



## Burnout level of nurses working in a hospital

Burnout syndrome

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### Abstract

**Aim:** This descriptive study was performed to determine burnout level of nurses working at Ümraniye Training and Research Hospital, Pediatrics Clinic. **Material and Method:** Data were collected from 104 nurses who work in the pediatrics clinic using a sociodemographic form and the Maslach Burnout Inventory. **Results:** According to the analysis of the sociodemographic properties of the participating nurses, 75% were female; 81.7% were between 20 and 30 years of age; 65.4% were married; 57.7% were college graduates; 55.8% had an average income level; 10.6% had chronic illnesses; and 23.1% had children. Fifty-nine point six of the nurses had been working at the intensive care unit, 26% at the pediatrics clinic, 7.7% at operating theatre, and 6.7% were managing nurses. The mean scores of the emotional exhaustion, depersonalization, and personal accomplishment subdimensions were  $12.87 \pm 7.01$ ,  $3.04 \pm 3.46$ , and  $22.67 \pm 4.77$ , respectively. A comparison of the mean EE (emotional exhaustion) subdimension score by work unit revealed that the intensive care nurses had a significantly lower EE score than the pediatric clinic nurses ( $p: 0.001$ ;  $p < 0.05$ ). They also had a significantly higher EE score than the operating theatre nurses ( $p: 0.030$ ;  $p < 0.05$ ). A comparison of the D (depersonalization) subdimension scores that the intensive care nurses had a significantly lower mean D score compared to the medical ward nurses ( $p: 0.003$ ;  $p < 0.05$ ). A comparison of the mean PA (personal accomplishment) subdimension scores by work unit showed that the managing nurses had a significantly higher mean score than the medical ward nurses ( $p: 0.011$ ), the intensive care nurses ( $p: 0.009$ ), and the operating theatre nurses ( $p: 0.012$ ) ( $p < 0.05$ ). **Discussion:** Our study revealed that nurses suffer a moderately severe level of burnout, particularly evident in the emotional exhaustion and personal accomplishment subdimensions. Burnout among nurses should be prevented, and when it develops, every attempt should be made to treat it.

### Keywords

Nurses; Burnout Syndrome; Risk Factors

DOI: 10.4328/JCAM.5726 Received: 26.01.2018 Accepted: 04.03.2018 Published Online: 08.03.2018 Printed: 01.07.2018 J Clin Anal Med 2018;9(4): 315-8  
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## Introduction

An individual's job satisfaction is central for promotion of his/her self-happiness and service quality. The "burnout" concept was first used by Freudenberg to express an exhausted state among healthcare workers [1]. Maslach, Schaufeli, Leiter defined burnout as a response of individuals working in human services, and they categorized it into three subdimensions as emotional exhaustion, depersonalization, and reduced personal accomplishment [2].

Burnout is associated with physical symptoms such as tiredness, weakness, headache, loss of energy, lack of motivation, negative attitude to ward others, alienation to close surroundings, and chronic fatigue [3]. It also leads to behavioral signs such as making frequent mistakes, being late to work, frequent sick leaves, quitting job, being closed to constructive criticism, reduced productivity, being socially withdrawn, having impaired job attitudes, and getting a lower job satisfaction [4].

Nurses tend to have burnout since they lack a clear and precise definition of their profession, their members with different levels of education do the same work, and they work with an intensive work tempo.

This descriptive study was performed to determine burnout level of nurses working at Umraniye Training and Research Hospital, Pediatrics Clinic.

Two forms were used for data collection. The first one included demographic questions about sex, age, marital status, professional expertise, educational status, and work unit. This form also included questions about job satisfaction. The second form was the 22-item Maslach Burnout Scale (MBS) which includes nine questions about emotional exhaustion (EE), five questions about depersonalization (D), and eight questions about personal accomplishment (PA). Each of the three subdimensions of the scale are separately assessed. Zero to 36 points can be earned for emotional exhaustion, 0 to 20 points for depersonalization, and 0 to 32 points for personal accomplishment. Getting higher scores for the emotional exhaustion and depersonalization subdimensions and a lower score for the personal accomplishment score indicate the presence of burnout. The scale's reported Cronbach alpha value has a EE of 0.90, a D of 0.79, and a PA of 0.71 [5].

## Evaluation of the data

The study data were analyzed using IBM SPSS Statistics 22 (IBM SPSS, Turkey) software package. Normality of distribution was tested with the Shapiro Wilk test. Descriptive statistics were reported as mean, standard deviation, and frequency. Oneway ANOVA test was used to compare quantitative variables with normal distribution while variables without normal distribution were compared using the Kruskal Wallis test, followed by the Mann Whitney-U test to determine the significantly different pairs. Student's t test and Mann Whitney-U test were used for paired comparisons of normally distributed and non-normally distributed variables, respectively. Pearson's correlation analysis was used for bivariate correlation analysis of normally distributed variables. A p value of less than 0.05 was considered statistically significant.

## Results

According to the analysis of the forms properties of the participating nurses, 75% of them were female; 81.7% were between 20 and 30 years of age; 65.4% were married; 57.7% were college graduates; 55.8% had an average income level; 10.6% had chronic illnesses; and 23.1% had children (Table 1). Seventy-one point one percent of the nurses were working for 0-5 years, 16.3% for 5-10 years, and 10.6% for more than 10 years. Eighty-nine point four percent of the nurses had chosen their profession voluntarily; the average working duration was 2.5 years; sixty point six percent had formerly worked at another healthcare facility; eighty-one point seven percent of them worked for more than 40 hours a week. Fifty-nine point six of the nurses had been working at the intensive care unit, 26% at the pediatrics clinic, 7.7% at the operating theatre, and, 6.7% of them were managing nurses.

Table 1. Sociodemographic properties of nurses

		n	%
Gender	Female	78	75
	Male	26	25
Age	20-29	85	81,7
	30-39	16	15,4
	>40	3	2,9
Marital status	Single	68	65,4
	Married	36	34,6
Family size	Nuclear	94	90,4
	Wide	10	9,6
Children	Yes	24	23,1
	No	80	76,9
Child number	No	80	76,9
	1	15	14,4
Monthly salaries	≥2	9	8,7
	Inadequate	32	30,8
	Mediate	58	55,8
Chronic illnesses	Good	14	13,5
	With	11	10,6
Educational status	Without	93	89,4
	Highschool	44	42,3
	Collage	60	57,7

Seventy-nine point eight of the nurses reported job satisfaction whereas 20.2% did not. Among 21 nurses who had job satisfaction, 76.2% complained of their working conditions, 14.3% complained of their inadequate montly salaries, and 9.5% of them complained both.

Thirty-five point six percent of nurses always felt burnt out, 41.3% of them sometimes felt burnt out, and 23.1% of them never felt burnt out.

The mean scores of the emotional exhaustion, depersonalization, and personal accomplishment subdimensions were  $12.87 \pm 7.01$ ,  $3.04 \pm 3.46$ , and  $22.67 \pm 4.77$ , respectively (Table 2). No significant differences were found between the subdimensions with respect to age, marital status, volunteer of the choice of profession, professional working duration, or child bearing ( $p > 0.05$ ).

Table 2. Subdimensions scores

		Min-Max	Mean±SD
Emotional exhaustion		0-36	12,87±7,01
	Low risk	49	47,1
Emotional exhaustion n,%	Modarate risk	32	30,8
	High risk	23	22,1
Depersonalization		0-21	3,04±3,46
	Low risk	89	85,6
Depersonalization n,%	Modarate risk	12	11,5
	High risk	3	2,9
Personal accomplishment		3-32	22,67±4,77
	Low	31	29,8
Personal accomplishment n,%	Modarate	43	41,3
	High	30	28,8

A comparison of the mean EE subdimension score by work unit revealed that the intensive care nurses had a significantly lower EE score than the pediatric clinic nurses ( $p:0.001$ ;  $p<0.05$ ). They also had a significantly higher EE score than the operating theatre nurses ( $p:0.030$ ;  $p<0.05$ ).

A comparison of the D subdimension scores by work unit showed that the intensive care nurses had a significantly lower mean D score compared to the medical ward nurses ( $p:0.003$ ;  $p<0.05$ ). A comparison of the mean PA subdimension scores by work unit showed that the managing nurses had a significantly higher mean score than the medical ward nurses ( $p:0.011$ ), the intensive care nurses ( $p:0.009$ ), and the operating theatre nurses ( $p:0.012$ ) ( $p<0.05$ ).

There was a significant positive correlation at a level of 47% between EE and D subdimensions ( $p:0.001$ ;  $p<0.05$ ). While there was no significant correlation between D and PA subdimensions ( $p>0.05$ ), there was a significant inverse correlation at a level of 43.2% between D and PA subdimensions ( $p:0.001$ ;  $p<0.05$ ) (Table 3).

Table 3. Comparison of the mean subdimensions scores by work unit

Work unit	EE	D	PA
	Mean±SD (median)	Mean±SD (median)	Mean±SD (median)
Managing	11.86±5.81 (11)	3.29±2.3 (3)	26.71±3.59 (27)
Medical Ward	18.3±7.82 (17)	4.96±5.13 (4)	22.04±5.4 (24)
Intensive care	10.82±5.58 (11)	2.29±2.32 (2)	22.61±4.53 (23.5)
Operating theatre	11.25±6.41 (9)	2.13±2.47 (1.5)	21.75±4.27 (23)
p	0.001*	0.021*	0.048*
Kruskal Wallis Test	* $p<0.05$		

## Discussion

The present study, conducted to determine the level of burnout and factors affecting burnout among nurses working at a Training and Research Hospital, demonstrated an average emotional exhaustion score of  $12.87±7.01$ , indicating a moderate level of burnout. The mean depersonalization (D) score was  $3.04±3.46$ , indicating a low level of burnout while the mean personal accomplishment (PA) score was  $22.67±4.77$ , indicating a moderate level of burnout.

A former study including 403 nurses from a university hospital showed a mean EE score of 17.4, a mean D score of 6.5, and a mean PA score of 21.5 [5]. In our study the mean EE and D scores were low whereas the mean PA score was higher. We believe that this difference stemmed from the participation of managing nurses. As already stated, an increased knowledge and skill level promotes the sense of personal accomplishment of nurses while reducing their risk of burnout.

Rapasto et al.[6] reported a high prevalence of burnout among nurses. We did not find any significant correlation between age and burnout subdimension scores. Taycan et al. [7] reported that the personal accomplishment score was lower among younger persons, which they linked to an increased ability of developing more effective ways to cope with work-related problems with aging, and an increased self-perception of being more competent as a natural consequence of professional maturation over time.

Among participants of our study, 65.4% were married, depersonalization subdimension scores did not significantly differ by marital status. Sünter et al. [8] also reported that they failed to show any significant differences between MBS subdimension scores of married and single persons.

We did not detect any significant correlation between sex and burnout subdimension scores. Although prior studies aimed to determine the effect of gender on burnout have yielded conflicting results, it is reasonable to state that burnout is more prevalent among women than men [9-10]. We believe that a lower number of male nurses in our study may have influenced our results. Basim et al. [11], in a study dated 2006, showed that working duration did not change the EE subdimension score, and there was a significant difference in the D subdimension score only between working durations of 1-6 years and 14-20 years. The authors also reported that the PA subdimension scores increased proportionally with working duration, and the lowest age group had significantly different mean scores than the other groups.

It is generally thought that with increasing total duration of service and aging, a person is more likely to commit to and embrace his/her job, and at the same time he or she more easily adapts to working conditions. In our study, a comparison of subdimension scores by work unit showed that the intensive care nurses had significantly lower EE and D scores compared to the medical ward nurses ( $p<0.05$ ). Also, EE score of the intensive care nurses was significantly higher than that of the operating theatre nurses ( $p<0.05$ ). Öztürk et al. [5] reported that intensive care nurses had higher mean EE and D scores than the other groups. Similarly, Embriaco et al. [12] reported that a third of intensive care nurses suffered burnout. The authors stressed that caring for patients who are at risk of death and require intensive care in addition to working under heavy workload and time pressure may cause a greater prevalence of burnout among these nurses. In our opinion, as our study participants were solely in charge of care and treatment of pediatric patients, our results may have been discordant with the data published in the literature. We showed that the managing nurses had a significantly higher PA subdimension score than the medical ward nurses ( $p:0.011$ ), intensive care nurses ( $p:0.009$ ), and operating theatre nurses ( $p:0.012$ ). Cimete et al.

[13] reported a higher job satisfaction score among managing nurses than nurses that were directly involved in patient care. Lacovides et al.[14], on the other hand, reported no significant work unit related difference in burnout scores. They also reported that burnout did not develop due solely to workplace stress. We determined a significant positive correlation between EE and D subdimension scores and a significant negative correlation between D and PA subdimension scores. However, no significant correlation existed between EE and PA subdimension scores. Altay et al. [15] reported that the D subdimension score had a significant moderate-level correlation with EE and PA scores but they could not detect any significant correlation between EE and PA.

In conclusion, our study revealed that nurses suffer a moderately severe level of burnout, particularly evident in the emotional exhaustion and personal accomplishment subdimensions. Burnout among nurses should be prevented, and when it develops, every attempt should be made to treat it. We are of the opinion that in order to promote nurses' personal improvement and motivation, it may be useful to develop measures and strategies to solve psychological problems of healthcare staff, such as establishing educational environments, encouraging scientific studies, promoting sense of belonging and trust, and establishing psychological support units.

#### **Scientific Responsibility Statement**

*The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.*

#### **Animal and human rights statement**

*All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.*

#### **Funding: None**

#### **Conflict of interest**

*None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.*

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#### **How to cite this article:**

*Erdoğan S, İnan E. Burnout level of nurses working in a hospital. J Clin Anal Med 2018;9(4): 315-8.*