

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

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## Abstract

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**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 cares 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  $6.76 \pm 5.77$  years. The time duration of nurses' working experience in the emergency ward was between 1 to 20 years (mean:  $2.97 \pm 2.78$  years). The nurses' working hours in a day were between 6-12 hours (mean:  $7.19 \pm 1.2$  hours). The mean time of nurses' working hours at night was  $10.8 \pm 2.37$  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:  $6.48 \pm 1.48$  hours). The desired sleeping time duration of nurses was between 5-14 hours (mean:  $8.51 \pm 1.56$  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:  $30.41 \pm 19.58$  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:  $8.17 \pm 1.71$  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	Median	Mean	Standard Deviation
Emotional Exhaustion	Frequency	0	55	19	20.9	12.74
	Intensity	0	70	23	23.6	14.66
Personal Performance	Frequency	3	86	31	30.57	10.07
	Intensity	6	56	33	33.24	10.63
Depersonalization	Frequency	0	30	6	8.14	6.69
	Intensity	0	35	7	9.14	7.48
Involvement	Frequency	0	18	5	6.02	3.9
	Intensity	0	21	7	6.92	4.28

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	Occupational Burnout Domain				
	Emotional Exhaustion	Personal Performance	Depersonalization	Involvement	
Age	30 >	20.52 ± 13.38	29.81 ± 11.42	7.4 ± 5.85	5.61 ± 3.62
	≥ 30	21.29 ± 12.09	31.35 ± 8.46	8.9 ± 7.42	6.44 ± 4.14
Gender	Male	15.57 ± 10.87	31.54 ± 13.26	8.47 ± 6.95	6.73 ± 4.21
	Female	22.28 ± 12.85	30.32 ± 9.11	8.05 ± 6.65	5.84 ± 3.81
Marital Status	Married	20.89 ± 12.68	31.48 ± 10.66	8.14 ± 6.8	5.82 ± 4.09
	Single	20.93 ± 12.98	28.27 ± 8.05	8.13 ± 6.47	6.53 ± 3.35
Educational Level	Bachelor	20.54 ± 12.54	30.5 ± 10.2	8.15 ± 6.7	6.01 ± 3.92
	Master	24.47 ± 14.41	31.31 ± 8.9	8.05 ± 6.8	6.15 ± 3.74
Employment Status	Contractual & others	18.25 ± 12.46	29.69 ± 12.16	7.48 ± 6	6.41 ± 3.71
	Others	0.04	0.21	0.513	0.294
Work Experience Duration	< 5	20.35 ± 13.27	29.9 ± 10.19	6.98 ± 5.77	5.54 ± 3.69
	≥ 5	12.32 ± 21.35	21.35 ± 12.32	9.07 ± 7.25	6.41 ± 4.04
Work Experience Duration in ED	≤ 2	21.77 ± 12.64	30.32 ± 10.93	6.7 ± 5.88	5.46 ± 3.6
	> 2	19.7 ± 12.84	30.91 ± 8.8	10.12 ± 7.26	6.8 ± 4.17
Working Hours in the Day	< 7	22.23 ± 13.13	32.16 ± 10.91	8.59 ± 7.26	5.92 ± 6.42
	≥ 7	20.26 ± 12.54	29.8 ± 9.59	7.92 ± 6.42	6.07 ± 3.9
Working Hours at Night	< 12	19.24 ± 10.79	28.39 ± 8.14	9.11 ± 6.68	7.77 ± 3.8
	≥ 12	21.61 ± 13.45	31.5 ± 10.68	7.72 ± 6.68	5.31 ± 3.73
Rotating Shift	Has	21.15 ± 12.88	30.7 ± 10.29	8.08 ± 6.79	5.94 ± 3.9
	Does Not Have	16.45 ± 9.19	28.36 ± 4.8	9.18 ± 4.89	7.36 ± 3.88
Physical Activity	Has	21.12 ± 12.71	30.96 ± 10.1	7.84 ± 6.52	5.87 ± 3.89
	Does Not Have	23.95 ± 12.51	29.07 ± 9.95	9.3 ± 7.29	6.61 ± 3.93
Sleeping Time Duration	< 7	22.11 ± 14.18	30.89 ± 9.24	7.79 ± 6.89	5.98 ± 3.67
	≥ 7	19.92 ± 11.4	30.31 ± 10.74	8.42 ± 6.55	6.05 ± 4.09
Desired Sleeping Time Duration	< 9	20.89 ± 12.93	31.03 ± 9.14	7.98 ± 6.92	6.08 ± 3.78
	≥ 9	20.92 ± 12.51	29.86 ± 11.4	8.38 ± 6.36	5.93 ± 4.1
Usual Hour of Beginning Sleep at Night	< 12	19.43 ± 11.76	28.8 ± 9.21	9.16 ± 6.89	7.31 ± 3.92
	≥ 12	21.51 ± 13.11	31.31 ± 10.35	7.71 ± 6.59	5.48 ± 3.77
Usual Hour of Beginning Sleep in the Morning	< 7	19.55 ± 11.41	31.24 ± 10.46	8.07 ± 6.64	6.33 ± 3.81
	≥ 7	22.67 ± 14.15	29.7 ± 9.54	8.22 ± 6.8	5.61 ± 3.99
Number of Waking up while Sleeping During the Night	< 2	21.4 ± 13.05	31.99 ± 10.5	7.62 ± 6.98	5.44 ± 4.06
	≥ 2	20.13 ± 12.27	28.36 ± 9	8.95 ± 6.18	6.92 ± 3.46
Length of time to Fall Sleep	< 25	19.23 ± 11.64	31.6 ± 9.02	8.02 ± 6.89	6.03 ± 3.96
	≥ 25	21.93 ± 13.31	29.94 ± 10.66	8.21 ± 6.59	6.01 ± 3.88
Time Duration of Being Awake during the Night	< 15	21.99 ± 13.67	32.15 ± 10.81	7.73 ± 6.94	5.42 ± 3.9
	≥ 15	19.62 ± 11.47	28.71 ± 8.82	8.61 ± 6.39	6.73 ± 3.8

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	Occupational Burnout Domains				
	Emotional Exhaustion	Personal Performance	Depersonalization	Involvement	
Age	30 >	23.87 ± 15.75	32.75 ± 11	8.38 ± 6.43	6.44 ± 4.07
	≥ 30	23.31 ± 13.52	33.76 ± 10.25	9.93 ± 8.38	7.41 ± 4.45
Gender	Male	17.64 ± 12.94	33.16 ± 11.24	9.88 ± 7.5	7.66 ± 4.66
	Female	25.13 ± 14.73	33.26 ± 10.5	8.95 ± 7.48	6.73 ± 4.16
Marital Status	Married	23.34 ± 13.26	33.97 ± 11.1	9.02 ± 7.41	6.72 ± 4.44
	Single	24.25 ± 15.96	31.41 ± 9.17	9.44 ± 7.71	7.41 ± 3.83
Educational Level	Bachelor	23.36 ± 14.5	33.22 ± 10.56	9.09 ± 7.25	6.93 ± 4.28
	Master	25.94 ± 16.46	33.52 ± 11.58	9.68 ± 9.67	6.78 ± 4.35
Employment Status	Contractual & Others	19.64 ± 13.93	31.85 ± 11.49	8.35 ± 6.42	6.98 ± 4.2
	Others	0.007	0.335	0.507	0.962
Work Experience Duration	< 5	23.28 ± 15.79	33.03 ± 11.54	7.81 ± 6.16	6.18 ± 3.98
	≥ 5	23.85 ± 13.75	33.42 ± 9.87	10.23 ± 8.27	7.52 ± 4.43
Work Experience Duration in the	≤ 2	25.21 ± 14.99	33.25 ± 11.3	7.62 ± 6.48	6.31 ± 4.17
	> 2	21.37 ± 13.98	33.24 ± 9.68	11.18 ± 8.28	7.76 ± 4.29
Emergency Ward	< 7	26.05 ± 15.75	34.59 ± 9.98	9.47 ± 8.58	6.62 ± 4.14
	≥ 7	22.4 ± 14.01	32.59 ± 10.91	8.98 ± 6.91	7.06 ± 4.35
Working Hours in the Day	< 12	19.06 ± 10.99	30.18 ± 10.51	9.68 ± 6.74	8.18 ± 3.97
	≥ 12	25.52 ± 15.61	34.54 ± 10.44	8.91 ± 7.78	6.38 ± 4.3
Rotating Shift	Has	24.12 ± 14.76	33.51 ± 10.75	9.09 ± 7.63	6.86 ± 4.29
	Does Not Have	14.36 ± 9.03	28.54 ± 6.93	10 ± 4.12	7.9 ± 4.06
Physical Activity	Has	22.28 ± 14.55	33.75 ± 10.58	8.68 ± 7.21	6.71 ± 4.23
	Does Not Have	28.69 ± 14.15	31.28 ± 10.71	10.95 ± 8.26	7.73 ± 4.39
Sleeping Time Duration	< 7	25.98 ± 16.37	34.67 ± 9.73	8.86 ± 8.03	6.98 ± 3.93
	≥ 7	21.65 ± 12.86	32.08 ± 11.22	9.37 ± 7.02	6.86 ± 4.56
Desired Sleeping Time Duration	< 9	24.48 ± 15.22	34.08 ± 9.81	9.14 ± 7.87	7.23 ± 4.12
	≥ 9	22.22 ± 13.72	31.95 ± 11.73	9.15 ± 6.87	6.43 ± 4.49
Usual Hour of Beginning Sleep at Night	< 12	21.05 ± 14.27	30.65 ± 10.78	10.58 ± 7.11	8.33 ± 4.52
	≥ 12	24.65 ± 14.74	34.32 ± 10.41	8.55 ± 7.56	6.33 ± 4.04
Usual Hour of Beginning Sleep in the Morning	< 7	21.77 ± 13.32	33.69 ± 10.93	9.12 ± 7.23	7.4 ± 4.37
	≥ 7	25.97 ± 16.02	32.66 ± 10.25	9.16 ± 7.83	6.29 ± 4.09
Number of Waking up while Sleeping During the Night	< 2	23.74 ± 14.21	34.36 ± 10.79	8.2 ± 7.45	6.21 ± 4.24
	≥ 2	23.37 ± 15.44	31.5 ± 10.2	10.61 ± 7.32	8.02 ± 4.11
Length of time to Fall Sleep	< 25	21.64 ± 13.7	34.88 ± 10.17	9.05 ± 7.46	6.91 ± 4.22
	≥ 25	24.8 ± 15.15	32.24 ± 10.81	9.2 ± 7.52	6.92 ± 4.33
Time Duration of Being Awake during the Night	< 15	25.56 ± 15.49	34.93 ± 10.31	8.82 ± 8.12	6.42 ± 4.37
	≥ 15	21.27 ± 13.33	31.25 ± 10.71	9.52 ± 6.66	7.51 ± 4.11

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 work-life 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 hospitalised 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

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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