.74       | 0.68              | 0.71        |
| Length of time t                   | 0.29                 | 0.39                | 0.74       | 0.68              | 0.71        |
| Length of time t                   | 0.29                 | 0.39                | 0.74       | 0.68              | 0.71        |
| Length of time t                   | 0.29                 | 0.39                | 0.74       | 0.68              | 0.71        |

There was no significant difference between the frequency of all the nurses’ occupational burnout dimensions in terms of age, level of education, working experience duration, working hours per day, working shift, physical activity, sleeping time duration, desired sleeping time duration, usual waking-up o’clock in the morning and time duration to fall sleep (P > 0.05).

Table 3: Descriptive Characteristics and Comparison of the Nurses’ Occupational Burnout Intensity in Terms of Demographic Characteristics and Sleeping Status Variables

| characteristic                        | Emotional exhaustion | Personal exhaustion | Performance | Depersonalization | Involvement |
|--------------------------------------|----------------------|---------------------|------------|-------------------|-------------|
| Age                                  | 0.04                 | 0.02                | 0.22       | 0.39              | 0.24        |
| Gender                               | 0.47                 | 0.4               | 0.75       | 0.56              | 0.6         |
| Employment status                    | 0.82                 | 0.83                | 0.77       | 0.85              | 0.77        |
| Year of experience in ED             | 0.05                 | 0.06                | 0.14       | 0.07              | 0.12        |
| Length of time t                     | 0.28                 | 0.39                | 0.74       | 0.68              | 0.71        |

Based on Table 3, there was no significant difference between all dimensions of nurses’ occupational burnout intensity in terms of age, marital status, educational level, working hours per day, working shift, sleeping time duration, desired sleeping time duration, usual waking-up o’clock in the morning, and the time duration to fall sleep (P > 0.05), except for time duration of being awake during the night.
number of waking up while sleeping during the night, usual hour of beginning sleep at night and working hours at night (P < 0.05).

Discussion

The results of the present study indicate that most Iranian nurses in the northeast of Iran experienced low occupational burnout; with the highest disorder in personal performance and then in the emotional exhaustion dimensions. Also, it has been revealed that different factors had a significant effect on domains of occupational burnout in nurses. Among these cases was nurses’ gender, that the male nurses experienced less emotional exhaustion than females. In line with the results of our study, it has been shown that female healthcare providers experienced more frequency and intensity of burnout compared to male healthcare providers [37]. Another study in Sweden showed that in general working population, women had a higher level of burnout compared to men [38] that is consistent with the results of our study. The higher burnout in females compared to males may be due to their gender properties, situational life factors, unsuitable working conditions and the male’s higher resistance and resilience in the workplace [39], [40]. Therefore, developing a gender-specific program for reducing nurses' occupational burnout is reasonable.

In the dimension of personal performance, married people had more disorder than single people, which can be attributed to more responsibilities and concerns of the married people. The results of a meta-analytic study indicate that single or divorced nurses experience a higher level of burnout compared to married nurses. The lower burnout level in married nurses may be due to the support and security provided by their family which can consequently protect them from a negative attitude towards their work environment and colleagues [41]. In other words, spousal and family support can be protective and mitigate some of the adverse effects posed by workplace conflict in nurses. The formal nurses suffered from more emotional exhaustion that might be reasonable due to more responsibility and higher age and higher work experience. Nurses with more working experience in the ED suffered significantly more from involvement and depersonalization, which was justifiable regarding very high working stress in the emergency and the unexpected arrival of patients in the emergency ward [42], [43]. Working at night in the emergency ward was among the important disrupting factors in the area of personal performance and involvement, in a way that people with more working at night had more interference, which was justifiable regarding the previous studies and the disruption of sleeping cycle [44], [45]. The highest impact of physical activity has been on the emotional exhaustion in a way that those who were exercising regularly suffered less from emotional exhaustion. The results of a recent meta-analysis do not support the efficacy of exercise therapy in managing the symptoms of burnout; although exercise therapy had some positive impacts. Lack of high-quality studies has been suggested as a possible reason for this result [46]. Nevertheless, another systematic review confirmed the efficacy of yoga in managing burnout in healthcare providers [47]. Further well-designed studies are required to evaluate the effect of exercise on the burnout of nurses.

Regarding the hour of sleeping, those nurses who fell sleep late suffered more from involvement in their hospitalized patients’ care during the day to reach a feeling of competence and achievement in one’s work. Nurses who did not have good sleep quality and woke up at night often suffered more from depersonalization and involvement, which was a justifiable point. Considering similar studies conducted on different occupational burnout individuals and groups, this study can be compared with the study, in which the emergency medical assistants of Iran were included. According to the conducted study, among the indicators investigated about the causes of occupational burnout, the most important factors investigated in the causes of occupational burnout have been residency year, gender, age, marital status, having child, study location city, other sources of income, doing overtime work, supervisory status, choice of course, chronic illness, sedative drug consumption, doing regular exercise, sense of humor, religiousness, flexibility, and hope for job prospect that the causes of hope for job prospect and having chronic illness and interest in the field and having the source of income and the age of individuals have been the factors affecting more burnout in the residents of emergency medicine field. Based on the above points, it was concluded that the lack of hope for a job prospect, having a chronic illness, the lack of interest in the field of study and the lack of income resources and high age during the residency period has led to more occupational burnout [48]. In our study, the effect of nurses’ age on the ratio of occupational burnout and other factors such as job prospect and chronic illness, and so on has not been calculated. Unlike our study, in another study, no significant relationship has been observed between gender and occupational burnout. Moreover, contrary to our study, a strong, significant and direct relationship has been found between the age of individuals and their ratio of burnout, so that older people suffered from higher burnout than younger people, which was in contrast with our study that the age has not had any effect on any of the burnout indicators [49], [50].

In conclusion, according to the present study, it can be concluded that the Iranian nurses in the northeast of Iran suffer from a low level of

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occupational burnout. However, female gender, sleeping disorders, night awakening and working in stressful wards such as ED are associated with a higher level of occupational burnout in nurses.

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References

1. Perry L, Lamont S, Brunero S, Gallagher R, Duffield C. The mental health of nurses in acute teaching hospital settings: a cross-sectional survey. BMC Nurs. 2015; 14(1). https://doi.org/10.1186/s12912-015-0088-6 PMid:25904820 PMCid:PMC4405850

2. Tsaras K, Papathanasiou IV, Vus V, Panagiotopoulou A, Katsou MA, Kelesi M, et al. Predicting Factors of Depression and Anxiety in Mental Health Nurses: A Quantitative Cross-Sectional Study. Med Arch. 2018; 72(6):62-67. https://doi.org/10.5455/medarch.2017.72.62-67 PMid:29416221 PMCid:PMC5789556

3. Shah JL, Kapoor R, Cole R, Steiner JL. Employee Health in the Mental Health Workplace: Clinical, Administrative, and Organizational Perspectives. J Behav Health Serv Res. 2016; 43(2):308-320. https://doi.org/10.1007/s11414-014-9428-5 PMid:25901269

4. Johnson SW. Characteristics of effective health care managers. Health Care Manag (Frederick). 2005; 24(2):124-8. https://doi.org/10.1002/hcm.20146 PMid:15923923

5. Gholipour Baradari A, Hoseini S, Zamani Kiasari A, Ala S, Emami Zeydi A, Mahdavi A, et al. Effect of Zinc supplement on job stress and burnout of ICU nurses. J Babol Univ Med Sci. 2013; 15(1);38-45.

6. Griffith JR, Warden GL, Neighbors K, Shim B. A new approach to assessing skill needs of senior managers. J Health Adm Educ. 2018; 41(2):330-42. https://doi.org/10.1080/0739150X.2018.1453347 PMid:29416221 PMCid:PMC5802751

7. Ahanchian MR, Emami Zeydi A, Armat MR. Conflict management styles among Iranian critical care nursing staff: a cross-sectional study. Dimens Crit Care Nurs. 2015; 34(3):140-5. https://doi.org/10.1097/DCC.0000000000000106 PMid:25840129

8. Reith TP. Burnout in United States Healthcare Professionals: A Narrative Review. Cureus. 2018; 10(12):e3681. https://doi.org/10.7759/cureus.3681 PMid:30761233 PMCid:PMC56677114

9. Novrouzi B, Lightfoot N, Larivières M, Carter L, Rukholm E, Schinke R, et al. Occupational Stress Management and Burnout Interventions in Nursing and Their Implications for Healthy Work Environments: A Literature Review. Workplace Health Saf. 2015; 63(7):308-15. https://doi.org/10.1177/2165079915576931 PMid:26084675

10. Mākikkangas A, Kinnunen U. The person-oriented approach to burnout: A systematic review. Burnout Research. 2016; 3(1):11-23. https://doi.org/10.1016/j.burn.2015.12.002

11. Salvagioni DAJ, Melanda FN, Mesas AE, González AD, Gabani FL, Andrade SM. Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. PLoS One. 2017; 12(10):e0185781. https://doi.org/10.1371/journal.pone.0185781 PMid:28977041 PMCid:PMC5627929

12. Aronsson G, Theorell T, Grape T, Hanssonström A, Hogstedt C, Martensdottir I, et al. A systematic review including meta-analysis of work environment and burnout symptoms. BMC Public Health. 2017; 17(1):284. https://doi.org/10.1186/s12889-017-4153-7 PMid:28302088 PMCid:PMC5356239

13. Aholu K, Toppinen-Tanner S, Huuhhtanen P, Koskinen A, Väänänen A. Occupational burnout and chronic work disability: an eight-year cohort study on pensioning among Finnish forest industry workers. J Affect Disord. 2009; 115(1-2):150-9. https://doi.org/10.1016/j.jad.2008.09.021 PMid:18945493

14. Leung J, Rioseco P, Munro P. Stress, satisfaction and burnout amongst Australian and New Zealand radiation oncologists. J Med Imaging Radiat Oncol. 2015; 59(1):115-24. https://doi.org/10.1117/1175-9485.12217 PMid:25088562

15. Ahmadi O, Azizkhan R, Basravi M. Correlation between workplace and occupational burnout syndrome in nurses. Adv Biomed Res. 2014; 3:44. https://doi.org/10.4103/2277-8175.125751 PMid:24627852 PMCid:PMC4949345

16. Embríaco N, Papazian L, Kentish-Barnes N, Pochard F, Azoulay E. Burnout syndrome among critical care healthcare workers. Curr Opin Crit Care. 2007; 13(5):462-9. https://doi.org/10.1097/MCC.0b013e3280edf28a PMid:17762223

17. Hall LH, Johnson J, Watt I, Tsipa A, O'Connor DB. Healthcare Staff Wellbeing, Burnout, and Patient Safety: A Systematic Review. PLoS One. 2016; 11(7):e0159015. https://doi.org/10.1371/journal.pone.0159015 PMid:27391946 PMCid:PMC4938539

18. Patel RS, Bachu R, Adikayek A, Malik M, Shah M. Factors Related to Physician Burnout and Its Consequences: A Review. Behav Sci (Basel). 2018; 8(1):98. https://doi.org/10.3390/bs8010098 PMid:30366419 PMCid:PMC6625285

19. Sun JW, Bai HY, Li JH, Lin PZ, Zhang HH, Cao FL. Predictors of occupational burnout among nurses: a dominance analysis of job stressors. J Clin Nurs. 2017; 26(23-24):4286-4292. https://doi.org/10.1111/jocn.13754 PMid:28177546

20. Khamisa N, Peltzer K, Oldenburg B. Burnout in relation to specific contributing factors and health outcomes among nurses: a systematic review. Int J Environ Res Public Health. 2013; 10(6):2214-40. https://doi.org/10.3390/ijerph10062214 PMid:23727902 PMCid:PMC3717733

21. Allen J, Mellor D. Work context, personal control, and burnout amongst nurses. West J Nurs Res. 2002; 24(8):905-17. https://doi.org/10.1177/0193940200237701 PMid:12469726

22. Hunsaker S, Chen HC, Maughan D, Heaston S. Factors that influence the development of compassion fatigue, burnout, and compassion satisfaction in emergency department nurses. J Nurs Scholarsh. 2015; 47(2):186-94. https://doi.org/10.1111/jnu.12122 PMid:25644276

23. Gray-Stanley JA, Muramatsu N. Work stress, burnout, and social and personal resources among direct care workers. Res Dev Disabil. 2011; 32(3):1065-7. https://doi.org/10.1016/j.ridd.2011.01.025 PMid:21316918 PMCid:PMC3914885

24. Rezaei S, Karami Matin B, Hajizadeh M, Soroush A, Nouri B. Prevalence of burnout among nurses in Iran: a systematic review and meta-analysis. Int Nurs Rev. 2018; 65(3):361-369. https://doi.org/10.1111/inr.12426 PMid:29380381

25. de Oliveira SM, de Alcantara Sousa LV, Vieira Gadelha MDS, do Nascimento VB. Prevention Actions of Burnout Syndrome in Nurses: An Integrating Literature Review. Clin Pract Epidiom Ment Health. 2019; 15:64-73. https://doi.org/10.2174/1745017901915010064 PMid:31015857 PMCid:PMC6446475

26. Monsalve-Reyes CS, San Luis-Costas C, Gómez-Urquiza JL, Albinden-Garcia L, Aguayo R, Cañadas-De la Fuente GA. Burnout
syndrome and its prevalence in primary care nursing: a systematic review and meta-analysis. BMC Fam Pract. 2018; 19(1):59. https://doi.org/10.1186/s12875-018-0748-z PMid:29745779 PMcid:PMC5944132

27. Vidotti V, Ribeiro RP, Galdino MJQ, Martins JT. Burnout Syndrome and shift work among the nursing staff. Rev Lat Am Enfermagem. 2018; 26:e3022. https://doi.org/10.1590/1518-8345.2550.3022 PMid:30110099 PMcid:PMc0691368

28. Zhou W, He G, Wang H, He Y, Yuan Q, Liu D. Job dissatisfaction and burnout of nurses in Hunan, China: A cross-sectional survey. Nurs Health Sci. 2015; 17(4):444-50. https://doi.org/10.1111/nhs.12213 PMid:26293922

29. Al-Turki HA, Al-Turki RA, Al-Dardas HA, Al-Gazal MR, Al-Maghrabi GH, Al-Enizi NH, et al. Burnout among multinational nurses working in Saudi Arabia. Ann Afr Med. 2010; 9(4):226-9. https://doi.org/10.4103/1596-3519.70960 PMid:20935422

30. Sarafis P, Rousaki E, Tsounis A, Malliarou M, Lahana L, Bamidis P, et al. The impact of occupational stress on nurses’ caring behaviors and their health-related quality of life. BMC Nurs. 2016; 15:56. https://doi.org/10.1186/s12912-016-0178-y PMid:27708546 PMcid:PMC5039891

31. Suñer-Soler R, Grau-Martin A, Flichtentrei D, Prats M, Braga F, Font-Mayolas S, et al. The consequences of burnout syndrome among healthcare professionals in Spain and Spanish speaking Latin American countries. Burnout Research. 2014; 1(2): 82-89. https://doi.org/10.1016/j.burn.2014.07.004

32. Hämmig O. Explaining burnout and the intention to leave the profession among health professionals - a cross-sectional study in a hospital setting in Switzerland. BMC Health Serv Res. 2018; 18(1):785. https://doi.org/10.1186/s12911-018-0855-6 PMid:30340485 PMcid:PMc0194504

33. Salyers MP, Bonfitl KA, Luther L, Firmin RL, White DA, Adams EL, Rollins AL. The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. J Gen Intern Med. 2017; 32(4):475-482. https://doi.org/10.1007/s11606-016-3886-9 PMid:27785668 PMcid:PMc5377877

34. Maslach C, Jackson SE. The measurement of experienced burnout. Journal of Organizational Behavior. 1981; 2: 99-113. https://doi.org/10.1002/job.4030020205

35. Poghosyan L, Aiken LH, Sloane DM. Factor structure of the Maslach Burnout Inventory: an analysis of data from large scale cross-sectional surveys of nurses from eight countries. Int J Nurs Stud. 2009; 46(7):894-902. https://doi.org/10.1016/j.ijnurstu.2009.03.004 PMid:19362309 PMcid:PMc0700194

36. Moalem S, Kavoosi Z, Beygi N, Degan A, Karimi A, Parviz MM. Evaluation of the Persian Version of Maslach Burnout Inventory-Human Services Survey among Iranian Nurses: Validity and Reliability. Galien Medical Journal. 2018; 7:e995.

37. Olanrewaju AS, Chineye OJ. Gender differences in burnout among health workers in the Ekiti State University Teaching Hospital Ado-Ekiti. Int J Soci Behavioural Sci. 2013; 1(6):112-121.

38. Norlund S, Reuterwall C, Höög J, Lindahl B, Jantert U, Birgander LS. Burnout, working conditions and gender—results from the northern Sweden MONICA Study. BMC Public Health. 2010; 10:326. https://doi.org/10.1186/1471-2458-10-326 PMid:20534136 PMcid:PMc02896942

39. Karimi Moonaghi H, Emami Zeydi A, Mirhaghi A. Patient education among nurses: bringing evidence into clinical applicability in Iran. Invest Educ Enferm. 2016; 34(1):137-151. https://doi.org/10.17533/iedae.eve.v34n1a16 PMid:28569983

40. Soares JJ, Grossi G, Sundin O. Burnout among women: associations with demographic/socio-economic, work, life-style and health factors. Arch Womens Ment Health. 2007; 10(2):51-71. https://doi.org/10.1007/s00737-007-0170-3 PMid:17357826

41. Cañadas-De la Fuente GA, Ortega E, Ramirez-Baena L, De la Fuente-Solana EI, Vargas C, Gómez-Urquiza JL. Gender, Marital Status, and Children as Risk Factors for Burnout in Nurses: A Meta-Analytic Study. Int J Environ Res Public Health. 2018; 15(10). https://doi.org/10.3390/ijerph15102102 PMid:30257449 PMcid:PMc06209972

42. Tavakoli N, Shaker SH, Soltani S, Abbasi M, Amini M, Tahtmasebi A, et al. Job Burnout, Stress, and Satisfaction among Emergency Nursing Staff after Health System Transformation Plan in Iran. Emerg (Tehran). 2018; 6(1):e41

43. Moukarzel A, Michelet P, Durand AC, Sebbane M, Bourgeois S, Markarian T, et al. Burnout Syndrome among Emergency Department Staff: Prevalence and Associated Factors. Biomed Res Int. 2019; 2019:6462472. https://doi.org/10.1155/2019/6462472 PMid:30800675 PMcid:PMc6360614

44. Vidotti V, Ribeiro RP, Galdino MJQ, Martins JT. Burnout Syndrome and shift work among the nursing staff. Rev Lat Am Enfermagem. 2018; 26:e3022. https://doi.org/10.1590/1518-8345.2550.3022 PMid:30110099 PMcid:PMc0691368

45. Wisseborius C, Angkuraiwaronan C, Jiraporncharoen W, Uaphantasath R, Wiwatanadate P. Shift work and burnout among health care workers. Occup Med (Lond). 2015; 65(10):685-91. https://doi.org/10.1093/occmed/kuo009 PMid:24550196

46. Ochentel O, Humphrey C, Pfiffer K. Efficacy of Exercise Therapy in Persons with Burnout. A Systematic Review and Meta-Analysis. J Sports Sci Med. 2018; 17(3):475-484.

47. Cocchiara RA, Peruzzo M, Mannocci A, Ottolenghi L, Villari P, Polimeni A, et al. The Use of Yoga to Manage Stress and Burnout in Healthcare Workers: A Systematic Review. J Clin Med. 2019; 8(3):284. https://doi.org/10.3390/jcm8030284 PMid:30813641 PMcid:PMc6462946

48. Vaziri S, Mohammadi F, Mosaddegh R, Masoumi G, Noyani A, Bahadorameneh A. Prevalence and Causes of Job Burnout Syndrome among Emergency Medicine Residents of Iran University of Medical Sciences. Iranian Journal of Emergency Medicine. 2018; 5:10.

49. Popa F, Raed A, Purcarea VL, Lală A, Bobinac G. Occupational burnout levels in emergency medicine—a nationwide study and analysis. J Med Life. 2010; 3(3):207-15

50. Kimo Takayesu J, Ramoska EA, Clark TR, Hansoti B, Kondo H, Takahashi T, Koike H, Kato M, Tahmasebi A, et al. Job Burnout, Stress, and Satisfaction among Emergency Nursing Staff after Health System Transformation Plan in Iran. Emerg (Tehran). 2018; 6(1):e41

51. Moukarzel A, Michelet P, Durand AC, Sebbane M, Bourgeois S, Markarian T, et al. Burnout Syndrome among Emergency Department Staff: Prevalence and Associated Factors. Biomed Res Int. 2019; 2019:6462472. https://doi.org/10.1155/2019/6462472 PMid:30800675 PMcid:PMc6360614