EVALUATION OF THE LEVELS OF ANXIETY AND SELF-ESTEEM EXPERIENCED BY EMERGENCY SERVICE PERSONNEL AT THE BEGINNING AND END OF THEIR SHIFT

Acil Servis Çalışanlarında Vardiya Başlangıcında ve Bitişinde Olan Anksiyete ve Benlik Saygısının Değerlendirilmesi

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ABSTRACT

Objective: This study aimed to evaluate changes in anxiety and self-esteem among emergency department (ED) staff at the beginning and end of their shifts.

Material and Methods: A cross-sectional study was conducted at a tertiary hospital's ED in between September 2022-March 2023.Participants, including all ED staff with more than 6 months of experience, completed the State-Trait Anxiety Inventory (STAI), Rosenberg's Self-Esteem Scale (RSES), and the Self-Esteem Rating Scale-Short Form (SERS-SF) at start and end of their shifts.Data were analyzed with comparisons made using paired t-tests and Wilcoxon tests for dependent groups and independent t-tests and Mann-Whitney U tests for independent groups.Correlations between STAI-2 and SERS-SF scores were examined using Spearman's correlation test.

Results: Mean STAI-2 score was 40±8, indicating moderate trait anxiety, while STAI-1 scores at shift start averaged 39±11 in 108 participants.Self-esteem scores, measured by SERS-SF (median 108) and RSES (median 3), were high.No significant changes in anxiety or self-esteem scores were observed.A weak negative correlation was found between STAI-2 and SERS-SF scores ($r = -0.484$, $p < 0.001$), but no correlation existed between STAI-2 and RSES.

Conclusion: ED staff experienced moderate levels of anxiety, which remained stable throughout their shifts. High self-esteem among participants may contribute to stable anxiety levels.

Keywords: *Anxiety; Emergency; Self-Esteem*

ÖZET

Amaç: Bu çalışmada acil servis (AS) çalışanlarının vardiyalarının başında ve sonunda anksiyete ve benlik saygılarındaki değişikliklerin değerlendirilmesi amaçlandı.

Gereç ve Yöntemler: Eylül 2022-Mart 2023 tarihleri arasında üçüncü basamak bir hastanenin acil servisinde yapılan kesitsel bu çalışmada 6 aydan fazla deneyimi olan tüm acil servis personeli dahil olmak üzere katılımcılar, vardiyalarının başında ve sonunda Durumsal-Sürekli Kaygı Envanteri (STAI), Rosenberg Benlik Saygısı Ölçeği (RSES) ve Benlik Saygısı Derecelendirme Ölçeği-Kısa Formu'nu (SERS-SF) doldurdular. Veriler, bağımlı gruplar için eşleştirilmiş t-testleri ve Wilcoxon testleri, bağımsız gruplar için ise bağımsız t-testleri ve Mann-Whitney U testleri kullanılarak yapılan karşılaştırmalarla analiz edildi. STAI-2 ve SERS-SF puanları arasındaki korelasyonlar Spearman korelasyon testi kullanılarak incelendi.

Bulgular: Ortalama STAI-2 puanı 40±8 olup, orta düzeyde sürekli kaygıyı gösterirken, vardiya başlangıcında STAI-1 puanı 108 katılımcıda ortalama 39±11 idi. SERS-SF (ortanca 108) ve RSES (ortanca 3) ile ölçülen öz saygı puanları yüksekti. Kaygı veya benlik saygısı puanlarında anlamlı bir değişiklik gözlenmedi. STAI-2 ve SERS-SF puanları arasında zayıf bir negatif korelasyon bulundu ($r = -0,484$, $p < 0,001$), ancak STAI-2 ve RSES arasında bir korelasyon yoktu.

Sonuç: Acil servis personelinin, vardiyaları boyunca sabit kalan orta düzeyde kaygı yaşadığı görülmüştür. Katılımcılar arasındaki yüksek benlik saygı, stabil kaygı düzeylerinde katkısı olduğu düşünülmektedir.

Anahtar Kelimeler: *Anksiyete; Acil Servis; Benlik Saygısı*

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Geliş tarihi/Received: 21.02.2025
Kabul tarihi/Accepted: 16.05.2025
DOI: 10.16919/bozoktip.1644317

Bozok Tıp Derg 2025;15(2):203-208
Bozok Med J 2025;15(2):203-208

Bozok Tıp Derg 2025;15(2):203-208
Bozok Med J 2025;15(2):203-208

INTRODUCTION

Emergency departments (ED) are the most chaotic departments of hospitals. The necessity for immediate medical attention, coupled with the congestion that characterizes emergency departments, can precipitate a highly stressful environment for healthcare professionals. Furthermore, the frequent occurrence of traumatic events and deaths, coupled with the elevated prevalence of violence against healthcare workers in emergency departments, may serve as significant contributing factors to the development of anxiety and stress. Consequently, these adverse factors may have an impact on the physical and mental wellbeing of ED staff (1).

Stress is the most significant risk factor for depressive disorders, sleep disorders, substance abuse, and anxiety. The term 'anxiety' is defined in the updated literature as a high level of worry that is not accompanied by an objective danger. Anxiety can be classified into two categories: state anxiety and trait anxiety. State anxiety manifests when an individual encounters a dangerous and undesirable situation. In contrast, trait anxiety occurs independently or disproportionately from any objective reason and is characterized by a pervasive sense of worry or tension, which is associated with increased activity of the autonomic nervous system (2).

Work-related stress is a significant contributing factor to the development of anxiety disorders. Although anxiety is a necessary reflex for survival, it has the potential to negatively impact quality of life when it is excessive. Several studies have demonstrated that ED staff exhibit higher levels of anxiety than other healthcare providers. This is thought to be due to several factors, including working in shifts, irregular sleep habits and excessive workload (3). This may result in burnout and the dismissal of staff. One factor that protects an individual from burnout is self-esteem. Job dissatisfaction and low motivation can lead to a decrease in self-esteem (4, 5).

The objective of this study was to evaluate changes in anxiety and self-esteem among ED staff before and after shifts.

MATERIALS AND METHODS

This was a cross-sectional study conducted in an emergency department of a tertiary hospital with approximately one thousand daily admissions in the capital, between September 2022 and March 2023. Local ethics committee approval was obtained from Ethic Committee of Keçiören Training and Research Hospital at 26/02/2020.

Staff who had worked in the ED for more than 6 months in any role (doctor, nurse, security, medical secretary, etc.) were included in the study. Written informed consent was obtained from all participants. The State-Trait Anxiety Inventory (STAI), Rosenberg's Self-Esteem Scale (RSES) and the Self-Esteem Rating Scale-Short Form (SERS-SF) were administered to all participants at the beginning and end of their ED shift to assess anxiety and self-esteem. Demographic data and test scores were recorded on study forms. Participants who did not answer all questions on the forms or who did not attend before or after their shift were excluded.

The State-Trait Anxiety Inventory (STAI) was first developed by Spielberger et al in 1970, revised in 1983 and translated into Turkish by Öner and Le Compte in 1985. This scale has two subscales, the first part (STAI-1) measures the current level of anxiety (state) and the second part (STAI-2) assesses the relatively stable state of anxiety (trait). Each section consists of 20 questions answered on a 4-point Likert scale, so the total score of the STAI subscales can vary from 20 to 80. Average scores generally range from 36 to 41, with scores of 20-37 indicating no or low anxiety, 38-44 moderate anxiety, and 45-80 high anxiety (6, 7).

The Rosenberg’s Self-Esteem Scale (RSES) was developed by Rosenberg in 1965 and its Turkish adaptation was made by Çuhadaroğlu in 1986. It consists of ten sentences (the first 5 in a positive way, the last 5 in a negative way) using a 4-point Likert scale. High scores indicate high level of self-esteem and test group participants in three as high, medium and low level of self-esteem in the end (8). We coded the participants as 3, 2 and 1 for high, medium and low levels of self-esteem respectively.

The The Self Esteem Rating Scale-Short Form (SERS-SF) was first developed by Nugent and Thomas in 1993, and Lecomte et al. shortened it to 10 negative and 10 positive items, using a 7-point Likert scale (9). Thus, the original scores vary between (-10 to -70) for negative self-esteem and (+10 to +70) for positive

Bozok Tıp Derg 2025;15(2):203-208
Bozok Med J 2025;15(2):203-208

self-esteem. In our study, to facilitate interpretation, a formulation was used: [(70 + total score in negative phrases) + (total score in positive phrases)], so our scores could be between 10 - 130, with higher scores indicating high levels of self-esteem.

Data were interpreted using SPSS 22.0 (Chicago, IL, USA). After analysing the distribution of normality with the Shapiro-Wilk test, normally distributed data were presented as mean ± standard deviation (SD) and non-normally distributed data were presented as median and interquartile range (IQR)25-75. Comparisons between independent groups were made using the Independent Sample t test for parametric variables and the Mann-Whitney U test for non-parametric variables. Comparisons between dependent groups were made using paired sample t-test for parametric variables and Wilcoxon test for non-parametric variables. Correlation between STAI-2 and SERS-SF was analysed by Spearman correlation test. $P<0.05$ was considered statistically significant for all tests.

RESULTS

The study included a total of 108 participants, of whom 23 were doctors, 33 were nurses and 52 were other ED staff. Fifty-seven of the participants were female and the mean age of the participants was 37±8 years. General characteristics of the participants are shown in Table 1.

The participants' anxiety and self-esteem were assessed using different scales. The mean STAI-2 score was 40±8, which means that the current anxiety level of the participants was at the moderate level. At the beginning of the shift, the mean STAI-1 score, which shows the current level of anxiety, was 39±11, which was similar to the STAI-2 score. In terms of self-esteem, the SERS-SF score was 108 (IQR 25-75%: 98 - 115.75) and the RSES score was 3 (IQR 25-75%: 3-3), indicating that their self-esteem was healthy and at a good level. We assessed these scores at the end of the shift and there was no difference in anxiety levels and self-esteem scores between the beginning and end of the shift (Table 2).

We also evaluated the anxiety and self-esteem scores according to a number of variables. Firstly, there was no difference in these scores between males and females; also, in the within-group comparisons, there was no difference between the scores at the beginning and end of the shift for either females or males. We divided the participants into two groups according to their role in the ED. Emergency physicians, junior doctors and nurses made up the first group, and other duties made up the second group. Anxiety and self-esteem scores were similar between the groups. The only difference between the groups was in the RSES

Table 1. General features of the participants

	N=108
Age (mean ± SD)	37±8
Gender (n)	
Female	57
Male	51
Duty (n)	
ED specialist	7
ED resident	16
Nurse	23
Medical secretary	22
Security	13
Cleaning staff	7
Servant	10
Time period on duty (n)	
6 month – 5 years	39
5 – 10 years	37
>10 years	32

Abbreviations: SD: Standart Deviation, ED: Emergency department

Bozok Tıp Derg 2025;15(2):203-208
Bozok Med J 2025;15(2):203-208

score of the healthcare workers, which decreased at the end of the shift. We also analysed the scores according to the length of time they had worked in the ED, dividing the participants into two groups: those who had worked in the ED for less than 5 years and those who had worked in the ED for more than 5 years. Again, there was no difference between the groups according to length of time in the ED. In between group comparisons, the SERS-SF score at the end of the shift was increased in participants who had worked ≥5 years in the ED. (Table 3).

We analysed the correlation between anxiety and self-esteem scores. There was a weak negative correlation between STAI-2 and SERS-SF scores of the participants (p=<0.001 and r= -484). There was no correlation between the STAI-2 and the RSES.

DISCUSSION

In this study, in which anxiety and self-esteem were assessed in emergency service staff at the beginning and end of their shift in the ED, the results showed that there was no significant difference in participants' anxiety levels and self-esteem scores between the beginning and end of their shift. On the other hand, staff anxiety scores were generally at a moderate level and didn't differ according to participants' gender, role

Table 2. Anxiety and self-esteem scores of the participants at the beginning and end of the shift.

N=108	General score	Beginning of the shift	End of the shift	P value
STAI-2*	40.3±8.3			
STAI-1**		39.4±10.7	39.3±9.7	0.86
SERS-SF		108 (IQR 98 – 115.75)	110 (IQR 97 – 118)	0.12
RSES		3 (IQR 3 – 3)	3 (IQR 3 – 3)	0.22

*STAI-2 shows general anxiety level of the patient. **STAI-1 shows momentary anxiety level of the patient Abbreviations: STAI: State Trait Anxiety Inventory, SERS-SF: Self-esteem Rating Scale Short Form, RSES: Rosenberg Self-esteem Scale

Table 3. Anxiety and self-esteem scores of the participants according to variables

	STAI-2	STAI-1			SERS-SF			RSES		
	General score	Beginning of the shift	End of the shift	P1 (in group*)	Beginning of the shift	End of the shift	P1 (in group*)	Beginning of the shift	End of the shift	P1 (in group*)
Gender										
Female	41±7	39±10	39±10	0.839	106 (IQR 98-112)	107 (IQR 96-116)	0.422	3 (IQR 3- 3)	3 (IQR 3- 3)	0.48
Male	40±9	40±12	40±10	0.971	111 (IQR 98-116)	113 (IQR 98-118)	0.181	3 (IQR 3- 3)	3 (IQR 2- 3)	0.317
P2 (between groups**)	0.053	0.182	0.785		0.155	0.092		0.866	0.706	
Duty										
Health staff	39±7	39±11	39±11	0.550	108 (IQR 98-114)	111 (IQR 98-117)	0.053	3 (IQR 3-3)	3 (IQR 2.25-3)	0.034
Other staff	42±9	40±10	40±9	0.777	109 (IQR 98-118)	109 (IQR 96-120)	0.930	3 (IQR 3-3)	3 (IQR 3-3)	1.0
P2 (between groups)	0.116	0.388	0.05		0.389	0.944		0.228	0.862	
Tenure										
<5 years	39±8	39±11	37±10	0.284	106 (IQR 97-112)	107 (IQR 97-113)	0.338	3 (IQR 3-3)	3 (IQR 2-3)	1.0
≥5 years	41±8	40±11	41±9	0.665	109 (IQR 98-117)	112 (IQR 97-121)	0.01	3 (IQR 3-3)	3 (IQR 3-3)	0.134
P2 (between groups)	0.618	0.727	0.907		0.332	0.058		0.335	0.809	

*In group comparisons analyzed the difference between scores of the beginning and end of the shift, in that particular group. **Between group comparisons analyzed the difference between the scores according to gender, duty and seniority on duty of the groups. Abbreviations: STAI: State Trait Anxiety Inventory, SERS-SF: Self-esteem Rating Scale Short Form, RSES: Rosenberg Self-esteem Scale, P: p value, IQR: Inter Quartile Range

or tenure.

Anxiety is a state of worry, fear or apprehension that individuals often experience in response to threatening or stressful situations. These feelings can be a normal part of everyday life and are usually a temporary reaction. However, when anxiety becomes severe and persistent, it is considered a psychiatric disorder that affects the individual's quality of life (10). In emergency services, which are among the most demanding and intensive areas of health care, factors such as uncertainty, heavy workloads and night shifts are situations that increase anxiety levels in workers (1). In a study by Sonmez et al, emergency physicians were found to have low to moderate levels of anxiety and high levels of occupational burnout (11). In a study conducted in China, anxiety was found in 62% of night shift nurses, and factors influencing the level of anxiety were identified as busyness during night shifts, food intake during shift work, working > 40 h/week during shift work, and sleep quality before and after night shifts (12). Although there was no difference in state anxiety levels before and after shifts, the trait anxiety scores of the staff were at a moderate level, in accordance with the literature.

Self-esteem is a psychological state that expresses an individual's self-worth and respect. It determines how valuable and important a person feels about themselves, their own competence and how they see themselves in general (13). High self-esteem is known to make positive contributions in many areas, such as self-efficacy, positive emotionality and attachment security (14). Studies have also demonstrated that self-esteem is an important regulator of anxiety and emotion regulation (15). A study from India showed that health workers with low self-esteem were almost three times more likely to experience high stress, and those who were stressed were more than three times more likely to experience burnout (16). In our study, the participants' high self-esteem may have protected them from experiencing higher levels of anxiety.

The limitations of the study can be summarised as follows: The study only measured levels of anxiety and self-esteem at the beginning and end of the shift. This may not reflect daily variability and long-term trends. The study was conducted in a single centre and has limited generalisability. Each of the scales used has its own limitations. The simultaneous scoring of the two parts of the STAI, separating state and trait anxiety, may not reflect complex anxiety states in sufficient detail. The fact that the RSES and SERS-SF only measure self-esteem with specific statements may not capture all aspects of participants' self-esteem.

CONCLUSIONS

The present study evaluated anxiety and self-esteem among emergency service personnel. The findings indicated that the participants exhibited moderate anxiety levels, which remained consistent throughout the shift and were not influenced by gender, duty, or seniority. Conversely, the self-esteem scores were notably high, suggesting that this may serve as a protective factor for anxiety regulation.

Acknowledgment

The authors declare that they have no conflict of interest to disclose.

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