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Original

Characteristics of Burnout in Nurses from Sabzevar University of Medical Sciences in Iran

Características del *burnout* en las enfermeras de la Universidad de Ciencias Médicas de Sabzevar en Irán

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Abstract

Introduction: Burnout is caused by fatigue from working in a stressful environment, which leads to antisocial behaviors among employees.

Objective: Describe the level of job burnout and its dimensions among teaching hospital nurses from Sabzevar city, Iran.

Methods: This cross-sectional study involved 127 nurses at hospitals affiliated with Sabzevar University of Medical Sciences in Iran. Job burnout was measured using a 25-question MadSage questionnaire, whereas a separate questionnaire assessed emotional awareness levels. Physical symptoms were evaluated through a 32-question checklist, and difficulties in emotional regulation were measured with a 36-question survey. Data analysis included descriptive statistics such as mean and standard deviation, as well as the Pearson correlation coefficient and regression analysis, using SPSS version 20 software.

Results: The correlation between psychosomatic symptoms and burnout is significant in most subscales ($p < 0.05$). Also, the correlation between psychosomatic symptoms and burnout was 0.427 overall and significant ($p < 0.001$). The results of regression analysis showed that burnout (B = 0.24), negative emotion regulation strategies (B = 0.27) and emotional awareness (B = 0.21) significantly predict physical symptoms ($p < 0.05$).

Conclusion: The results showed that burnout, negative emotion regulation strategies, and emotional awareness significantly predict physical symptoms. Future studies should involve a broader population and explore additional factors related to physical and mental health. It would also be helpful to measure these results in different working conditions, cities, and hospitals.

Keywords: job burnout; emotional awareness levels; emotional symptoms

Resumen

Introducción: El síndrome de *burnout* se debe a la fatiga laboral en un entorno estresante, lo que genera comportamientos antisociales en los empleados.

Objetivo: Describir el nivel de *burnout* laboral y sus dimensiones en enfermeras de hospitales docentes de la ciudad de Sabzevar, Irán.

Métodos: Este estudio transversal involucró a 127 enfermeras de hospitales afiliados a la Universidad de Ciencias Médicas de Sabzevar, Irán. El *burnout* laboral se midió mediante un cuestionario MadSage de 25 preguntas, mientras que otro cuestionario evaluó los niveles de conciencia emocional. Los síntomas físicos se evaluaron mediante una lista de verificación de 32 preguntas, y las dificultades en la regulación emocional se midieron con una encuesta de 36 preguntas. El análisis de datos incluyó estadísticas descriptivas como la media y la desviación estándar, así como el coeficiente de correlación de Pearson y el análisis de regresión, mediante el programa SPSS versión 20.

Resultados: La correlación entre los síntomas psicosomáticos y el *burnout* es significativa en la mayoría de las subescalas ($p < 0,05$). Además, la correlación entre los síntomas psicosomáticos y el síndrome de *burnout* fue de 0,427 en general y significativa ($p < 0,001$). Los resultados del análisis de regresión mostraron que el síndrome de *burnout* (B = 0,24), las estrategias de regulación emocional negativa (B = 0,27) y la conciencia emocional (B = 0,21) predicen significativamente los síntomas físicos ($p < 0,05$).
Conclusión: Los resultados mostraron que el síndrome de *burnout*, las estrategias de regulación emocional negativa y la conciencia emocional predicen significativamente los síntomas físicos. Los estudios futuros deberían incluir una población más amplia y explorar otros factores relacionados con la salud física y mental. También sería útil medir estos resultados en diferentes condiciones laborales, ciudades y hospitales.
Palabras clave: *burnout* laboral; niveles de conciencia emocional; síntomas emocionales.

Introduction

Burnout is an occupational disease in people whose jobs involve client contact.[1] It can be said that this syndrome is caused by fatigue from working in a stressful environment, which leads to antisocial behavior among employees.[2] In general, burnout is divided into three dimensions: emotional fatigue, depersonalization and feeling of ineffectiveness.

The first dimension is the same as the psychological stress variable, referred to as feelings of pressure and a factor in the destruction of emotions. In this case, the person may become apathetic; his work does not stimulate any positive emotions or feelings.[3]

The second has symptoms such as negative and emotionless reactions combined with indifference to other employees and clients, a feeling of isolation, a decrease in daily activity and means the person's psychological separation from his job, a feeling of failure and inability, a decrease in the ability to recognize and a sense of injustice. This dimension ultimately leads to a cruel response to those who usually receive services from that person.[3]

The last dimension of burnout reduces personal productivity and leads to a decrease in the feeling of competence in performing personal tasks and a negative self-evaluation of the work schedule.[3]

Studies indicate that working in high-stress environments, such as working in healthcare settings, is associated with an increased risk of occupational injury, cardiovascular diseases, mental health disorders, and burnout.[4,5] As a result, healthcare workers, including general practitioners, specialists, nurses, and healthcare assistants, face greater burnout and more psychosomatic illnesses than other occupations due to dealing with many factors such as emotional, physical, managerial, and interpersonal pressures.[6] On the other hand, research

has shown that some factors, such as the ability to regulate emotions, can moderate work-related stress and may help reduce symptoms of burnout.

However, little research has been conducted in this area. Although studies show that nurses are exposed to job stress, burnout, and psychosomatic illnesses, studies in this field are insufficient and require further investigation. Therefore, considering the characteristics of working in a stressful hospital environment, this study was designed to describe the level of burnout and its dimensions in teaching hospital staff in Sabzevar city.

Methods

A cross-sectional study was carried out. The participants were nurses from hospitals in Sabzevar University of Medical Sciences. 127 nurses from Sabzevar Medical Sciences hospitals who met the inclusion criteria were randomly included in the study, and after obtaining consent and explaining the research process and objectives, they were assessed using a 25-question Madsage questionnaire to measure burnout which has four subscales: emotional exhaustion, personal performance, depersonalization, and conflict, that measure both the severity and incidence of burnout symptoms. Its validity and reliability in Iranian samples have been proven by Abi Hassanpour et al. [(7)]

In addition, the Emotional Awareness Levels Questionnaire was used to measure emotional awareness levels. This scale includes 20 scenarios, each written in two to four sentences and scored and evaluated based on a 5-point scale. These scores are added up to achieve the highest possible total score of 100. Each scenario includes two people (self and other). These scenes are designed to elicit four emotions: anger, fear, happiness, and sadness. Each scene is presented on a separate page, and each scene is followed by two questions: How would you feel? and How would the other person feel?.[(8)]

Responses are scored separately for each scene. Each response is scored separately for emotions attributed to the self and the other. The lowest score (level zero) is for non-emotional responses. In these responses, emotion is used more to describe thinking than feelings. Level one reflects awareness of physiological cues, for example, ‘I feel tired’. Level two includes words that express general, undifferentiated emotions, such as ‘I feel bad’. Level three includes words that express specific, distinct emotions (such as happiness, sadness, anger).

There are two scoring guides and a vocabulary list for scoring, which are available in a classified form in the vocabulary list of all the levels mentioned, and its reliability and validity have been proven in Iran by Khalili.

The Physical Symptoms Checklist questionnaire was used to measure physical symptoms. It has 32 questions, and classifies symptoms into four categories.[9] The checklist of Shabo, Feizi, Afshar, Hassanzadeh, and Adibi, which has been used to measure physical symptoms in patients with somatic symptom disorders, has 30 questions, and evaluates physical symptoms in four areas: psychological, digestive, respiratory, and general.

The Emotional Regulation Difficulties Questionnaire, which has 36 questions[10] and has been evaluated by Basharat et al. in Iran, was also used.

Inclusion criteria:

- Having worked in the hospital for at least 6 months

Exclusion criteria during the study:

- Unwillingness to complete the questionnaires

Data collection tools:

The 25-item MADSIG questionnaire, which has 4 subscales: emotional exhaustion, personal performance, depersonalization, and conflict, was used to measure both the severity and frequency of symptoms of burnout, and its validity and reliability in Iranian samples have been proven by Abi Hassanpour et al.(11)

Emotional Awareness Levels Questionnaire was also used. This scale includes 20 scenarios, each written in two to four sentences and scored and evaluated on a 5-point scale. These scores are added up to obtain the highest possible total score of 100. Each scenario involves two people (self and other). These scenes are designed to elicit the four emotions of anger, fear, happiness, and sadness. Each scene is presented on a separate page, and two questions are asked after each scene: How would you feel? And how would the other person feel?(12)

Physical Symptoms Checklist Questionnaire was used to measure physical symptoms. It has 32 questions and classifies symptoms into four categories.(9)

The checklist of Shabo, Feizi, Afshar, Hassanzadeh, and Adibi, which has been used to measure physical symptoms in patients with somatic symptom disorders, has 30 questions and evaluates physical symptoms in four areas: psychological, digestive, respiratory, and general.

Emotional Regulation Difficulties Questionnaire has 36 questions[9] and was evaluated by Basharat et al. in Iran.

Data Analysis Method

Descriptive statistics including mean and standard deviation and inferential statistics including Pearson correlation coefficient were used to analyze the data. SPSS version 20 software was also used to process the data.

Ethical Approval

In this study, all procedures performed on human samples were conducted following the relevant guidelines and regulations of the Helsinki Declaration. The study protocol was approved by the Research Ethics Committee (IR.MEDSAB.REC.1399.057) in Sabzevar, Iran.

Results

The mean age of the study participants was 33.2 years ± 7.7 years. 70 participants were male (55.2 %) and 57 were female (44.8 %). 30 participants (28.7%) were single and 97 (71.3 %) were married. The mean work experience among the participants was 10.1 ± 12.4 years.

The mean score of gastrointestinal symptoms among the participants was 24 ± 6. This number was 3.1 ± 6.1 for psychological symptoms. Also, the mean score of respiratory symptoms among the participants was 2.8 ± 2.2 and general skeletal symptoms were 6.1 ± 10.8. In total, the mean score of physical symptoms among the participants was 15.8 ± 25.2.

Regarding the dimensions of burnout, the average score for the fatigue dimension was 32.4 ± 16.1, for the competence dimension 15.4 ± 8.1, for the depersonalization dimension 9.1 ± 9.3, and for the engagement dimension 9.1 ± 5.1. The average score for emotional awareness was 44.7. The average score for positive emotion regulation strategies was 10.4 ± 33.7, and the average score for negative emotion regulation strategies was 10.9 ± 25.6.

Table 1 shows the correlation between different variables. As the table shows, the correlation between psychosomatic symptoms and burnout is significant in most subscales ($p < 0.05$). Besides, the correlation between psychosomatic symptoms and burnout was 0.427 in general and significant at the level of ($p < 0.001$). Moreover, there is a significant correlation between psychosomatic symptoms and burnout with emotion regulation strategies and emotional awareness.

There was no significant correlation between job activity history and any of the categories of psychosomatic symptoms. There was also no significant relationship between fatigue and

incompetence symptoms of burnout and job history. Only the depersonalization subscale has a substantial relationship with work history.

Table 1. The correlation between psychosomatic symptoms and burnout

-Burnout fatigue	-Burnout incompetence	-Burnout personality distortion	-Burnout conflict	Emotional awareness	Positive emotion regulation strategies	Negative emotion regulation strategies	Work history	
***0.290	*0.219	**0.255	***0.328	***-0.257	***-0.313	***0.319	0.033	Psychological symptoms
***0.367	***0.137	0.071	0.131	***-0.330	***-0.342	***0.372	0.067	Gastrointestinal symptoms
***0.508	0.017	**0.277	0.095	-0.118	***-0.369	***0.331	0.003	General skeletal symptoms
***0.354	0.116	0.145	0.082	*-0.196	***-0.347	***0.371	0.022	Respiratory symptoms
***0.477	0.132	*0.192	*0.212	***-0.325	***-0.435	.0***0.462	0.018	All physical symptoms
***1.000	0.144	0.410	***0.273	-0.095	***-0.504	***0.399	0.106	-Exhaustion fatigue
0.144	***1.000	0.010	0.132	***0.182	0.118	0.050	0.122	-Burnout incompetence
***0.410	0.010	***1.000	***0.649	-0.006	***-0.295	*0.200	0.187*	-Burnout personality distortion
***0.273	0.132	***0.649	***1.000	-0.027	***-0.270	**0.258	0.188	-Burnout conflict

Source: own elaboration
Note: $p < 0.5$* $p < 0.01$** $p < 0.001$***

The results of an ANOVA analysis comparing physical symptoms showed a significant difference in fatigue between different hospital departments. However, there was no significant difference in other dimensions of burnout between different hospital departments (table 2).

Table 2. ANOVA analysis for burnout

Significance level	Source of changes
*0.018	Fatigue
0.542	Incompetence
0.480	Depersonalization
0.30	Conflict
0.185	Total burnout

Source: own elaboration
Note: $p < 0.05$*

The results of regression analysis showed that burnout (B = 0.24), negative emotion regulation strategies (B = 0.27), and emotional awareness (B = 0.21) significantly predicted physical symptoms ($p < 0.05$) (table 3).

Table 3. Relationship between burnout, negative emotion regulation strategies, and emotional awareness with physical symptoms

Standard deviation	Significance level	Predictor variable
0.05	*0.008	Job burnout
0.133	*0.003	Negative emotion regulation strategies
0.138	*0.008	Emotional awareness

Source: own elaboration
Note: $p < 0.01$*

Discussion

In the present study, which was conducted on 127 nurses from different hospital departments, it was shown that nurses in orthopedics, operating room, and eye departments had the lowest burnout rates and in oncology, gynecology, and pediatric departments had the highest burnout rates, which is not consistent with some studies. [13, 14] Besides, the results showed that burnout, negative emotion regulation strategies, and emotional awareness significantly predicted physical symptoms.

Mikaili conducted a study to investigate the relationship between thought-action belief fusion and cognitive emotion regulation with occupational stress of nurses working in psychiatric and neurology departments. The research method was a descriptive correlational type, and the statistical sample of this study was 216 nurses from psychiatric and neurology departments in West Azerbaijan, East Azerbaijan, and Ardabil provinces in 2015. The Rachman Thought-Action Belief Fusion Questionnaire, the short form of the Garnpsycho Cognitive Emotion Regulation Questionnaire, and the Occupational Stress Scale of the Health and Safety Executive were used to collect data.

The results of the multivariate correlation coefficient showed that cognitive emotion regulation strategies play a role of 28 % and thought-action belief fusion factors play

a role of 54.7 % in explaining occupational stress in nurses. There is a positive and significant relationship between nurses' job stress and the strategy of catastrophizing, the factor of feeling responsible for positive thoughts and feeling responsible for thoughts of avoiding risk. However, with the strategy of acceptance, refocusing positively and refocusing on planning negatively and significantly. As a result, the results showed that there is a relationship between ineffective strategies and the belief in thought-action fusion with job stress.[15]

In this study, nurses from the emergency, neurology, pediatrics, cardiology, ophthalmology, surgery, orthopedics, internal medicine, ICU, operating room, and psychiatry departments of Emdad, Vasei, and Heshmatiyeh hospitals in Sabzevar were included in the study. Four questionnaires, including the 25-question Madsage questionnaire, the emotional awareness levels questionnaire, the physical symptoms checklist questionnaire, and the emotional regulation difficulties questionnaire, were used to measure different dimensions of burnout and various psychosomatic symptoms. The results showed that nurses in the eye, emergency, and orthopedics departments had the lowest rate of psychosomatic symptoms, and in the pediatrics, ICU, and oncology departments had the highest rate of psychosomatic symptoms.

Nurses in the orthopedics, operating room, and ophthalmology departments had the lowest rate of burnout, and in the oncology, gynecology, and pediatrics departments had the highest rate of burnout. The results also showed that the correlation between psychosomatic symptoms and burnout was significant. Also, there is a significant correlation between psychosomatic symptoms and burnout with emotion regulation strategies and emotional awareness.

There was no significant correlation between job activity history and any of the categories of psychosomatic symptoms. There was no significant relationship between fatigue and incompetence symptoms of burnout and job history. Only the depersonalization subcategory has a significant relationship with work history. The results of the study also indicated that burnout, negative emotion regulation strategies, and emotional awareness significantly predict physical symptoms.

Lavasani studied the role of emotional intelligence, spiritual intelligence, and hard work in nurses' burnout. The results indicated that there were negative and significant relationships between emotional intelligence, spiritual intelligence, and hard work with burnout, and stepwise regression analysis showed that hard work (the commitment component), spiritual intelligence (the personal meaning-making

component), and emotional intelligence (the emotion regulation component) had significant coefficients in predicting nurses' burnout. The findings also showed that the three components of commitment, personal meaning-making, and emotion regulation explained 39 percent of the variation in nurses' burnout.[16]

In this study, the results showed that there was a significant correlation between psychosomatic symptoms and burnout with emotion regulation strategies and emotional awareness, which is in line with the above study. The results of the study also indicated that burnout, negative emotion regulation strategies, and emotional awareness significantly predicted physical symptoms.

Limitations and suggestions

In this study, we investigated the relationship between physical (psychosomatic) symptoms and burnout and the level of emotional development in nurses at Sabzevar University of Medical Sciences. For future studies, a broader statistical population can be used or other conditions involved in physical and mental health and burnout can be investigated. It is also suggested that these results be measured in different working conditions and other cities and hospitals and the status of burnout and physical symptoms should be investigated.

Conclusion

The results showed that burnout, negative emotion regulation strategies, and emotional awareness significantly predict physical symptoms. Future studies should involve a broader population and explore additional factors related to physical and mental health. It would also be helpful to measure these results across different working conditions, cities, and hospitals.

Disclosure of interests

The authors declare that she has no conflict of interests.

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