Original Article/*Özgün Araştırma*

doi: 10.54875/jarss.2024.47550

The Association Between Burnout and Job Satisfaction Among Intensive Care Nurses: Exploring Influencing Factors

Yoğun Bakım Hemşirelerinde Tükenmişlik ve İş Doyumu Arasındaki İlişki: Etkileyen Faktörlerin Araştırılması

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ABSTRACT

Objective: To determine the relationship between job satisfaction (JS) and burnout syndrome among intensive care unit (ICU) nurses, and examine the factors influencing burnout and JS.

Methods: After ethical approval, a questionnaire form, the Maslach Burnout Inventory (subscales D: Depersonalization, PA: Personal Accomplishment, and EE: Emotional Exhaustion) and the Minnesota Satisfaction Questionnaire (subscales IS: Intrinsic Satisfaction, ES: Extrinsic Satisfaction, and GS: General Satisfaction) were administered to volunteer nurses working in adult level 3 ICUs in eight tertiary hospitals in Ankara.

Results: Four hundred forty-nine nurses participated in the study. Burnout subscales were negatively correlated with JS subscales ($p<0.05$). With increasing age, burnout decreased in both D and PA subscales; as years of experience increased, burnout decreased in the PA subscale. Female nurses, nurses without children, and those working less than 40 hours had lower burnout on the PA subscale ($p<0.05$). Nurses who did not have health problems, transport and financial difficulties, who had social support, and who chose their profession purposely had lower EE and D scores ($p<0.05$). Nurses working in internal medicine ICUs, who were married, healthy, chose their profession, and had social support had higher JS scores ($p<0.05$).

Conclusion: Among ICU nurses, JS decreases as burnout increases. Factors influencing burnout and JS include age, sex, marital status, parenthood, health status, social support, voluntary career choice, type of ICU worked in, experience, working hours, and financial and transport difficulties.

Keywords: Intensive care units, nursing, burnout, job satisfaction

ÖZ

Amaç: Yoğun bakım ünitesi (YBÜ) hemşirelerinde iş doyumu (İD) ve tükenmişlik sendromu arasındaki ilişkiyi belirlemek ve tükenmişlik ve İD'yi etkileyen faktörleri incelemek.

Yöntem: Etik kurul onayı sonrası, Ankara'daki sekiz üçüncü basamak hastanenin erişkin 3. düzey YBÜ'lerinde çalışan gönüllü hemşirelere bir anket formu, Maslach Tükenmişlik Envanteri (alt ölçekler D: Duyarsızlaşma, KB: Kişisel Başarı, DT: Duygusal Tükenme) ve Minnesota Doyum Anketi (alt ölçekler IS: İçsel Doyum, ES: Dışsal Doyum ve GS: Genel Doyum) uygulandı.

Bulgular: Araştırmaya 449 hemşire katıldı. Tükenme alt ölçekleri İD alt ölçekleri ile negatif korelasyon gösterdi ($p<0,05$). Yaş arttıkça hem D hem de KB alt ölçekleri; deneyim yılı arttıkça da KB alt ölçeğinde tükenme azaldı. Kadın, çocuğu olmayan ve 40 saatten az çalışan hemşireler KB alt ölçeğinde daha düşük tükenmişliğe sahipti ($p<0,05$). Sağlık sorunu, ulaşım ve ekonomik zorluğu olmayan, sosyal desteği olan ve mesleğini isteyerek seçen hemşirelerin DT ve D tükenme puanları daha düşüktü ($p<0,05$). Dahiliye YBÜ'de çalışan, evli, sağlıklı, mesleğini kendi seçen ve sosyal desteği olan hemşirelerin İD puanları daha yüksekti ($p<0,05$).

Sonuç: Yoğun bakım ünitesi hemşireleri arasında tükenmişlik arttıkça İD azalmaktadır. Tükenme ve İD'nu etkileyen faktörler arasında yaş, cinsiyet, medeni durum, çocuk sahibi olma, sağlık durumu, sosyal destek varlığı, gönüllü kariyer seçimi, çalışılan YBÜ'nin türü, deneyim, çalışma saatleri, ekonomik ve ulaşım zorlukları yer almaktadır.

Anahtar sözcükler: Yoğun bakım üniteleri, hemşirelik, tükenme, iş doyumu

Received/Geliş tarihi : 24.06.2024
Accepted/Kabul tarihi : 11.07.2024
Publication date : 29.07.2024

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Cite as: Kayar Calili D, Un C, Kilci O, Macit Aydın E, Donmez F, Dikmen B, Baydar M. The association between burnout and job satisfaction among intensive care nurses: Exploring influencing factors. JARSS 2024;32(3):159-166.

INTRODUCTION

Burnout syndrome, characterized by emotional and physical exhaustion, impairs work performance and relationships (1). Intensive care unit (ICU) nurses are particularly vulnerable to burnout due to the critical nature of their patients and the demanding work environment (2,3). Burnout is assessed in three dimensions. Emotional exhaustion (EE) refers to the individual's feeling of exhaustion in relation to work/outcomes, depersonalization (D) indicates a lack of empathy for and/or cynicism towards colleagues and patients, and personal accomplishment (PA) refers to the individual's perception of a lack of ability and achievement (1,2). Burnout can affect all aspects of healthcare delivery and impact on the mental and physical well-being of the employee. Factors associated with burnout in nurses may include personal characteristics, organizational factors, quality of working relationships, and exposure to end-of-life issues (4,5).

Job satisfaction (JS), on the other hand, is defined as the extent to which employees' physical, psychological and social expectations are met, and JS is assessed as an emotional response to working conditions and work values (6). Employees who are highly satisfied with their jobs have been shown to be more productive and creative (6). The lack of JS can lead to general life dissatisfaction, health problems, and a decrease in work performance, which is particularly significant for ICU nurses (7). Studies suggest that burnout and JS are inversely related, with higher job satisfaction leading to lower burnout among nurses (3,6). It is also known that burnout varies between countries (8). The demanding nature of the ICU may predispose nurses to medical errors with potentially catastrophic consequences. Although studies have been conducted on burnout and JS among nurses in our country (7,9), to the best of our knowledge, no multicenter study has been conducted to evaluate both burnout and JS among nurses in level 3 adult ICUs in tertiary care hospitals. Therefore, the aim of this study was to investigate the relationship between burnout and JS among level 3 ICU nurses in Ankara, and investigate the factors influencing both burnout and JS in this population.

MATERIAL and METHODS

Our study was designed as a descriptive prospective study. Ethical approval (Numune Training and Research Hospital Ethics Commitee approval number: 483) was obtained, and the study was also approved by the participating hospitals. The data collection process was planned to be conducted with a total of 625 adult level 3 ICU nurses working in eight tertiary hospitals in Ankara.

Nurses were provided with a package containing a questionnaire about their social life and characteristics, the Maslach Burnout Inventory (MBI), and the Minnesota Satisfaction Questionnaire (MSQ) scales for self-completion and subsequent collection.

The nurses' demographic questionnaire assessed age, gender, marital status (married/single), number of children, smoking and alcohol habits, and concomitant health problems. It also asked about educational background, years of nursing and ICU experience, and weekly working hours. In addition, the questionnaire explored professional aspects. Nurses reported the type of ICU they worked in and whether they chose their profession purposely. They also reported whether they had social support and if they had financial or transport difficulties.

The MBI is a well-validated 22-item instrument designed to assess three core dimensions of burnout: EE, D, and PA (10). Each dimension is measured using a subscale: EE by 9 items (numbers 1, 2, 3, 6, 8, 13, 14, 16, 20), D by 5 items (numbers 5, 10, 11, 15, 22), and PA by 8 items (numbers 4, 7, 9, 12, 17, 18, 19, 21). In the present study, we used the Turkish version of the MBI adapted by Ergin (11). The original MBI uses a 7-point Likert scale (0-6), whereas the Turkish adaptation uses a 5-point Likert scale (0-4). Nurses responded to each item using a frequency scale ranging from "never" (0 points) to "every day" (4 points). Subscale scores were calculated by summing the responses to each question. Higher scores on the EE and D subscales indicate greater burnout, whereas higher scores on the PA subscale reflect less burnout.

The MSQ is a well-validated 20-item instrument designed to assess three key dimensions of job satisfaction (JS): intrinsic satisfaction (IS), extrinsic satisfaction (ES), and general satisfaction (GS) (12). Each dimension is measured by one subscale: IS with 12 items (numbers 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, 20), ES with 8 items (numbers 5, 6, 12, 13, 14, 17, 18, 19), and GS with all 20 items. The Turkish version, validated by Baycan, uses a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied) for each question (13). Subscale scores are calculated by summing the responses to each question within the subscale. The GS score is calculated in the same way, resulting in a value between 1 and 5.

Data analysis was performed using the 'SPSS for Windows 11.5' package program. The Kolmogorov-Smirnov and Levene's tests were respectively used to investigate whether the assumptions of normal distribution and homogeneity of variances were met. Categorical data are expressed as numbers (n) and percentages (%), and quantitative data are expressed as mean± standard deviation or median (min-max). Differences in burnout and JS scores between groups were assessed using the Mann-Whitney U test when there were two independent groups, and the Kruskal-Wallis test was used to investigate the significance of differences between more than

two groups. When the p-values from the Kruskal-Wallis test were statistically significant, Conover's multiple comparison test was used to determine which group differed from the others. The degree of association between continuous variables was assessed using Spearman's rank correlation analyses. A p-value of less than 0.05 was considered statistically significant.

RESULTS

A total of 625 questionnaires were sent to participating centers, 464 of which were returned. Questionnaires with incomplete or inaccurate data (n=15) were excluded from the analysis. As a result, 449 nurses were included in the study (Figure 1). The distribution of nurse characteristics is shown in Table I.

The correlation between all burnout and JS subscale scores was found to be inversely significant (p<0.001) (Table II).

The correlation between age and years of nursing experience, and the PA subscale was found to be inverse and significant (r= -0.147, p=0.002 and r= -0.141, p=0.003). The correlation between age and the D subscale was found to be significant (r= -0.120, p=0.011). The correlation between age, years of professional experience, and JS subscales was not significant. There was no significant correlation between years of ICU experience and the burnout and JS subscales (Table III).

There was no difference in burnout subscale scores between nurses according to the type of ICU they worked in, but those working in internal medicine ICUs had significantly higher IS and GS scores compared with nurses in other ICUs (p<0.05).

Male sex was associated with a significant decrease in PA subscale scores (p=0.026). There was a significant difference in PA scores between nurses with no children and those with two children (p=0.007) and those with more than two children (p=0.013). There was also a statistically significant difference in PA scores between nurses with two children and those with more than children (p=0.022; p<0.05). Nurses who had no health problems or financial difficulties, those who received social support, and those who chose the profession purposely had lower scores on the EE and D subscales (p<0.05). Burnout scores on the PA subscale were lowest among nurses working >50 hours per week. There was a significant difference in PA scores between nurses working <40 hours per week,

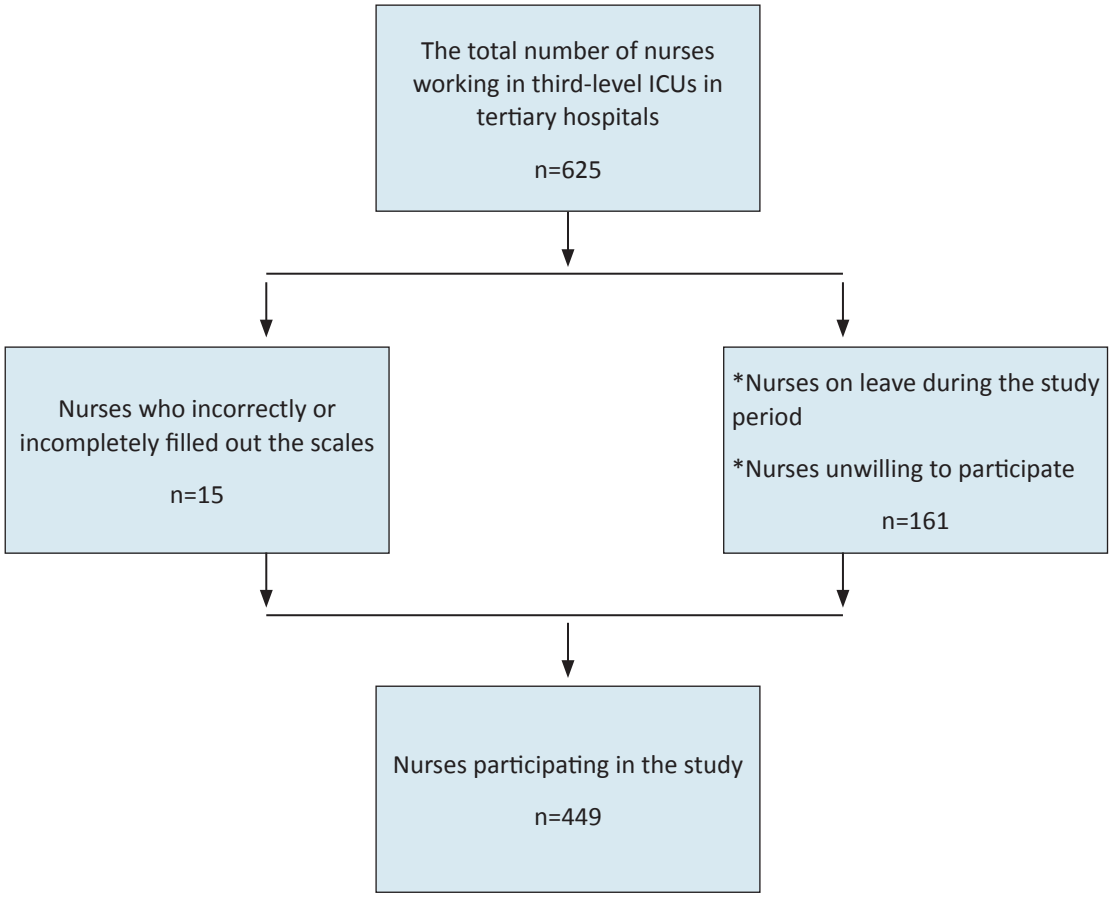

Figure 1: Flowchart of the study. **ICU:** Intensive care unit.

Table I: Distribution of Characteristics of ICU Nurses

Age (years), (mean ± SD)	29.5±5.0
Gender, n (%)	
Female	388 (86.4)
Male	61 (13.6)
Type of ICU where the nurse works, n (%)	
Internal Medicine	110 (24.5)
Reanimation	88 (19.6)
General Surgery	73 (16.3)
Coronary	71 (15.8)
Cardiovascular	60 (13.4)
Neurosurgery	27 (6.0)
Neurology	20 (4.4)
Years of experience in nursing, median (min-max)	6.0 (0.3-26.0)
Years of experience in ICU, median (min-max)	3.0 (0.1-22.0)
Marital status, n (%)	
Single	197 (43.9)
Married	252 (56.1)
Education level, n (%)	
Medical Collage	84 (18.7)
University	337 (75.1)
Postgraduate	28 (6.2)
Number of children, n (%)	
None	252 (56.1)
1	118 (26.3)
2	74 (15.5)
≥3	5 (1.1)
Habits, n (%)	
Alcohol	58 (12.9)
Smoking	161 (35.9)
Nurses with concomitant health problems, n (%)	107 (23.8)
Profession choice, n (%)	
Purposely	245 (54.6)
Incidentally	204 (45.4)
Weekly working hours, n (%)	
<40 hours	25 (5.6)
40-50 hours	388 (86.4)
>50 hours	36 (8.0)
Nurse who had financial difficulties, n (%)	137 (30.5)
Nurse who had transport difficulties, n (%)	187 (41.6)

ICU: Intensive Care Unit, **min:** Minimum, **max:** Maximum, **SD:** Standart deviation.

Table II: The Correlation Between Burnout and JS Subscale Scores of Nurses

Job Satisfaction		Burnout Syndrome		
		Emotional Exhaustion	Depersonalization	Personal Accomplishment
Intrinsic Satisfaction	r	-0.443	-0.375	-0.367
	p-value [a]	<0.001	<0.001	<0.001
Extrinsic Satisfaction	r	-0.440	-0.260	-0.185
	p-value [a]	<0.001	<0.001	<0.001
General Satisfaction	r	-0.482	-0.349	-0.311
	p-value [a]	<0.001	<0.001	<0.001

r: Correlation coefficient, **[a]:** Spearman's correlation test, **JS:** Job satisfaction.

Table III: The Correlation Coefficients and Significance Between Nurses' Burnout and JS Scores and Socio-Demographic Characteristics

Variables		EE	D	PA	IS	ES	GS
Age (year)	r	-0.056	-0.120	-0.147	0.091	-0.028	0.044
	p[a]	0.240	0.011	0.002	0.055	0.552	0.350
Years of nursing experience	r	-0.023	-0.073	-0.141	0.089	-0.003	0.054
	p[a]	0.628	0.122	0.003	0.059	0.949	0.251
Years of ICU experience	r	0.016	0.062	-0.050	0.026	-0.061	-0.008
	p[a]	0.741	0.190	0.287	0.579	0.193	0.861

EE: Emotional exhaustion, **D:** Depersonalization, **PA:** Personal accomplishment, **IS:** Intrinsic satisfaction, **ES:** Extrinsic satisfaction, **GS:** General satisfaction, **a:** Spearman's correlation test, **r:** Correlation coefficient, **ICU:** Intensive care unit. **JS:** Job satisfaction.

40-50 hours per week, and >50 hours per week ($p<0.05$). The IS subscale score of married participants, all subscale scores of those without health problems and those who chose the profession purposely, and the IS and GS scores of those with social support and those without transport difficulties were significantly higher ($p<0.05$) (Table IV).

DISCUSSION

We found an inverse relationship between burnout and JS in ICU nurses. Nurses working in internal medicine ICUs reported higher JS than those working in other units. Lower burnout scores were associated with older age, female sex, greater experience, fewer working hours, being childless, and having no financial difficulties. In addition, burnout was lower and JS higher in nurses who had social support, those who chose their profession purposely, and those who reported good health and easy transport. Marriage had a positive effect on JS.

Problems associated with burnout reduce nurses' effectiveness and lead to job dissatisfaction (2,3,6). We also observed that an increase in burnout was associated with a decrease in JS. Some studies reported that the type of ICU did not influence burnout and JS (14,15). In a study involving 75 nurses, it was observed that nurses working in internal medicine ICUs reported higher JS and lower levels of EE compared with those working in other units (16). In our study, we also found higher JS among nurses working in internal medicine ICUs.

Being young and female are known as risk factors for burnout (5,9,17). In a study of 570 nurses working in pediatric emergency departments and ICUs, younger and female nurses were found to have higher levels of burnout in the EE subgroup (5). Conversely, a study of 95 nurses found that older nurses had lower burnout scores on the D and EE subscales (18). Our research showed that burnout decreased as nurses became older and that female nurses had lower levels of burnout. With increasing age and experience, it is expected that individuals will be able to cope with challenges more effectively and have a greater sense of self-confidence. There are studies suggesting that younger people and women have higher levels of JS (9,16). In a study of 620 ICU nurses, gender had no effect on JS (19). Similarly, another study with 200 nurses found no association between age, gender, and JS (20). In our study, age and gender also had no effect on JS.

Some studies have shown that being single and childless is a risk factor for burnout (3-5,8). In addition to studies in the literature showing that marital status does not influence burnout (14,16,18), there are also studies showing that it has no influence on JS (7,9,19). In our study, marital status was not found to affect burnout; however, it was observed that those without children had lower levels of burnout, and married individuals had higher levels of JS.

Studies have shown that nurses who choose their career voluntarily and enjoy their work experience higher job satisfaction and lower burnout (7,18,20). We also found lower levels of burnout and higher levels of JS among nurses who had chosen their profession purposely. In addition, JS was high across all subtypes in this group. In addition to job satisfaction, experience in the field is known to reduce burnout and increase JS (15,21). There are also studies suggesting that work experience has no effect on JS (14,18,20). In our study, we observed a decrease in burnout with increasing years; however, we found no relationship between years of work experience and JS.

Levels of burnout and JS may be positively influenced by educational status (7,9,22). A study of 3100 ICU nurses found that nurses with higher levels of education experienced higher levels of burnout (15). There are some studies reporting that education does not influence burnout or JS (14,19,21). We believe that the effect of educational level on individuals may vary depending on personal, work environment, and cultural factors.

Working overtime and extra shifts may increase burnout among nurses (15,17,22). The increase in night shifts among ICU nurses may disrupt sleep and circadian rhythms (23). In

Table IV: The Associations Between the Characteristics of the Nurses and the Burnout and JS Subscales

	EE	D	PA	IS	ES	GS
Gender						
Female	21.6±6.65	7.08±4.49	10.82±4.94	3.1±0.67	2.78±0.74	2.97±0.64
Male	20.48±6.76	6,82±4.49	9.43±5.41	3.12±0.65	2.78±0.70	2.99±0.62
p[a]	0.216	0.817	0.026	0.78	0.86	0.815
Marital Status						
Single	21.6±6.8	7.36±4.46	10.94±5.26	3.04±0.72	2.77±0.74	2.93±0.67
Married	21.32±6.49	6.8±4.5	10.39±4.82	3.16±0.62	2.78±0.73	3.01±0.61
p[a]	0.46	0.259	0.554	0.048	0.92	0.268
Number of children						
None	21.7±6.61	7.4±4.4	11.04±5.02[b,c]	3.07±0.65	2.76±0.69	2.95±0.61
1	21.46±6.49	6.8±4.43	10.79±5.13[d]	3.15±0.66	2.83±0.8	3.02±0.67
2	20.22±7.06	6.3±4.84	9.3±4.69[b]	3.16±0.76	2.77±0.79	3.0±0.71
>2	22.8±7.4	5.6±3.36	6.2±2.17[c,d]	3.18±0.35	2.5±0.39	2.90±0.32
P[e]	0.23	0.212	0.007	0.222	0.585	0.509
Health problems						
Yes	23.74±6.21	8.26±4.82	10.92±5.34	2.94±0.76	2.61±0.87	2.81±0.75
No	20.74±6.65	6.66±4.31	10.54±4.92	3.16±0.62	2.83±0.68	3.03±0.59
p[a]	<0.001	0.002	0.572	0.011	0.007	0.004
Financial difficulties						
Yes	23.01±6.5	7.82±4.76	10.43±4.9	3.06±0.75	2.73±0.83	2.93±0.73
No	20.77±6.63	6.71±4.32	10.72±5.08	3.13±0.62	2.80.69	2.99±0.59
p[a]	0.002	0.022	0.536	0.571	0.505	0.479
Social support						
Yes	20.85±6.76	6.70±4.3	10.38±4.91	3.18±0.60	2.81±0.7	3.03±0.58
No	23.22±6.08	8.03±4.86	11.37±5.28	2.89±0.78	2.6±70.84	2.8±0.76
p[a]	0.002	0.017	0.103	<0.001	0.164	0.005
Transport difficulties						
Yes	22.37±6.68	7.18±4.5	10.59±4.86	3.01±0.68	2.71±0.74	2.89±0.65
No	20.8±6.59	6.95±4.48	10.66±5.15	3.17±0.65	2.83±0.73	3.03±0.63
p[a]	0.019	0.472	0.99	0.019	0.171	0.033
Education						
Collage	21.18±6.88	6.96±4.34	10.57±4.85	3.15±0.69	2.92±0.77	3.06±0.67
University	21.5±6.52	6.99±4.46	10.74±5.03	3.09±0.66	2.74±0.72	2.95±0.63
Postgraduate	21.82±7.89	8±5.19	9.54±5.45	3.16±0.72	2.83±0.76	3.03±0.68
p[e]	0.898	0.507	0.375	0.627	0.053	0.232
Profession Choice						
Purposely	20.08±6.67	6.21±4.26	10.29±4.99	3.24±0.61	2.87±0.7	3.0±0.59
Incidentally	23.11±6.29	8.04±4.56	11.05±5.04	2.95±0.69	2.66±0.76	2.83±0.67
p[a]	<0.001	<0.001	0.093	<0.001	0.008	<0.001
Working hours						
<40 hr	21.32±4.63	6.8±3.61	11.2±5.18[f]	3.11±0.6	2.7±0.6	2.94±0.53
40-50 hr	21.36±6.74	6.96±4.49	10.84±4.98[g]	3.1±0.68	2.79±0.74	2.97±0.65
>50 hr	22.58±7.07	8.11±4.92	8.03±4.69[f,g]	3.22±0.59	2.74±0.72	3.03±0.61
p[e]	0.376	0.335	0.008	0.676	0.730	0.933

Data are presented as Mean ± Standard Deviation. **EE:** Emotional exhaustion, **D:** Depersonalization, **PA:** Personal accomplishment, **IS:** Intrinsic satisfaction, **ES:** Extrinsic satisfaction, **GS:** General satisfaction, **JS:** Job satisfaction, **a:** Mann Whitney U test, **b:** Comparison between the None and 2 children groups p=0.007, **c:** Comparison between None and >2 groups p=0.013, **d:** Comparison between 1 and >2 child groups p=0.022, **e:** Kruskal Wallis test, **hr:** hour, **f:** Comparison between <40 hr and >50 hr groups p=0.016, **g:** Comparison between 40-50 hr and >50 hr groups p=0.002.

our study, nurses working more than 50 hours per week experienced the highest levels of burnout; however, we did not observe an effect of extended working hours on JS.

Factors such as good health, social support, and the absence of financial and transport problems are thought to influence both burnout and JS (2-4,22). A study conducted with surgical nurses found that economic problems reduced JS (18). Cigarette smoking and alcohol consumption have been reported to increase burnout (17). In our study, we found that nurses with no health problems, social support, and no financial or transport difficulties had lower levels of burnout and higher levels of JS. We observed no association between alcohol and tobacco use and burnout and JS.

The limitations of our study include the subjective nature of the responses to the surveys, the inability to control for independent variables and external influences, and the fact that the study was conducted only among adult ICU nurses. We consider the multicenter nature of our study and the representation of staff from different clinics to be strengths of our research.

CONCLUSION

In our study, as burnout increases among ICU nurses, JS decreases. Age, gender, marital status, parenthood, health problems, social support, career choice, type of ICU, experience, working hours, financial and transport difficulties are among the factors influencing burnout and JS. Although sociodemographic characteristics and personality are not modifiable factors, encouraging nurses to choose their profession and to work in ICUs may facilitate their adaptation to the role. We suggest that providing financial incentives, improving working conditions, and offering social support to ICU nurses may increase job satisfaction and reduce burnout.

AUTHOR CONTRIBUTIONS

Conception or design of the work: CU, DKC, FD
Data collection: DKC, EMA
Data analysis and interpretation: OK, MB, DKC
Drafting the article: DKC, EMA, FD
Critical revision of the article: BD, CU, OK, MB
Other (study supervision, fundings, materials, etc): BD, MB, DKC
The author (DKC, CU, OK, EMA, FD, BD, MB) reviewed the results and approved the final version of the manuscript.

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