

## The Relationship between Burnout Dimensions and Psychological Symptoms (Depression, Anxiety and Stress) Among Nurses

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### Abstract

**Introduction:** Working in healthcare jobs and the health sector, where one has to face human communication and health-related issues every day, can cause a lot of stress. Nurses are important members of the healthcare system of a country; they play a crucial role in improving the quality of healthcare. Burnout as the main characteristic of job stress refers to a delayed reaction to chronic stressors at work.

**Objective:** The aim of this study was to determine the relationship between burnout dimensions and psychological symptoms (depression, anxiety and stress) among nurses.

**Material and Methods:** This present study was a descriptive-analytic and cross-sectional study, which was conducted on 270 nurses working in educational hospitals in Rasht (Iran), using stratified random sampling. The research instruments included demographic questionnaire, Maslach burnout inventory and depression, anxiety and stress questionnaire {Depression Anxiety, Stress, Scale (DASS21)}. Data was analyzed using descriptive and inferential statistics (Pearson correlation and regression).

**Results:** The findings showed that there is a significantly positive correlation between burnout dimensions (emotional exhaustion, depersonalization and reduced personal accomplishment) and psychological symptoms (depression, anxiety and stress) in nurses ( $P < 0.001$ ). Burnout also significantly predicted 42%, 25% and 32% of variance in nurses' depression, anxiety and stress respectively ( $P < 0.001$ ).

**Conclusion:** Considering the fact that mental health can positively affect the nursing profession and given the positive relationship between burnout dimensions and psychological symptoms, it is recommended that we must reduce burnout rate by holding emotion regulation-training classes and promote it.

**Keywords:** Professional Burnout, Depression, Anxiety, Psychological Stress, Hospital Nursing Staff

## Introduction

New management theories believe that humans need to work by nature and they try to work to meet the instinctive, physical and daily living needs [1]. Working in healthcare jobs where human communication and health are raised can cause a lot of stress. Among individuals working in health centers, nurses undergo the maximum work pressure. Nursing is a stressful and challenging profession for several reasons. Permanent confrontation with patients, having responsibility for human health, performing clinical procedures, exposure to dying patients, dealing with emergency and unpredictable situations, exposure to too much noise at workplace and shifts turnover are among stress factors affecting the nursing profession [2].

For various reasons, such as the cumbersome nature of patient care, nurses are known as a group at high risk of burnout, which can reduce the quality of care in hospitals [3]. Burnout is defined as mental health damage that is formed in workplace and has three dimensions: 1. Emotional exhaustion that is completely like psychological pressure variable and feeling of being under pressure and the loss of one's emotional resources. 2. Depersonalization is defined as negative and callous answer to people who usually receive the service from a person. This dimension refers to the negative impressions from others. 3. Reduced individual performance: It refers to reduced personal accomplishment in undertaking personal responsibilities and having negative evaluation towards work [4]. There is a general consensus that emotional exhaustion is the central or core dimension of burnout [5]. Burnout, as the main characteristic of job stress, refers to a delayed reaction to chronic stressors at work, which causes numerous adverse effects on the individual and the organization where a person(s) is working as well as on society in the long term [6, 7]. The detrimental burnout effect on

nurses is so much that nurse shortage in industrial countries today is a major problem and finding a solution to it has become a priority [8].

Today, depression is one of the major medical and social issues, which ruined labor, economic and social empowerment of the individual [9, 10]. Workplace stress, depression and anxiety cause lack of confidence and frequent absenteeism. As confirmed by researchers, nurses are among occupational groups who are exposed to stress and mental health problems and these psychological symptoms are among the common complaints [11]. The estimated cost of depression has been calculated more than 8 million dollars in the United States [10]. In a study in Japan, Kawano showed that nurses are at risk of having the highest stressors compared to other occupational groups. This study reported that physical and mental health of nurses affect the quality of service and patient satisfaction [12]. Various studies have been carried out in this area, including the one by Takuda et al. that showed that burnout is negatively correlated with mental health and positively correlated with job dissatisfaction [13]. Hassanzadeh and Pouretminan also found a significant relationship among stress, anxiety and depression and burnout rate. Burnout could explain 64.8% of depression, anxiety and stress [14]. When nurses feel the burnout, they offer poorer care that ultimately causes harm to the hospital as well as patients. Therefore, organizations will pay for the cost of burnout [15]. In order to work properly, human beings should think properly and to do so, they need to be healthy. So, physical, psychological and mental health can have a major effect on manpower's productivity. Depression, anxiety and stress are important psychological issues that can cause emotional problems, spiritual fatigue and hamper mental well-being. They can also be the basis for development of burnout. It

seems necessary to investigate these topics scientifically to prevent problems caused by it. Therefore, the present study aimed to determine the relationship between burnout and psychological symptoms (depression, anxiety and stress) among nurses referred to educational hospitals in Rasht.

### Material and Methods

The present study, which is descriptive-analytic and cross-sectional one, was conducted during the second half of 2014. The study population consisted of all nurses who were working in various wards, including psychiatry, infectious disease, burns, obstetrics and gynecology, pediatric and cardiology of six educational hospitals affiliated to the Gilan University of Medical Sciences in Rasht.

The sample size of 270 people was considered using the Morgan table. These nurses were selected using stratified random sampling, and this was used because all nurses were equally selected from different wards. To collect data at different shifts, the researcher referred to the above centers after obtaining permission of the vice-chancellor for research and technology of Gilan University of Medical Sciences. The researcher later put the questionnaires at nurses' disposal and received them at the end of shifts after obtaining their written consent. On the questionnaires, the researcher dealt with issues like freedom to participate in the study and confidentiality of personal information. So, all participants took part in the study with their consent and voluntarily. Data collection instruments included demographic questionnaire, depression, anxiety and stress questionnaire {Depression Anxiety, Stress, Scale (DASS21)} and Maslach burnout inventory. Demographic questionnaire includes information on age, gender, work experience, marital status, education, employment address, shifts and employment status. In this study, DASS-

21 questionnaire was used and 7 questions were considered for each of the emotional states of depression, anxiety and stress. This is a four-part questionnaire scored based on 4-point Likert scale with no, low, medium and high options scored from 0 to 3, respectively. This questionnaire was first presented by Lovibond [16]. Antony et al., analyzed this scale and obtained Cronbach's alpha coefficient values of 0.97, 0.92 and 0.95 for stress, depression and anxiety, respectively [17]. The reliability of this scale was obtained at 0.70 in a study by Showani et al. [18]. In this study, the internal consistency of the test was evaluated using Cronbach's alpha, the amount of which was 0.77, 0.77 and 0.77 respectively for depression scale, anxiety scale and stress scale.

The third part of the instrument was Maslach burnout inventory, which contains 22 questions on both intensity and frequency in three dimensions: emotional exhaustion, depersonalization and personal accomplishment. Low, average, and high occupational burnout rates in the emotional exhaustion subscale are shown respectively by scores of >17 for frequency and >25 for intensity, between 18-29 for frequency and 26-39 for intensity and <30 for frequency and <40 for intensity. Low, average, and high occupational burnout rates in the depersonalization dimension are shown by scores >15 for frequency and >6 for intensity, between the range of 6-11 for frequency and 7-14 for intensity, and <12 for frequency and <15 for intensity. Low, average, and high occupational burnout rates in the personal accomplishment dimension were shown respectively by scores < 36 for frequency and < 33 for intensity, between the range of 34-39 for frequency and 37-43 for intensity, and > 40 for frequency and > 44 for intensity. Maslach et al., calculated the internal validity for each of the sub-components and internal consistency of 0.83 and 0.84 for frequency and intensity, respectively.

They also calculated the reliability coefficient of 0.82 and 0.53 for frequency and intensity, respectively. Akbari et al., in a study determined the factor validity and psychometric properties of Persian version of the Maslach burnout inventory. They obtained the reliability value of 0.76, 0.60 and 0.70 for emotional exhaustion, depersonalization and personal accomplishment subscales, respectively [19]. For statistical analysis, descriptive statistics (mean and standard deviation) and inferential statistics (Pearson correlation coefficient and simultaneous multiple regression method) was used. Data was analyzed using SPSS V20.

### Results

Descriptive findings showed that the mean age of the sample group was  $34.02 \pm 5.970$  years. Female and male participants accounted for 265 (98.1%) and 5 (1.9%) of the total subjects, respectively. Also, the number of participants with BS and MS in nursing was 265 (94.4%) and 15 (5.6%) of

the respondents, respectively. Permanent, contractual and temporary nurses accounted for 98 (36.3%), 79 (29.3%) and 93 (34.4%) among the subjects, respectively.

Pearson's correlation coefficient showed positive and significant relationship between burnout dimensions (emotional exhaustion, depersonalization and reduced personal accomplishment) and psychological symptoms (depression, anxiety and stress) (table 1). The above table shows that there is a significant positive relationship between burnout dimensions and psychological symptoms (depression, anxiety and stress, which are considered as criterion variable and has been predicted based on predictive variable (burnout) in this study. Thus, each psychological symptom was individually based on burnout). Also, to predict the psychological symptoms, simultaneous studies were undertaken based on burnout and regression analysis, the results of which have been reported in table 2.

**Table 1. Correlation coefficients between burnout and psychological symptoms**

Variable	Depression	Anxiety	Stress
<b>Emotional exhaustion (frequency)</b> Sig.*	0.21 0.001	0.12 0.044	0.15 0.012
<b>Emotional exhaustion (intensity)</b> Sig.*	0.57 0.0001	0.45 0.0001	0.54 0.0001
<b>Depersonalization (frequency)</b> Sig.*	0.36 0.0001	0.35 0.0001	0.47 0.0001
<b>Depersonalization (intensity)</b> Sig.*	0.33 0.0001	0.30 0.0001	0.41 0.0001
<b>Lack of individual success (frequency)</b> Sig.*	0.27 0.0001	0.27 0.0001	0.34 0.0001
<b>Lack of individual success (intensity)</b> Sig.*	0.14 0.023	0.18 0.003	0.18 0.003

\*Pearson Correlation Test

**Table 2: Prediction of psychological symptoms based on burnout**

<b>Depression prediction</b>					
<b>Predictor variable</b>	<b>F</b>	<b>Sig.</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>SE</b>
<b>Burnout</b>	31.866	0.0001	0.650	0.423	6.150
<b>Anxiety prediction</b>					
<b>Predictor variable</b>	<b>F</b>	<b>Sig.</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>SE</b>
<b>Burnout</b>	17.632	0.0001	0.5	0.250	6.829
<b>Perceived stress prediction</b>					
<b>Predictor variable</b>	<b>F</b>	<b>Sig.</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>SE</b>
<b>Burnout</b>	32.079	0.0001	0.571	0.326	7.419

Results in table 2 show that burnout with observed f value of 31.86 predicted 42% ( $R^2= 0.42$ ) of the variance of depression in nurses ( $P<0.0001$ ).

Burnout also with observed f value of 17.63% predicted (25% ( $R^2= 0.25$ )) of the variance in anxiety in nurses ( $P<0.0001$ ).

The burnout rate with observed f value of 32.07% significantly predicted 32% ( $R^2= 0.32$ ) of the variance in stress among nurses ( $P<0.0001$ ). So, the findings indicate that burnout has the highest potential to cause depression in nurses.

### **Discussion**

Results of this study showed that there is a significant positive correlation between psychological symptoms (depression, anxiety and stress) and all dimensions of burnout. In other words, the more severe the psychological symptoms (depression, anxiety and perceived stress), the higher is the burnout level.

The results of regression analysis also showed that burnout can significantly predict 42%, 25% and 32% of variance in depression, anxiety and stress among nurses, which is consistent with the results of other studies that showed significant

relationship between burnout and general health and well-being of employees [20–25].

For example, Chiu et al., showed in their findings that there is a positive and significant relationship between burnout and severity of depression symptoms in patients who suffer from depressive disorders [20]. Findings of the research conducted by Schonfeld & Bianchi showed that there is a direct correlation between burnout and depression among school teachers so that 86% of teachers who were suffering from burnout were characterized by depression disorders [21]. Pereira-Lima & Loureiro showed a positive relationship between burnout and mental health problems and a negative correlation between burnout and social skills in medical residents [22]. The results obtained by Ahola et al. also suggest a positive relationship between burnout and depression in the working context so that psychological characteristics of the work environment can affect the depression formation and development of burnout among staff [23]. The results obtained by Soleymannejad et al., who aimed to determine the relationship between coping styles and burnout with mental health among practitioners, showed that there is a

significant relationship between burnout and mental health [24]. Hamid et al., also showed that physicians with higher emotional exhaustion and depersonalization are more likely to have mental health problems [25]. As an explanation, it can be argued that individuals who are at risk of burnout are usually very idealistic and put too much effort to achieve their occupational goals and standards. When they see that their efforts were not met, they first experienced mental energy loss and emotional exhaustion and due to acute and chronic psychological pressures in the long term, they physically and cognitively feel they are not capable of self-rehabilitation. It can be expected that a kind of pessimism will be formed in them about their efforts and even others which leads to high levels of depression and anxiety levels in a person's career. In other words, if the nurses do not value their abilities and ignore them as well, they will have no happiness and well-being at work and will experience meaninglessness and see lack of control in their job [24, 25].

Finally, it should be noted that higher the sense of personal accomplishment, higher the level of mental health. This means that if individuals feel that they are capable of meeting the psychological needs of others, their health status will improve both physically and psychologically. It seems that workplace stress-induced problem can affect mental health of nurses and cause a sense of helplessness and depression in them. The persistent stress and anxiety could endanger the physical and mental balance and lead to issues such as resignation, frequent absenteeism, and loss of energy and reduced work efficiency. Thus, it can be said that the risk of burnout in nurses will more likely have a major effect on their mental health and prevention of burnout plays a significant role in increasing the number of healthy nurses as well as boosts health treatment practices in patients. Finally, it can be

concluded that failure to achieve personal aspirations leads to increased emotional exhaustion, followed by the rise of alienation and depersonalization and reduced feeling of individual achievements (and reduced personal accomplishment) among nurses. Given the importance of mental health of nurses such as significant role in care and the nature of the profession and given the positive relationship between burnout dimensions and psychological symptoms, it is essential to hold emotional regulation dialectic classes and promote it among nurses in order to reduce burnout.

On the other hand, with regard to the relationship between psychological symptoms and burnout, it is essential to investigate the impact of healthy methods to deal with psychological symptoms in order to reduce the burnout rate in future researches. Mental health status of subjects affects the results during the questionnaire completion phase.

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