



Workload and Burnout Among Nurses of a Public Referral Psychiatric Hospital in Tehran, Iran: A Cross-Sectional Study

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Abstract

Background: For many people who work in the nursing profession, a large part of their work involves emotional (psychological) and physical stress. The work environment of psychiatric hospitals imposes a high level of stress to staff due to dealing with patients with psychiatric disorders. Moreover, there is a negative attitude in the society towards patients with mental disorders and mental hospitals. Therefore, it is possible that psychiatric hospital nurses suffer more problems. In this study, workload and burnout have been investigated as two important factors affecting health among nurses working in a psychiatric hospital.

Methods: In this cross-sectional study, a total sample of 82 nurses working in Iran psychiatric hospital was included and participated in the survey. Demographic information questionnaire, Maslach burnout questionnaire and NASA-TLX index were used for data collection.

Results: The depersonalization subscale had the highest score in the burnout variable and the mental stress subscale had the highest score in the workload variable. The results of this study showed that there is a significant and positive relationship between workload and emotional fatigue as well as workload and depersonalization and also no correlation was found between workload and individual performance.

Conclusion: This study shows that workload, emotional fatigue and depersonalization have positive correlation. In addition, the mental stress subscale had the highest score in the workload variable. Further attention to workload and burnout of the nurses in psychiatric hospitals is suggested and future large and multi-center studies on the topic are necessary.

Keywords: Burnout, Nurses, Psychiatric hospital, Workload

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Introduction

The work environment is one of the most important sources of stress in employees and the person who is exposed to stress in the workplace, shows a full range of emotional, cognitive, behavioral and physiological reactions to the various harmful effects of work (1). The relationship that people have with their work and the problems that can occur at work are recognized as a significant phenomenon in the present age. Among the factors that cause psychological stress and even physical stress are workload and burnout. Also, among different occupations and work environments, psychiatric hospital nurses are mentioned as the ones exposed to these two factors (2). Job-related burnout or boredom can be defined literally as a decrease in mental ability that is sometimes associated with depression (3).

The term burnout has been defined as “a state of mental and physical fatigue resulting from one’s professional life” (4). However, Maslach and Jackson defined burnout as a psychological syndrome that occurs in employees who work with other people in challenging situations and is accompanied by emotional exhaustion, depersonalization, pessimistic attitude, and feelings of personal failure. Even today, burnout is defined by these 4 subscales (5). The components of emotional exhaustion and depersonalization indicate a feeling of incompetence and productivity at work (3). Burnout can affect health and lead to physical and mental problems, as well as depression, anxiety, low self-esteem, guilt and a low tolerance threshold (6).

Another concept that is considered as a factor of work pressure is workload. Workload is a complex multidimensional concept and a subset of cognitive ergonomics that is a structure to describe the extent of the physical and cognitive resources involved in performing a particular action and is influenced by external demands, organizational, psychological, and perceptual and cognitive abilities (6). Workload can be due to physical or mental demands. Physical demands arise from the body being in a certain position or posture (such as sitting, standing, or being in a workstation). Workload can also be the result of intellectual demands so that increasing the need for stronger perceptions, cognition, reasoning, and timely and correct decision-making can impose

heavy demands on the information processing ability (5). It is an index of subjective evaluation developed for use in the aviation industry and increasingly used for healthcare and its measurement includes six dimensions of mental stress, physical stress, time pressure, frustration, effort and efficiency (5). Nursing is a profession where a person spends many hours with patients. Since nurses have a closer psychological relationship with patients, this relationship leads to the nurse’s psychological discharge which can lead to symptoms of burnout (2).

Since the environment of psychiatric hospitals causes more stress to staff due to staff dealing with psychiatric patients and uncertainty about patients’ reactions in different situations, it is likely that psychiatric hospital nurses have more problems than non-psychiatric (general) hospital nurses. The studies conducted so far have mostly examined the mental condition of nurses in non-psychiatric hospitals (7). It may reflect the fact that mental hospitals are almost, totally integrated in general hospitals among high-income countries, whereas the majority of psychiatric wards among low and middle income countries are still established in mental hospitals (8). Stressful resources that can lead to burnout for nurses working in psychiatric wards include staff illnesses, improper outsourcing, lack of adequate education, inadequate rewards, patient suicide, and the complexities of patients’ needs (9). Caring for people with mental illness requires efficient and healthy physical and mental manpower (10). For many people who work in the nursing profession, a large part of their work involves emotional (psychological) stress (11).

On the other hand, several studies reported that attitude of substantial general population in low and middle income countries, including Iran, are negative and stigmatizing towards patients with mental disorders as well as mental hospitals, so it is reasonable that this attitude causes suffering and stressful additional burden on psychiatric nurses in the mentioned societies (12). Therefore, the current study was performed to investigate workload and burnout of nurses in Iran Psychiatric Hospital, a referral and large public psychiatric hospital in Tehran, Iran.

Materials and Methods

This descriptive-analytical and also cross-sectional

study was performed among the nurses of Iran Psychiatric Hospital in 2019. The sampling method of the study is census and all nurses with a degree in nursing (expert, master) and assistant nurses in the wards Mehr (including 18 male and female patients with non-psychotic and non-severe disorders), men 1 (including 30 male patients with psychotic and/or severe disorders), men 2 (including 30 male patients with psychotic and/or severe disorders), men 3 (including 30 male patients with addiction and drug treatment disorders), women (including 30 female patients with psychotic and/or severe disorders) and emergency (including 20 male and female patients for acute emergency psychiatric situations) provided services as a nurse and assistant nurses were included. The total number of nurses was 90, of which 82 participated in the survey.

Inclusion criteria were ongoing working as a nurse or assistant nurse in one of the wards of Iran psychiatric hospital and verbal informed consent for participation. There was no exclusion criterion other than rejection to participate.

Data collection tools

In this study, three questionnaires were used including: demographic information questionnaire, Maslach burnout questionnaire, and NASA-TLX index questionnaire. The demographic information questionnaire consists of the variables of age, gender and work experience.

Maslach burnout questionnaire

The Maslach questionnaire was utilized to survey the burnout. The validity of the Persian Version of Maslach burnout questionnaire was confirmed by Robinson JR *et al.* They reported test-reliability of 0.98 (13).

In order to assess the validity of this questionnaire, Maslach and Jackson used Cronbach's alpha method and reported the validity of each subscale in the following equivalent:

In the Maslach Burnout Questionnaire, three personality dimensions were assessed as follows: 9 questions associated with emotional fatigue, 5 related questions regarding depersonalization, and 8 questions related to a sense of self-sufficiency. The frequency of these feelings is from zero to six. The

sub-score obtained in each of the three aspects is based on the reference score (Maslach and Jackson, 1993) in the categories of low, medium or high (14). Considering the classification of burnout into severe, moderate, and severe, Maslach and Jackson performed the test on a wide range of occupations, with the classification and cut-off point obtained for the test subscales as follows:

Emotional fatigue: High: Score above 30, Moderate: Score 18-29, Low: Score below 17.

Depersonalization: High: Score above 12, Average: Score 6-11, Low: Score below 5.

Lack of personal success: High: Score below 33, Moderate: Score 34-39, Low: Score above 40.

NASA workload questionnaire

For the reliability of the NASA workload questionnaire according to studies conducted in nurses of special wards of one of Tehran University of Medical Sciences, Cronbach's alpha coefficient for Persian version of NASA-TLX was reported to be 0.847 (14). The NASA TLX has six subscales, including: mental stress, physical pressure, time pressure, efficiency, labor, and frustration (failure) (15). In this questionnaire, for each field of activity, it was divided into 100 points with 5-point Likert (15).

Data analysis method

After data collection and entering the relevant information into SPSS software version 24, first the descriptive statistics of age, gender, work experience and activity unit were reported. Then, burnout and workload indices were calculated for each individual and reported as central and dispersion indices. Then their relationship (burnout dimensions and workload dimensions separately) was calculated using one-way analysis of variance. Finally, the extent and determination of the presence or absence of correlation between workload with demographic variables and dimensions of burnout were determined using Spearman correlation coefficient. Moreover, Kolmogorov-Smirnov test was used to test the normal distribution of data.

Ethical considerations

There was no interference in job performance and harm to nurses. It is noteworthy that all the work

was done after obtaining the approval from the ethics committee and with the ethics code IR.IUMS.REC.1397.644 from the ethics committee of Iran University of Medical Sciences.

Results

In order to assess the validity of this questionnaire, Maslash and Jackson used Cronbach’s alpha method and reported the validity of each subscale in the equivalent shown table 1.

Among 90 nurses of psychiatric hospital, 82 participated in the survey. The obtained data were summarized and classified using descriptive statistics indicators, and the frequency and percentage of response were examined (Table 2).

The results of calculations of the highest average sub-scores of burnout were obtained as follows: Men 3, average emotional fatigue was 21.2, Women, average individual performance was 23.9, Men 3, average depersonalization was 14.8. It is also noteworthy that the final mean of burnout with 58.73 in the Men 3 ward was higher than other units.

Then, using one-way analysis of variance, a significant difference between the workload dimensions was investigated to determine whether the means of these subscales are significantly different or not. The results of this study are presented in table 3.

According to table 3, the levels of significance in the two dimensions of emotional fatigue and depersonalization are more than 0.05; therefore, it can be stated that there was no significant difference between the average rate of emotional fatigue and depersonalization of people working in different wards of the hospital. But reciprocally, the level of significance in terms of individual performance was less than 0.05, so it can be maintained that there is no significant difference between the average individual performance in various units of the hospital and they are not equally exposed.

According to the obtained data and comparison, the results showed that the average of mental stress was 84.7 and physical stress was 73.6 in the Men 3 ward; time pressure was 85.4, performance was 65, effort was 89.1 and in the Men 2 ward the average of failure was 68.1. These results are presenting the most rate of the variables in every ward.

Then, using one-way analysis of variance, a

Table 1. Validity coefficient of burnout questionnaire according to Maslash and Jackson

Subscales	Method	Credit factor
Emotional fatigue	Cronbach’s alpha	0.92
Depersonalization	Cronbach’s alpha	0.79
Individual performance	Cronbach’s alpha	0.71

Table 2. Descriptive statistics results

Age distribution of nurses participating in the study		
Age	Frequency	Percentage of data frequency
25 to 30 years	31	37.8
30 to 35 years	23	28
35 to 40 years	17	20.7
40 to 45 years	6	7.3
45 to 50 years	5	6.1
Gender distribution of nurses participating in the study		
Gender	Frequency	Percentage of data frequency
Female	56	68.3
Male	26	31.7
Distribution of work experience of nurses participating in the study		
Work experience	Frequency	Percentage of data frequency
1 to 10 years	52	63.4
10 to 20 years	24	29.3
20 to 30 years	6	7.3
Distribution of work unit of nurses participating in the study		
Ward	Frequency	Percentage of data frequency
Women	20	24.4
Emergency	18	22
Mehr	12	14.6
Men’s 1	10	12.2
Men’s 2	11	13.4
Men’s 3	11	13.4

significant difference between workload subscales was investigated. The results of this study are presented in table 4.

According to table 4, it can be observed that there is no significant difference between the average efficiency and the rate of failure of people working in different wards of the hospital. But reciprocally, in the

Table 3. Analysis of variance of burnout

Burnout subscales	Condition	Sum of squares	Average of squares	F	Significance level
Emotional fatigue	Intergroup	692.127	138.425	3.105	0.013
	Intragroup	3388.654	44.588		
	Total	4080.780			
Individual performance	Intergroup	616.007	123.201	9.577	0.000
	Intragroup	977.713	12.865		
	Total	1593.720			
Depersonalization	Intergroup	531.017	106.203	2.259	0.057
	Intragroup	3573.471	47.019		
	Total	4104.488			

Table 4. Workload analysis of variance

Workload subscales	Condition	Sum of squares	Average of squares	F	Significance level
Mental stress	Intergroup	5519.781	1103.956	6.910	0.000
	Intragroup	12141.975	159.763		
	Total	17661.756			
Physical pressure	Intergroup	11251.498	2250.300	4.347	0.002
	Intragroup	39341.490	517.651		
	Total	50592.988			
Time pressure	Intergroup	4165.099	833.020	4.198	0.002
	Intragroup	15082.4962	198.453		
	Total	19247.561			
Performance	Intergroup	626.228	125.246	0.277	0.924
	Intragroup	34347.247	451.937		
	Total	34973.476			
Effort	Intergroup	4143.856	828.771	3.024	0.015
	Intragroup	20825.657	274.022		
	Total	24969.512			
Failure	Intergroup	4304.289	860.858	1.1172	0.331
	Intragroup	55817.967	734.447		
	Total	60122.256			

dimensions of stress, physical stress, time pressure and effort are less than 0.05, thus it can be stated that there is a significant difference between the averages of these dimensions in different wards of the hospital. Finally, using Spearman correlation coefficient, the

relationship between workload, age, work experience and also the dimensions of burnout were investigated. The results are shown in table 5.

According to the items in table 5, which show the correlation between workload and study variables,

Table 5. The correlation between workload and study variables

The effect of workload on variables	The correlation coefficient	p-value
Workload and age	0.102	0.036
Workload and gender	0.037	0.74
Workload and work experience	-0.038	0.74
Workload and emotional fatigue	0.105	0.043
Workload and individual performance	1.000	0
Workload and depersonalization	-0.065	0.023

there was a significant, positive and weak relationship between workload and age. There was a significant, negative and weak relationship between workload variables and work experience. Also, a significant, positive and weak relationship was found between workload variables and emotional fatigue.

Between workload and depersonalization, there was a meaningful, positive and weak relationship. Also, there was no Spearman correlation coefficient between workload and individual performance, and in this case, zero correlation coefficient is synonymous with the independence of the two traits.

Discussion

The aim of this study was to investigate the relationship between workload and burnout of psychiatric hospital nurses in a public referral psychiatric hospital in Tehran, Iran. The results of this study showed that there is a significant, positive and weak relationship between workload, age, emotional fatigue and depersonalization. Also, no correlation was found between workload and individual performance, which indicates the independence of these two traits. Various studies have been conducted in this field and comparing the results with this research can be important, some of which are mentioned in this section.

In the study conducted by Mohebbifar *et al* who analyzed the relationship between workload and dimensions of burnout in nurses in the intensive care unit of a public hospital, the results showed

that workload increases burnout, especially nurses' emotional fatigue (16). It can be stated that Mohebbifar's results are in accordance with the present study in this field and it makes it possible for the nurses of the psychiatric hospital and the intensive care unit of the general hospital to be on the same level in terms of workload and burnout.

However, in the research of Khaghanizadeh *et al* in 2006, with the aim of investigating the rate of burnout in nurses, it was found that the average scores of burnout in nurses in the dimensions of emotional fatigue and personal performance, average and depersonalization are low (17). The results of this study are inverse and corresponds to the level of depersonalization of personality and individual performance.

Also, the results obtained by Saeidi *et al* with the aim of investigating the prevalence of burnout syndrome in health center staff represented that the overall rate of burnout in emotional fatigue and depersonalization was low and in individual performance, it was high (18). Comparison of the results of this study with the present study shows that the scores of the subscales of emotional fatigue are consistent, but the results of other dimensions of burnout are not consistent with each other. It may reflect this fact that compared to other health care workers, physical activity is not so frustrating among nurses in psychiatric hospital, and dealing with patients with psychiatric disorders may cause more emotional fatigue.

Statistical analysis indicated that people of almost all units are equally exposed to emotional exhaustion and depersonalization. However, different attitudes about individual performance were observed in the study units.

Finally, in relation to the age of nurses, as the data analysis showed, there is a significant and positive relationship and indicates that with increasing the age of nurses, the workload may increase. These findings emphasize more support for nurses with longer working history in psychiatric hospitals.

Limitations

Since the completion of the questionnaires was done as a self-report, there was a possibility of answering based on momentary feelings such as fatigue, stress, discomfort, *etc*. Also, due to the different tolerance

thresholds of individuals and their personality traits, answers far from the existing reality are possible. Small sample size and performing the study among nurses of only one psychiatric hospital are other limitations.

Suggestions and implications

Therefore, according to the study and the findings, the suggestions that can be made in the field of minimizing workload and burnout can include the following:

- Performing periodic physical and mental health examinations of nurses, more specifically in vulnerable wards.
- Regular job monitoring of harmful factors in the work environment (which directly and indirectly affect the amount of workload and burnout) by health professionals.
- Elimination of defects of factors that lead to cumulative disorders of health and psychological factors of nurses.
- Holding individual and group meetings to make more accurate decisions to improve the working conditions and health of nurses.
- The presented research should be performed in other psychiatric hospitals as well as psychiatric wards of general hospitals with larger sample size and their results should be compared with each other.
- Factors affecting burnout and workload should be rooted out and investigated.

Conclusion

According to the obtained results, it can be concluded that workload is one of the factors affecting the burnout of psychiatric hospital nurses, and can play a decisive role on their physical and mental health, as long as nursing staff do not have sufficient physical and mental health factors.

Conversely, difficult working conditions may reduce nurses' physical and mental health. Finding and eliminating the factors affecting the health status of nurses may improve the situation.

This study showed that workload, emotional fatigue and depersonalization have positive correlation. In addition, the mental stress subscale had the highest score in the workload variable. Further attention to workload and burnout of the nurses in psychiatric hospitals is suggested and future large and multicenter studies on the topic are necessary.

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Conflict of Interest

The authors do not declare any conflict of interest.

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