Araştırma Sunumu | Research Article

The Anxiety Faced by the Relatives of Trauma Patients Admitted to Emergency Department / *Acil Servise Kabul Edilen Travmalı Hastaların Yakınlarının Yaşadıkları Kaygı*

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Abstract

Introduction: Emergency departments, which are the busiest and most complex units of hospitals, are areas where multidisciplinary teamwork is performed. Patients and their relatives admitted to emergency departments in an unprepared manner because of traumas face many uncertainties. Aim: The aim of the study was to determine the anxiety levels of relatives of patients admitted to emergency departments with trauma. Material and Methods: This descriptive study was conducted in the emergency department of a university hospital with the participation of a total of 97 patient relatives between December 2020 and April 2021. Data were collected using Information form and State Anxiety Inventory. Results: The mean age of the patient relatives was 35.1±8.4, and 54.6% of the patient relatives were men, and 55.7% were undergraduates. The mean State Anxiety Inventory score of patient relatives was found to be 37.3±6.3. It was also found that 63.9% had mild anxiety, and 36.1% had moderate anxiety levels. It was determined that the anxiety of the relatives of the patients varied according to the positive alcohol test results and the type of shift in which they were admitted ($p < 0.05$). Conclusion and suggestions: It was determined that the patient relatives admitted to the emergency department with traumas experienced mild anxiety during the first 24 hours after admission. Training should be continued to support the skills of emergency department staff in patient communication and psychosocial support, and patient relatives should be informed about the process.

Keywords: Anxiety, Patient, Hospital emergency service, Relatives, Injuries

Öz

Giriş: Hastanelerin en yoğun ve karmaşık birimleri olan acil servisler, multidisipliner ekip çalışmasının gerçekleştirildiği alanlardır. Travma nedeniyle acil servise hazırlıksız başvuran hasta ve yakınları birçok belirsizlikle karşı karşıya kalmaktadır. Amaç: Bu çalışmanın amacı, acil servislere travma ile başvuran hastaların yakınlarının kaygı düzeylerini belirlemektir. Gereç ve Yöntemler: Tanımlayıcı tipte olan bu araştırma, bir üniversite hastanesinin acil servisinde Aralık 2020-Nisan 2021 tarihleri arasında toplam 97 hasta yakınının katılımıyla yapılmıştır. Veriler, Bilgi Formu ve Durumluk Kaygı Envanteri kullanılarak toplanmıştır. Bulgular: Hasta yakınlarının yaş ortalaması 35.1±8.4 olup, %54.6'sı erkek, %55.7'si üniversite mezunudur. Hasta yakınlarının Durumluk Kaygı Envanteri puan ortalaması 37.3±6.3 olarak bulundu. Ayrıca %63.9'unun hafif düzeyde, %36,1'inin orta düzeyde kaygı düzeyine sahip olduğu saptanmıştır. Hasta yakınlarının alkol testi pozitifliği ve yatış şekline göre kaygılarının farklılaştığı belirlendi ($p < 0.05$). Sonuç ve öneriler: Travma nedeni ile acil servise başvuran hastaların yakınları, başvurudan sonraki ilk 24 saat içinde hafif düzeyde anksiyete yaşamaktadırlar. Acil servis çalışanlarının

hasta iletişimi ve psikososyal destek becerilerini destekleyecek eğitimlere devam edilmeli ve hasta yakınları süreç hakkında bilgilendirilmelidir.

Anahtar kelimeler: Anksiyete, Hasta, Hastane acil servisi, Yakını, Yaralanmalar

1.Introduction

Emergency departments, which are the busiest and most complex units of hospitals, are areas where multidisciplinary teamwork is performed (Erenler et al., 2014; Köse, Köse, Öncü & Tuğrul, 2011). Emergency departments, which are considered as the window of healthcare institutions, give clues about the development levels of countries. It is expected that the healthcare services provided in emergency departments will be provided as soon as possible without errors and with a certain quality level (Söyük & Kurtuluş, 2017).

Patients who have multiple traumas are the second most difficult patient group to be evaluated in emergency departments (Çıkrıklar et al., 2016). Traumas are among the mortality causes in developed countries between the ages of 1-44 (Brunett & Cameron, 2011). It is seen that 5% of deaths were caused by traumas (Oyeniyi et al., 2017). However, traumas are also associated with infection and poor prognosis (Tan, Rolls, Wiseman & Betihavas, 2018; González-Robledo, Martin-Gonzalez, Moreno-Garcia, Sanchez-Barba & Sanchez-Fernandez, 2015).

Patients and their relatives admitted to emergency departments in an unprepared manner because of traumas face many uncertainties (Redley & Beanland, 2004). Being not familiar with the treatment and care processes and the uncertainty of the disease may cause anxiety for the relatives of patients (Barreto, Marcon & Garcia-Vivar, 2016). It was reported in previous study that traumas faced by patients also affect their relatives (Kinrade, Jackson & Tomnay, 2011). The fact that their loved ones face life threats and the fear of loss can trigger anxiety (Kang, Cho & Choi, 2022). In previously conducted studies, it was reported that the relatives of patients admitted to emergency departments experience also psychological symptoms (anxiety, pain, etc.) (Redley & Beanland, 2004; Barreto, Marcon & Garcia-Vivar, 2016). Although many trauma patients are not aware of what is happening in emergency departments, their relatives face fear, hopelessness depending on the condition of their patients (SAMHSA, 2017). It was also reported that the process of change in biopsychosocial aspects in which trauma patients experience also affects patients and their relatives; and therefore, relatives face anxiety (Avcı, Arslan & Büyükçam, 2017). Also, it was emphasized that very little is known about the stress of family members of trauma patients (Leske, McAndrew, Brasel & Feetham, 2017). The relatives of patients must be monitored in terms of anxiety conditions (Norup, Petersen & Mortensen, 2015) after the admission time to the hospital and must be supported because of the emotional disturbance they experience (Gullick, Taggart, Johnston & Ko, 2014).

The purpose of the present study was to determine the anxiety levels of relatives of patients admitted to emergency departments with trauma.

2.Material and Methods

2.1. Type of Research

A descriptive study.

2.2. Research question

How are the anxiety levels of relatives of patients admitted to emergency departments with trauma?

2.3. Place and Time of Research

This study was conducted in the emergency department of a university hospital with the participation of a total of 97 patient relatives between December 2020 and April 2021. The university hospital is a center with a high number of patients in both the city and the region. The hospital receives too many emergency patient transfer from other hospitals in the region. One relative was included for each trauma patient in the study.

2.4. Population, Sample and Sampling Method of Research

The universe of the study consisted of the relatives of traumatic patients admitted to emergency department. Approximately 1200 trauma patients came for our sample selection in an average of 4 months. The minimum number of people to be included in the sampling was calculated as 97 by considering the standard deviation value for state anxiety as 8.79 (Avcı et al., 2017) based on 95% confidence interval level, 5% error, and 80% power rate with G. Power 3.1.9.4. The relatives of patients who were admitted to emergency department with traumas, who were 18 years of age and over, who volunteered to participate in the study, who were mentally competent, and who did not have spent 24 hours after admission to emergency department were included in the sampling. The relatives of patients who did not provide written consents were excluded from the study.

2.5. Data Collection Tools

2.5.1. Information form

There were 16 questions intended to determine the individual variables of the patients (age, gender, comorbidity, trauma area, cause of trauma, alcohol consumption, and blood alcohol level, mode of transportation to the emergency department, the shift in which the patient was admitted to the emergency department), and the patient relatives (age, gender, educational status, degree of relation to the patient, accompanied duration, state of worrying that the patient will die) in the form, which was created by the researchers in line with the literature data (Akdemir & Ateş, 2017). The answer to the last question that questioned the patient's survival status in the first 24 hours was recorded by the researcher nurse in the form at the end of the process.

2.5.2. State Anxiety Inventory (SAI)

State Anxiety Inventory was developed by Spielberg et al. (1970) to determine the state anxiety level, and the validity and reliability study for the Turkish language was conducted by Öner and Le Compte (Spiegel et al., 2011; Öner & Le Compte, 1983). SAI contains 20 expressions determining how the patient feels at a certain time under certain conditions. There are 10 reverse statements (items 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20), and 10 plain statements in the scale. Plain statements refer to negative emotions, and reverse statements refer to positive feelings (Öner & Le Compte, 1983). The scale has 4-Likert style; "1. not at all," with "4. very much so." The scale has a score range of 20 to 80. An elevated anxiety level is indicated by a higher score. Mild anxiety is scored 20 to 39, moderate anxiety is scored 40 to 59, and extreme anxiety is scored 60 to 80. Cronbach's a coefficient for the SAI was .94 in the original study (Öner & Le Compte, 1983). Cronbach's a coefficient was found to be .69 for the SAI.

2.6. Data Collection

The forms were filled by the participants within the first 24 hours after admission to the trauma unit. After informing the relatives of the patients about the general health status of the patients and the interventions by the doctor, the study data began to be collected. The data collection process was carried out in the patient waiting room of the emergency department. The process took an average of 5-10 minutes for each patient's relative.

2.7. Ethical Considerations

Ethical approval was granted by the Ethical Committee of the university (dated December 12, 2020, no: 2020/374, decision: 16/16) in accordance with the Helsinki Declaration, Good Clinical Practice Guide. The patients' relatives were informed about the research by the researcher. The patients' relatives who volunteered to participate were included in the research. Written consents of the patients' relatives were taken.

2.8. Statistical Analysis

IBM SPSS (Statistical Package for Social Sciences) for Windows 22.0 was used for data analysis. The Shapiro-Wilks test was used to test the compatibility of the data to normal distribution. The Mann Whitney U test and the Kruskal Wallis H test was used to assess within-group differences in characteristics and SAI scores. Mann-Whitney U test with Bonferroni correction was used as post hoc test for the shift in which the patient was admitted to the emergency department. Spearman correlation analysis was used to reveal the relationship between variables (age) and the SAI score. When the p-value was less than 0.05, the results were accepted statistically significant.

3.Results

The mean age of the patients was found to be 30.5 ± 18.8, and 57.7% of the patients were men, and 38.1% were falling cases. It was also found that 12.4% of the patients had positive alcohol test results (> 50 mg / dL) (Table 1).

Table 1. Patient Characteristics (n = 97)

Characteristics		n(%)
Age(Mean ± SD)$_{year}$		32.7 ± 16.5
Gender	Female	41(42.3)
	Male	56(57.7)
Comorbidity	Cardiovascular diseases	11(11.3)
	Diabetes	8(8.2)
	Others[1]	6(6.2)
	No	72(74.3)
Trauma area	One area	54(55.7)
	Two area	11(11.3)
	Three area	8(8.2)
	Four area	5(5.2)
	Whole body	19(19.6)
Cause of trauma	Fall	37(38.1)
	Stab injury	18(18.6)
	Traffic accident	12(12.4)
	Assault	3(3.1)
	Burn	4(4.1)
	Other[2]	23(23.7)
Alcohol consumption	Yes	12(12.4)
	No	85(87.6)
Blood alcohol level (Mean ± SD)$_{promil}$*		1.7 ± 1.1
Mode of transportation to the emergency service	He/She came	14(14.4)
	Brought her/his relative	56(57.7)
	Other[3]	27(27.9)
The shift in which the patient was admitted to the emergency department	08-16	30(30.9)
	16-24	42(43.3)
	24-08	25(25.8)
Survival status in the first 24 hours	Yes	92(94.8)
	No	5(5.2)

n: Number of patients, **SD:** Standard Deviation, **Others**[1] rheumatism, thyroid diseases, **Others**[2] gunshot wound, dent, **Others**[3] referral from another center, transfer by ambulance, *****Patients who positive alcohol test results (n = 12)

The mean age of the patient relatives was 35.1 ± 8.4, and 54.6% of the patient relatives were men, and 55.7% were undergraduates. It was determined that the anxiety of the relatives of the patients varied according to the positive alcohol test results and the type of shift in which they were admitted to the emergency department (p = 0.022) (Table 2).

Table 2. Characteristics of Patients' Relatives and State Anxiety Inventory Scores according to Characteristics (n = 97)

			State Anxiety Inventory			Statistical value
Characteristics		n(%)	Min-Max	Median	Interquartile range	
Age(Mean ± SD) $_{year}$	35.1 ± 8.4		27-55	37.00	10.00	p = 0.963 r^S= -.005
Gender	Female	44(45.4)	29-55	36.00	10.00	p = 0.559 U = 1085.500
	Male	53(54.6)	27-49	37.00	9.00	
Educational status	Primary education	21(21.6)	29-55	37.00	13.50	p = 0.458 X^2 = 1.562
	High school	22(22.7)	28-45	35.00	9.25	
	University	54(55.7)	27-52	37.50	9.00	
Degree of relation to the patient	1st degree	72(74.2)	27-55	37.00	9.75	p = 0.226 U = 753.500
	2nd degree	25(25.8)	28-46	35.00	9.50	
Accompanied time$_{hour}$	<8	50(51.5)	27-55	38.00	11.25	p = 0.147 X^2 = 3.839
	8-16	24(24.7)	28-48	36.00	11.00	
	16-24	23(23.7)	29-50	35.00	8.00	
State of worrying that the patient will die	Yes	40(41.2)	29-55	37.00	9.75	p = 0.276 U = 991.500
	No	57(58.8)	27-52	37.00	10.00	
Status of being a relative of a patient who has consumed alcohol	Yes	12(12.4)	33-55	43.00	11.50	p = 0.009 U = 272.500
	No	85(87.6)	27-52	36.00	10.00	
The shift in which the patient was admitted to the emergency department	08-16	30(30.9)	27-47	33.50	10.00	p = 0.022 X^2 = 7.644 p^{1-2} = 0.481** p^{1-3} = 0.009** p^{2-3} = 0.028**
	16-24	42(43.3)	28-52	37.00	9.25	
	24-08	25(25.8)	30-55	40.00	9.50	

n: Number of patients, **U:** Mann Whitney U test**, X^2:** Kruskal Wallis test, **r^S:** Spearman correlation analysis, ******: Bonferroni-corrected Mann-Whitney U test, Bonferroni adjusted value is in terms of p (<.016) with significant p.

It was determined that 99.0% of the patient relatives (n = 96) had been in the emergency department at least once as a patient or as a companion. All relatives were informed about their patients' health status, treatment, etc. The rate of information given by nurses and doctors was dominant (99.0%).

It was also found that 63.9% had mild anxiety, and 36.1% had moderate anxiety levels. The mean SAI score of patient relatives was found to be 37.3 ± 6.3 (Table 3).

Table 3. Anxiety Level of Patients' Relatives (n = 97)

Anxiety level	n(%)	Mean ± SD
Mild	62(63.9)	33.4 ± 3.2
Modarete	35(36.1)	44.3 ± 3.8
Total anxiety (Mean ± SD)	97(100)	37.3 ± 6.3

n: Number of patients, **SD**: Standard Deviation

4. Discussion

It is reported in the literature that the relatives of trauma patients experience emotional trauma and they should be supported physiologically and psychosocially to understand the sudden trauma condition and to resolve the emotional confusion (Wetzig & Mitchell, 2017; Akkuş, Cığsar & Günal, 2018). The anxiety levels of the relatives must also be monitored as of the admission of the patients to the hospital (Norup, Petersen & Mortensen, 2015).

It was found in the study that the state anxiety levels of the relatives of patients were at mild levels. In the studies conducted by Akdemir and Ateş (2017) and Lukmanulhakim and Anna (2016) it was reported that the relatives of patients hospitalized in the emergency department experienced a moderate state of anxiety. It was also determined that families of critical care and oncology patients admitted to emergency department also experienced moderate anxiety (Demirtaş, Güvenç, Aslan, Oksüz & Uçar, 2020; Gülbağcı, Cakmak, Akdeniz, Ipekçi & Ikızceli, 2018). It was reported in previous studies (Kanmani & Raju, 2018; Alireza, Ali & Tayebeh, 2019) that caregivers accompanying their patients in the emergency and trauma care settings, and family members accompanying their patients during invasive procedures experienced moderate anxiety symptoms. Contrary to the findings of the previous studies, it was found in this study that the anxiety levels of the relatives of patients were mild. In acute care settings, relatives of patients experience high anxiety levels when their information needs are not met (Carson et al., 2012). Studies also show that being informed is effective in controlling anxiety and is reported to be the most important need of family members (Avcı et al., 2017; Ocak & Avşaroğulları, 2019). The fact that almost all of the patients (99.0%) were informed by the doctor and the nurse in the study may explain that their anxiety levels were at an acceptable level.

It was found that the relatives of patients who had positive alcohol test results or who admitted to the emergency department during the night shift were more anxious. It was also found that 10 (83.4%) of 12 patients who had positive alcohol test results admitted to the emergency department during the night shift. As it is already known, it was reported in previous studies that alcohol is associated with injuries (Ak, Kandemir & Oztekin, 2017) and affects health in a negative way (Gallagher & Edwards, 2019). Similarly, in the study conducted by Altan and Şaşmaz (2019) it was reported that patients with positive ethanol test results admitted during the night shift. In their study, Ünal et al. (2017) reported that patients with blood ethanol rates over 100 mg / dL were mostly admitted to the Emergency department during the night shift. It was found in another study (Yue et al., 2017) that patients with mild brain traumas and with blood alcohol levels ≥80 mg / dL had lower Glasgow Coma Scale scores and lower 6-month functional recovery rates. Kelley et al. (2012) reported that they detected changes in some laboratory markers (i.e. white blood cell, glucose, bilirubin, etc.) in alcoholic trauma patients. It was reported in a study that examined the mortality rates of trauma patients according to day and night shifts in emergency departments in Japan that adult patients lost their lives more during the night shift than the day shift (0.86% versus 1.06%) (Hirose et al., 2020). Although the results of the study are limited, it can be argued that positive alcohol test results and the admission during the night shift increase the anxiety of the relatives of patients. Patients who positive alcohol test results have problems in expressing themselves may have affected the anxiety of their relatives.

4.1. Strength and Limitations

The present study, which had a cross sectional design, evaluated the state anxiety experienced by the relatives of trauma patients admitted to the emergency department in the first 24 hours. The fact that the study covered one single center and the first 24 hours after the admission limited the generalizability of the results. Future studies should focus on examining long-term causes of anxiety and the effectiveness of interventions in patient relatives.

5. Conclusion and Suggestions

It was found that the patient relatives admitted to the emergency department with traumas experienced mild anxiety during the first 24 hours after admission. It was also found that anxiety levels were higher in patient relatives who had positive alcohol test results and who were admitted to the emergency department during the night shift. Emergency nurses and doctors should consider the anxiety of patient relatives, and psychosocial support should be provided to patient relatives in the risky group experiencing anxiety. Training should be continued to support the skills of emergency department staff in patient communication and psychosocial support, and patient relatives should be informed about the process.

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