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Research Article

The effect of training on reducing environmental stressors given to nurses on intensive care patients' perception of the presence of the nurse

Yoğun bakım hastalarının hemşirenin varlığını algılamalarında hemşirelere verilen çevresel stresörleri azaltmaya yönelik eğitimin etkisi

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Abstract

Aim: The environmental characteristics of intensive care units include many stressors for patients. It is very important for nurses to recognize these stressors affecting the patient in intensive care units and develop solutions. In this way, patients' exposure to stressors decreases and they feel cared by the nurse. The purpose of this study is to examine the effect of training on reducing environmental stressors given to nurses on intensive care patients' perception of the presence of the nurse.

Material and Methods: The study is a quasi-experimental, separate sample group intervention study. The study was conducted in two groups: nurses working in the cardiovascular surgery intensive care unit and patients cared for by these nurses. The sample of the study consisted of 13 nurses working in the cardiovascular surgery intensive care unit and 66 patients, 33 before and 33 after the training. The nurses were given a 12-hour training to reduce environmental stressors in the intensive care environment. The study data were collected by interviewing the patients cared for by the nurses before and after the training. The 'Patient Information Form', 'The Intensive Care Unit Environmental Stressors Scale', 'The Intensive Care Experience Scale' and 'The Nurse Presence Scale' were used for the data collected from the patients. The data belonging to the nurses were obtained with the 'Nurse Information Form'. SPSS 23.0 package program was used in the analysis of the data obtained in the study.

Results: After the environmental stress factor reduction training provided to the nurses, an increase was observed in patients' perceptions of the nurse's presence and positive experiences in the intensive care unit, while no significant change was seen in the level of perception of environmental stress factors in the intensive care unit

Conclusion: It was concluded that the 12-hour training given to intensive care nurses positively affected patients' perception of the presence of the nurse, was effective in patients' positive intensive care experiences and was more effective on physiopathologic stressors affecting patients.

Keywords: Presence of the nurse, Intensive care, Intensive care nurse, Intensive care stressors

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Öz

Amaç: Yoğun bakım ünitelerinin çevresel özellikleri hastalar için birçok stres faktörü içermektedir. Hemşirelerin yoğun bakım ünitelerinde hastayı etkileyen bu stres faktörlerini tanımaları ve çözümler geliştirmeleri oldukça önemlidir. Bu şekilde hastaların stres faktörlerine maruziyeti azalır ve hemşire tarafından önemsendiklerini hissederler. Bu çalışmanın amacı hemşirelere verilen çevresel stres faktörlerini azaltma eğitiminin yoğun bakım hastalarının hemşirenin varlığına ilişkin algıları üzerindeki etkisini incelemektir.

Gereç ve Yöntemler: Araştırma yarı deneysel, ayrı örneklem gruplu bir müdahale çalışmasıdır. Araştırma, kalp ve damar cerrahisi yoğun bakım ünitesinde çalışan hemşireler ve bu hemşirelerin bakım verdiği hastalar olmak üzere iki grupta yürütülmüştür. Araştırmanın örneklemini, kalp ve damar cerrahisi yoğun bakım ünitesinde çalışan hemşireler için toplam 13 hemşire ve hastalar için eğitim öncesi 33, eğitim sonrası 33 olmak üzere toplam 66 hasta oluşturmuştur. Hemşirelere yoğun bakım ortamında çevresel stresörleri azaltmak için 12 saatlik bir eğitim verilmiştir. Araştırma verileri, hemşirelerin bakım verdiği hastalarla eğitim öncesi ve sonrası görüşülerek toplanmıştır. Hastalardan toplanan veriler için 'Hasta Bilgi Formu', 'Yoğun Bakım Ünitesi Çevresel Stresörler Ölçeği', 'Yoğun Bakım Deneyim Ölçeği' ve 'Hemşirenin Varlığı Ölçeği' kullanılmıştır. Hemşirelere ait veriler ise 'Hemşire Bilgi Formu' ile elde edilmiştir. Çalışmada elde edilen verilerin analizinde SPSS 23.0 paket programı kullanılmıştır.

Bulgular: Hemşirelere verilen çevresel stres faktörünü azaltma eğitimi sonrasında, hastaların yoğun bakım ünitesinde hemşirenin varlığına ilişkin algılarında ve olumlu deneyimlerinde artış gözlenirken, yoğun bakım ünitesinde çevresel stres faktörlerinin algılanma düzeyinde anlamlı bir değişiklik görülmedi.

Sonuçlar: Yoğun bakım hemşirelerine verilen 12 saatlik eğitimin, hastaların hemşirenin varlığına ilişkin algılarını olumlu yönde etkilediği, hastaların olumlu yoğun bakım deneyimlerinde etkili olduğu ve hastaları etkileyen fizyopatolojik stres faktörleri üzerinde daha etkili olduğu sonucuna varıldı.

Anahtar Kelimeler: Hemşirenin varlığı, Yoğun bakım, Yoğun bakım hemşiresi, Yoğun bakım stresörleri

Introduction

Intensive care units (ICU) are places where the vital signs of patients with clinically critical conditions are monitored for 24 hours, their treatments are maintained, nursing care is administered, and complex technological devices are used (1, 2).

The environmental characteristics of intensive care units include many physiopathologic and psychosocial stressors for patients (3-5). Physiopathologic stressors encountered by patients in intensive care units include changes in sleep-wake rhythm, pain (6,7), sudden changes in body temperature, inability to maintain oral nutrition, increased tendency to infection, lying in an inappropriate fixed position for a long time, changes in the need for excretion, odor, noise, lack of privacy, use of oxygen mask, missing relatives, and communication difficulties (8). Besides, intensive care patients may also be exposed to psychosocial stressors such as depression, anger, missing their relatives, and anxiety (8,9). It is very important for nurses to recognize these stressors affecting the patient in intensive care units and develop solutions. In this way, patients' exposure to stressors decreases and they feel cared by the nurse. This interaction enables the patient to feel the nurse's presence (10).

The concept of the presence of the nurse has been defined by many theorists and authors in the historical process. In 1985, Gardner defined the concept of presence as physical accessibility and being close (10, 11). The nursing care process is a mutual process experienced between the patient and the nurse. While patient needs are met during nursing care, the nurse recognizes the patient and ensures that the mutual interaction is continuous. While providing nursing care, the nurse should make the patient feel that she is there for the patient, pay attention to him/her, and make the patient feel that this readiness is a humanitarian necessity (12-14).

The presence of the nurse to patients during their stay in the hospital and the positive perception of nursing care by patients play a role in the development of a sense of trust between the patient and the nurse (13).

In this regard, providing training to intensive care nurses on reducing environmental stressors in the intensive care environment enables nurses to better understand patients' needs and experiences.

Accurate understanding and fulfillment of the patient's needs are the foundation of effective nursing care.

Material and Methods

Target population and the sample

This research is a quasi-experimental intervention study conducted between July 2019 and March 2020. Two separate sample groups were used in the study. The first sample group consisted of all 13 nurses working in the Cardiovascular Surgery (CVS) Intensive Care Unit. The other sample group consisted of patients in the CVS Intensive Care Unit. The universe of the study for the patient group consisted of 819 patients who were treated in the CVS Intensive Care Unit in 2018 and transferred to the CVS clinic. The sample size of the study was determined as at least 44 patients in order to find a significant difference between the two means, with Type-1 error (α) = 0.05, power (1- β) = 0.90. At least 44 patients who were treated in the intensive care unit, at least 22 before the 12-hour training given to the nurses and at least 22 after the training, constitute the sample of the study. The study was completed with 66 patients after the data collection phase. When selecting patients; all patients who met the inclusion criteria were included in the study until the targeted number was reached before the training and pre-test data were collected. Then, the nurses were trained. No patients were taken during the training. After the training, all patients who met the inclusion criteria were included in the study until the targeted number was reached and post-test data were collected.

The training given to the nurses was carried out using powerpoint presentation, experience sharing and patient care practices. The content of the training is stated below;

Educational program to reduce environmental stressors in the intensive care environment

- Concept of Intensive Care, Nursing Care and Roles (2 hours)

The concept of intensive care

Overview of the intensive care environment

Creating a healing environment in intensive care

- Environmental Stressors in the Intensive Care Unit (4 hours)

Intensive care patient placement and equipment

Heat, noise, odor, lighting, call button and sleep in the intensive care environment

Physical stressors and care requirements in the intensive care unit

Post-operative physical requirements (drinking water, oxygen intake, medications, sleep, drains and tubes, follow-ups, pain, excretion, nutrition, patient bed)

Involving the patient in their own care in the intensive care unit

- Environmental Stressors in the Intensive Care Unit

(Psychosocial Needs and Care)

(2 hours)

Psychosocial and care needs in intensive care

Privacy and dignity in intensive care

Recognizing and acting on behavioral reactions of intensive care patients

- Communication with Patients and Relatives in the Intensive Care Unit (2 hours)

Effective communication with the patient

Improving communication and collaboration with the patient

Communication with the patient's relatives

- Presence of the Nurse in the Intensive Care Unit (2 hours)

Philosophy of nursing care

Nurse's perception of the patient (object/person)

Nurse's perception of his/her own existence to the patient

Sharing of experiences

Evaluation of education

Inclusion criteria

The study included

1. Patients admitted to the CVS Intensive Care Unit due to Coronary Artery Bypass Graft (CABG) Surgery,

2. Conscious patients who stayed in the CVS Intensive Care Unit for at least 48 hours (patients with a consciousness level of 9 and above according to the Glasgow Coma Scale),

3. Patients in the first 24 hours of their admission to the clinic,

4. Patients over 18 years of age,

5. Patients who are admitted to intensive care for the first time in their lives,

6. Patients who can speak and understand Turkish and have no communication barriers.

Ethical considerations

Before starting the research, ethics committee permission was obtained, dated 12.07.2019 and decision number B.30.2.ODM.0.20.08/497-607. Then, permission was obtained from the institution where the research would be conducted on 04.07.2019. All individuals participating in the study were informed about the study and their verbal/written consent was obtained. The principles of the Declaration of Helsinki were taken into account at all stages of the research.

Data collection tools

Nurse Information Form: The Nurse Information Form, which included 14 questions about the nurses' demographic characteristics and their working experiences in intensive care, was prepared by the researchers in line with the literature (6-8).

Patient Information Form: The Patient Information Form,

which included 9 questions about patients' demographic characteristics and intensive care experiences, was prepared by the researchers in line with the literature (6, 7).

The Presence of Nursing Scale (PONS): The 28-item Presence of Nursing Scale is a Likert-type scale developed by Kostovich (2012). Turkish validity and reliability of the scale were performed by Bozdoğan Yeşilot and Öz in 2016. The Turkish form of the scale consists of 25 items. The first item in the Turkish form of the scale is not included in the scoring, and the scores to be obtained from the scale range from 24 to 120 points. The total score determines the individual's perception of the presence of the nurse, with higher scores showing an increase in nurse behaviors indicating her presence and positive perceptions of patients. Cronbach's alpha of the scale was reported 0.96 (11, 15), and it was found 0.95 in this study.

The Intensive Care Unit Environmental Stressors Scale (ICUESS): The scale, which was developed in 1982 and revised by Cochran and Ganong in 1989, aims to determine the stressors perceived by patients in the ICU. The Turkish validity and reliability of the scale was conducted by Aslan in 2010, and Cronbach's alpha coefficient was calculated as 0.94. Cronbach's alpha coefficient of the scale was found to be 0.91 in this study. Scale consists of 42 items. Scores to be obtained from the scale range from 42 to 168 points, with higher scores on the scale indicating that patients are negatively affected by the stressors in the ICU (16).

The Intensive Care Experience Scale (ICES): The scale was developed by Rattray et al. in 2004 to determine patients' intensive care experiences. The validity and reliability study of the scale in Turkey was conducted by Demir et al. in 2009, and the number of items was reduced to 19. Demir et al. found the item-total score correlation of the scale as 0.30-0.68. Cronbach's alpha coefficient was 0.79. Cronbach's alpha coefficient was found to be 0.75 in this study. Scores to be obtained from the scale range from 19 to 95 points, and lower scores obtained from the scale indicate patients' more negative intensive care experiences. Higher scores obtained from the scale indicate patients' higher awareness and more positive intensive care experiences (17, 18).

The Glasgow Coma Scale (GCS): The Glasgow Coma Scale (GCS) was developed by Jennett and Teasdale to assess the patient's neurological status. GCS is a measurement tool that allows rapid and reliable assessment of changes in the patient's state of consciousness. The Glasgow Coma Scale is scored in three different sections. These sections include eye response, verbal response, and motor response. The total score to be obtained from each section ranges from 3 to 15, with higher scores indicating the patient's good consciousness level and lower scores indicating poor consciousness level.

Data collection

Data collection from the patients who met the inclusion criteria for the study sample started on 15.07.2019. The data collection forms were administered in two stages, which included before and after the training on reducing intensive care environment stressors.

After the pre-test data of the study were collected, training was started on 08.11.2019, and nurses were provided with a total of 12 hours of training on reducing environmental stressors in the intensive care environment. Patients who were provided care by nurses until 11.12.2019, when the training ended, were not included in the study. After the training ended, data from the patients were collected between 12.12.2019 and 02.03.2020. From the beginning to the end of the collection of these data (excluding the dates of the training), a total of 75 patients (35 before and 40 after the training) who met the inclusion criteria were reached, and the data collection process of the study was completed.

When the patients' descriptive characteristics were compared, two patients from the pre-test group and seven patients from the post-test group were excluded from the study to ensure homogeneity in terms of their descriptive features, and the study was completed with a total of 66 patients (33 before the training and 33 after the training).

Data Analysis

Statistical analysis of the research was performed using the Statistical Package for the Social Sciences 23.0 software package (SPSS-IBM Corporation, NY, USA). Percentage, arithmetic mean and standard deviation analyzes were used in the analysis of descriptive data.

Analysis was conducted to find out whether the patients' data met the parametric test assumptions according to the sample size and normal distribution characteristics. Data were analyzed using the Student t-test in two independent groups that met the parametric conditions and the Mann-Whitney U test in two independent groups that did not meet the parametric conditions. Kruskal Wallis H test was utilized for the analysis of three or more independent groups that did not meet the parametric conditions. In addition, the Chi-

square test was utilized to find out whether the descriptive characteristics of the patients forming the pre-test and post-test groups were parallel. P<0.05 was determined as the significance level in statistical analyses.

Results

The average age of participating nurses was 33.85±5.89 years; while 76.9% were female, 69.2% were married. Of all the nurses, while 53.8% did not start to work in intensive care willingly, 53.8% were satisfied with working in intensive care. While none of the participating nurses had received any training on reducing intensive care stressors before (Table 1).

The average age of the patients was 64.64±7.43 in the pre-test group and 63.00±5.82 in the post-test group. An analysis by gender showed that 66.7% of the patients in the pre-test group and 60.6% of the patients in the post-test group were male (Table 2).

When Table 3 analyzed, the areas where the patients in both the pre-test and post-test groups felt the presence of the nurse in the intensive care unit the most were 'These nurses "checked" on me to make sure that I do not have a problem' and 'These nurses were skillful while taking care of me'.

When Table 4 analyzed, 'Not being able to drink water' and 'Being tied down by tubes' were found to be the stressors that affected both the pre-test and post-test groups the most in the intensive care unit. 'Hearing the phone ring', 'Constantly being examined by doctors and nurses', Feeling the nurses are watching the machines closer than they are watching you', and 'Being awakened by nurses' were indicated as the stressors that affected all participating patients the least.

In Table 5, the most positive experience of the patients in both the pre-test and post-test groups was found 'I was constantly bothered in intensive care'. The most negative experiences of the patients in the pre-test group in intensive care included 'I felt the absence of my relatives a lot while I was in intensive care', 'I thought I might die during my stay in intensive care' and 'I realized that someone was coming near me in intensive care'.

The most negative experiences of the patients in the post-test group in intensive care included 'I felt safe in intensive care', 'I felt safer during the daytime in intensive care', and 'I think my care in intensive care was done in the best way it could be done' (Table 6).

Table 1. Nurses' descriptive characteristics

Variables	n	%	Variables	n	%
Age (Min: 28, Max: 51, Ort.: 33,85±5,89)			Marital Status		
29 years and below	3	23,1	Married	9	69.2
30-44 years	9	69,2	Single	4	30.8
45 years and above	1	7,7	Education Level		
Gender			Vocational school of health	1	7.7
Female	10	76.9	Associate degree	1	7.7
Male	3	23.1	Undergraduate degree	11	84.6
Years of experience as a nurse			Years of experience in the intensive care unit		
0-3 years	1	7,7	1-3 years	3	23.1
4-6 years	4	30.8	4-6 years	3	23.1
7-10 years	1	7.7	7-10 years	2	15.3
More than 10 years	7	53.8	More than 10 years	5	38.5
Type of Intensive care unit worked before			Satisfaction with working in the intensive care unit		
Surgical Intensive Care	1	20.0	Yes	7	53.8
General Intensive Care	1	20.0	No	0	0.0
CVS Intensive Care	3	60.0	Partly	6	46.2
Starting to work in Intensive Care willingly			Having received education for the intensive care unit nursing		
Yes	6	46.2	Yes	12	92.3
No	7	53.8	No	1	7.7
Education received			Having received education on Reducing Stressors in the Intensive Care Unit		
Intensive Care Certificate	13	100.0	No	13	100.0

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Discussion

In this study, which aims to examine the effect of the training given to nurses on reducing environmental stressors on intensive care patients' perception of the nurse's presence, the pre-test total score of the Nurse's Presence Scale is 81.21±13.14, and the post-test total score is 97.58±3.12. In their study titled 'Cancer patients' perception of the presence of nurses', Bozdoğan Yeşilot and Öz (2017) found the total score average of the scale to be 88.46±22.64. In the validity and reliability study, Kostovich (2012) reported the total score average of the scale as 105.83±16.05. When the results of this study were compared with other studies, it was seen that the mean Nursing Presence Scale pre-test total score was lower in our study. The increase in scores after the training given to nurses indicates that nurses need support and information in introducing their presence to the patient (10, 15).

When the mean scores of the scale items were examined, the statements 'These nurses checked on me to make sure I was not having any problems' and 'These nurses were skillful in taking care of me' received the highest scores in both patient groups. In parallel with similar studies, patients' perceptions of nursing care were positive in this study (13, 14). It is known that patients' positive perception of the nurse's presence facilitates their recovery and increases their psychological and physical well-being and coping skills (19, 20).

Another result of this study is that the patients in the post-test group received higher scores on the items related to the patients' physiopathological problems, but there was no increase in the scale items related to psychosocial problems. It has been reported in many studies that intensive care nurses are mainly concerned with the physical care of patients, ignoring the psychosocial needs of patients or not being able to spare time for them (21-23). Based on this result, it can be said that in environments where psychosocial stressors are high, such as intensive care units, nurses paying attention only to the physical needs of patients will not be sufficient for recovery to occur as soon as possible. For this reason, intensive care patients, who need the support of nurses in every aspect, also need to be supported psychosocially.

While the pre-test total score average of the Intensive Care Unit Environmental Stressors Scale is 117.15±6.76, the post-test total score average is 118.48±7.08. This result shows

Table 2. Patients' descriptive characteristics					
	Patients before the Training		Patients after the Training		Test and p-value
Age	Min:47,Max:76 Ort:64,64±7,43			Min:47,Max:76 Ort:64,64±7,43	t=,0996 p=0,323
	n	%	n	%	Test p
45-54 years	3	9,1	2	6,1	χ2=0,635 p=0,728
55-64 years	13	39,4	16	48,5	
65 years and over	17	51,5	15	45,5	
Gender					χ2=0,26 p=0,609
Female	11	33,3	13	39,4	
Male	22	66,7	20	60,6	
Education level					χ2=2,15 p=0,827
Illiterate	4	12,1	2	6,1	
Literate	4	12,1	5	15,2	
Primary school	14	42,4	12	36,4	
Secondary school	7	21,2	11	33,3	
High school	2	6,1	1	3,0	
University	2	6,1	2	6,1	
Employment status					χ2=1,22 p=0,269
Not working	26	78,8	22	66,7	
Working	7	21,2	11	33,3	
Marital Status					χ2=2,39 p=0,122
Married	29	87,9	24	72,7	
Single	4	12,1	9	27,3	
Family Structure					χ2=0,07 p=0,786
Nuclear Family	23	69,7	24	72,7	
Extended Family	10	30,3	9	27,3	
Place of Living					χ2=6,16 p=0,104
Village	2	6,1	6	18,2	
Town	8	24,2	7	21,2	
District	8	24,2	13	39,4	
City	15	45,5	7	21,2	
Perceived income					Fisher's=4,450 p=0,114
Low	2	6,1	5	15,2	
Medium	27	81,8	19	57,5	
High	4	12,1	9	27,3	
Medical diagnosis					Fisher's=59,37 p=0,051
Heart Failure	1	3,0	0	0,0	
Coronary Artery Disease	21	63,6	13	39,4	
Coronary Insufficiency	11	33,3	20	60,6	
Chronic Disease					Fisher's=2,731 p=,633
Diabetes	10	30,3	12	36,4	
Rheumatism	1	3,0	3	9,1	
Hypertension	12	36,4	9	27,3	
Kidney disease	0	0,0	1	3,0	
Other	10	30,3	8	24,2	
Duration of Intensive Care Stay					
4 days	5	15,2	4	12,1	χ2=2,85 p=0,581
5 days	6	18,2	10	30,3	
6 days	10	30,2	8	24,2	
7 days	7	21,2	9	27,3	
8 days	5	15,2	2	6,1	
Glasgow Coma Scale Score 9-12 points	22	66,6	21	63,7	χ2=0,26 p=0,509
13-15 points	11	33,4	12	36,3	

Table 3. The presence of nursing scale item mean scores

Presence of Nursing Scale		Pre-test Group Patients(n=33)		Post-test Group Patients (n=33)	
		Score Rank	Ort. ±SD	Score rank	Ort. ±SD
1	Did the presence of the nurse who provided care to you make a difference (the difference could be positive or negative)	not included in the rank	1,40±0,497	not included in the rank	1,13±0,335
2	These nurses were sensitive toward my concerns.	5	3,71±0,750	4	4,28±0,640
3	These nurses taught me what I needed to know.	6	3,66±0,639	3	4,30±0,608
4	These nurses "checked" on me to make sure that I do not have a problem.	1	4,29±0,622	1	4,65±0,533
5	These nurses met my spiritual needs.	13	3,23±0,690	11	4,02±0,620
6	These nurses talked to me like a friend.	11	3,31±0,796	7	4,10±0,545
7	These nurses comforted me physically.	3	3,89±0,323	6	4,13±0,607
8	These nurses comforted me emotionally.	18	3,14±00,692	17	3,82±0,526
9	These nurses understood my feelings.	23	2,91±0,742	22	3,45±0,533
10	These nurses acquired my trust.	15	3,20±0,847	18	3,88±0,357
11	These nurses were skillful while taking care of me.	2	4,09±0,658	2	4,63±0,586
12	These nurses were beside me when I needed them.	4	3,80±0,473	5	4,18±0,385
13	These nurses helped my day run smoothly.	8	3,51±0,658	20	3,70±0,516
14	These nurses provided a sense of healing around me.	14	3,23±0,598	19	3,75±0,494
15	These nurses listened and responded to my needs.	9	3,46±0,741	9	4,05±0,389
16	These nurses calmed my fears.	16	3,20±0,797	14	3,90±0,441
17	These nurses were concerned about me.	22	2,91±0,832	15	3,88±0,563
18	These nurses were committed to caring for me.	24	2,77±0,808	21	3,48±0,506
19	These nurses made me feel safe.	19	3,11±0,718	16	3,83±0,350
20	These nurses took care of me as a person, not as a disease.	10	3,46±0,657	8	4,07±0,267
21	These nurses enabled me to control my healthcare as much as possible.	12	3,31±0,758	13	4,00±0,000
22	These nurses improved my life quality.	7	3,51±0,702	12	4,00±0,320
23	I trusted these nurses.	17	3,20±0,777	10	4,04±0,350
24	I felt a connection with these nurses.	21	2,97±0,891	16	3,83±0,350
25	The presence of these nurses made a difference for me.	20	3,00±0,970	16	3,83±0,350

that patients experience high levels of stress in the intensive care environment. While some of these stress factors can be controlled by nurses, some cannot. It is thought that the lack of difference in the pre-test and post-test scale score averages is due to the high number of stressors that nurses cannot control (mechanical ventilator application, need to check vital signs, drug treatment, etc.). Not being able to drink water was determined to be the most important cause of stress for the patients in the pre-test and post-test groups of our study.

On patients hospitalized in the reanimation intensive care unit, Tezcan-Karadeniz and Kanan (2019) found that the average score of the scale was 69.26±21.84, Hweidi and Nizamli (2015) in a study conducted by in the intensive care units of two public hospitals in Jordan, they found the average score of the scale to be 86.2±15.6. In their study with patients treated in the general surgery intensive care unit, İyigün et al., (2021) found the average score of the scale to be 70.06±13.62 (24-26). Compared to these studies, it appears that the patients in our sample were more affected by environmental stressors. Factors such as the location of the study being a tertiary surgical intensive care unit, not taking oral fluids during the preoperative care process, and blood-fluid loss during the surgery are thought to be related to this result. In their study on patients hospitalized in the second-stage general intensive care unit, Karakoç-Kumsar and Gencer (2020) found the average score of the scale to be 128.32±16.37. Compared to this study, it appears that the patients in our sample were less affected by environmental stressors. This may be due to the fact that different patient groups are hospitalized in intensive care units for different purposes (27).

In our study, being connected to tubes was the second most common cause of stress in patients in the pre-test and post-test groups. Patients undergoing CABG surgery are brought to the CVS Intensive Care Unit with an endotracheal tube. When patients wake up in the intensive care unit, they are connected to tubes, and the presence of the endotracheal tube restricts

Table 4. Item mean scores of the ıntensive care unit environmental stressors scale

The Intensive Care Unit Environmental Stressors Scale		Pre-test Group Patients (n=33)		Post-test Group Patients (n=33)	
		Score Rank	Ort. ±SD	Score Rank	Ort. ±SD
1	Being tied down by tubes	2	3,90±0,61	2	3,80±0,49
2	Not having the nurses introduce themselves	31	2,28±0,71	30	2,30±0,60
3	Having nurses be in too much of a hurry	24	2,45±0,74	29	2,26±0,67
4	Not being able to drink water	1	3,97±0,37	1	3,85±0,36
5	Having your blood pressure taken often each day	21	2,54±0,91	39	1,87±0,64
6	Uncomfortable bed and/or pillow	11	3,20±0,01	19	2,65±0,69
7	Hearing the telephone ring	36	2,08±0,70	41	1,75±0,66
8	Constantly being examined by doctors and nurses	40	1,68±0,71	42	1,45±0,55
9	Having strange machines around you	29	2,35±0,77	18	2,72±0,59
10	Feeling the nurses are watching the machines closer than they are watching you	42	1,62±0,73	37	2,17±0,50
11	Hearing buzzers and alarms from machinery	34	2,20±0,63	24	2,45±0,63
12	Nurses and doctors talking too loudly	38	1,88±0,52	38	2,10±0,54
13	Having to wear oxygen	16	3,05±0,59	14	3,02±0,47
14	Missing your husband or wife	9	3,29±0,64	11	3,22±0,65
15	Not having treatments explained to you	23	2,51±0,65	25	2,42±0,52
16	Hearing the heart monitor alarm go off	18	3,02±0,60	15	3,01±0,37
17	Having nurses constantly doing things around your bed	35	2,11±0,86	33	2,22±0,57
18	Having tubes in your nose or mouth	8	3,31±0,71	10	3,32±0,54
19	Not knowing what time it is	22	2,51±0,91	35	2,20±0,82
20	Hearing other patients cry out	15	3,10±0,57	4	3,67±0,69
21	Men and women staying in the same room	7	3,40±0,37	3	3,77±0,40
22	Seeing family and friends only for a few minutes a day	19	3,01±0,52	26	2,37±0,64
23	Not knowing when the treatments will be administered	30	2,32±0,69	27	2,35±0,57
24	Being awakened by nurses	39	1,80±0,63	40	1,.85±0,76
25	Unfamiliar and unusual noises	33	2,30±0,63	21	2,61±0,65
26	Seeing treatments done to other patients	14	3,14±0,60	36	2,20±0,67
27	Constantly looking at the ceiling (watching the ceiling)	13	3,17±0,74	20	2,65±0,48
28	Not being able to sleep	4	3,71±0,38	7	3,50±0,64
29	Not being able to move your hands because of i. v. line	25	2,42±0,77	23	2,57±0,52
30	Being aware of unusual smells around you	27	2,40±0,60	16	2,95±0,55
31	Having lights on constantly	5	3,61±0,61	6	3,52±0,50
32	Having pain	3	3,82±0,57	9	3,40±0,55
33	Seeing iv. bags hanging over your head	32	2,24±0,87	31	2,27±0,75
34	Being stuck with needles	17	3,02±0,85	5	3,60±0,63
35	Not knowing where you are	28	2,40±0,55	22	2,57±0,59
36	Having the nurses use words you cannot understand	37	2,02±0,74	28	2,27±0,55
37	Not being in control of yourself	20	2,91±0,74	13	3,05±0,45
38	Not knowing what day it is	26	2,40±0,69	34	2,22±0,03
39	Getting bored	10	3,25±0,71	17	2,70±0,56
40	Having no privacy	6	3,45±0,28	8	3,42±0,26
41	Being cared for by unfamiliar doctors	41	1,65±0,63	32	2,22±0,89
42	Being in a room that is too hot or too cold	12	3,17±0,64	12	3,15±0,58

Table 5. Intensive care experience scale item mean scores

Intensive Care Experience Scale		Pre-test Group Patients (n=33)		Post-test Group Patients (n=33)	
		Score rank	Ort. ±SD	Score rank	Ort. ±SD
1	I felt safer during the daytime in intensive care.	10	2,63±1,190	18	1,53±1,244
2	I could never recognize whether it was daytime or night in intensive care.	9	2,69±0,993	2	3,88±,0686
3	I thought I might die during the time I stayed in intensive care.	19	1,89±0,796	13	2,18±0,931
4	The intensive care environment was always very noisy.	6	2,91±1,011	6	3,38±0,868
5	I think I slept too much in intensive care.	5	3,06±1,259	12	2,43±1,213
6	I was constantly bothered in intensive care.	1	3,54±0,817	1	4,05±0,221
7	I think my care in intensive care was done in the best way it could be done.	14	2,11±0,323	17	1,57±0,675
8	I could tell what I wanted to people who cared for me in intensive care.	11	2,51±0,702	15	2,05±0,504
9	Most of what I remember about the intensive care environment is blurry.	3	3,46±0,886	11	2,53±0,813
10	I could notice someone coming near me in intensive care.	18	1,97±0,382	14	2,18±0,549
11	I was aware of what was happening to me in intensive care.	12	2,46±0,701	10	2,55±0,783
12	I saw things I could not understand in intensive care.	13	2,11±0,796	16	1,65±0,736
13	I felt helpless in intensive care.	7	2,89±0,963	4	3,57±0,747
14	I felt pain in intensive care.	15	2,10±0,914	5	3,42±0,877
15	I felt scared in intensive care.	16	2,06±0,657	8	3,30±0,939
16	I felt safe in intensive care.	8	2,77±0,690	19	1,45±0,543
17	I had bad dreams in intensive care.	2	3,51±0,951	7	3,33±0,931
18	I felt only a little disturbed by being dependent on meeting my needs in intensive care.	4	3,26±0,950	3	3,70±0,883
19	I felt the absence of my relatives a lot in intensive care.	17	2,04±1,027	9	3,28±0,847

Table 6. Comparison Of The PONS, ICUESS, ICES, and ICES sub-scales pre-test and post-test mean scores

Scales and Sub-scales	Pre-test (n=33) Ort. ±SD	Post-test(n=33) Ort. ±SD	Test and Significance
Presence of Nursing Scale	81,21±13,14	97,58±3,12	t=-6,959 p=,000
Intensive Care Unit Environmental Stressors Scale	117,15±6,76	118,48±7,08	t=-,782 p=,437
Intensive Care Experience Scale	51,06±3,15	54,12±4,49	t=-3,428 p=,001
Awareness of surroundings while in the intensive care unit sub-scale	16,61±1,85	18,30±2,16	t=4,335 p=,000
Frightening experiences in the intensive care unit sub-scale	10,09±1,49	11,24±1,50	t=-3,132 p=,003
Recalling experiences in the intensive care unit sub-scale	10,06±1,45	11,30±1,49	t=-3,290 p=,002
Satisfaction with care received in the intensive care unit sub-scale	14,30±1,69	15,91±2,24	t=-3,204 p=,002

the patients' movements and communication skills (4). Zaybak and Çevik (2015) reported that the most important stress factor for patients in intensive care is 'having a tube in the mouth or nose'. In their study examining the experiences of intensive care patients, Zaybak and Yapucu Güneş (2010) concluded that the intensive care experiences of patients connected to mechanical ventilation in the intensive care unit were negatively affected. In line with the results obtained, being connected to a mechanical ventilator emerges as an important stress factor for patients (28, 29).

While pain was the third most important cause of stress for the patients in the pre-test group of our study, it ranked seventh according to the patients in the post-test group. The training given to nurses may have enabled more frequent pain monitoring of the patient. In other studies examining the stress factors affecting intensive care patients in our country, pain was found to be the most important stress factor (8, 30, 31). Additionally, Özdemir (2010) aimed to determine the experiences of coronary intensive care patients and concluded that patients without pain had a more positive intensive care experience than patients with pain (32). Pain is a stressor that also affects the recovery rate of intensive care patients. Catecholamine release may cause sleep disturbance, which may lead to the development of anxiety, depression and delirium in patients (32-34). Effective pain management by intensive care nurses is also important for the comfort of patients.

Ringing the phone was found to be one of the low-level stressors. Similarly, in the study conducted by Yaman Aktaş et al. (2015), it was stated that the 'phone ring' was the least stressful factor for the patients (8). Other low-level stressors in our study included; These included examination by doctors and nurses, feeling that nurses monitor the machines more carefully than the patients, and nurses walking around the bed. Similarly, in the study conducted by Gültekin et al., (2018) nurses walking around the bed was defined as the lowest level of stress factor. The presence of doctors and nurses in the environment and their examination may lead patients to believe that they are being cared for. Adsay and Dedeli (2015) evaluated the intensive care experiences of patients discharged from intensive care and concluded that frequent follow-up and observation by health professionals increased satisfaction with intensive care (35, 36).

The pretest total score average of the Intensive Care Experience Scale was 51.06±3.15, and the posttest total score average was 54.12±4.49. Examining the patients' responses to the scale showed that the training given to nurses was beneficial in terms of patients' positive intensive care experiences.

A weak positive correlation was found between the Nursing Presence Scale post-test scores and the Intensive Care Experience Scale post-test scores of the patients in the post-test group ($p>0.05$). Both the increase in the scale mean scores and the narrowing of the standard deviation limits showed that the training given to nurses had an impact on patients' positive perception of the nurse's presence.

An inverse relationship was found between the Satisfaction Scores with the Care Received on the Intensive Care Experience Scale Intensive Care Subscale of the patients in the pre-test group and the Intensive Care Unit Environmental Stressors ($p>0.05$). It was evaluated that the increase in the total subscale score averages after the training given to the nurses was related to the positive changes in the nurses' approach to the patients, and therefore the patient's satisfaction with the care received may have increased. increased.

Limitation

The results of the study are limited to cardiovascular surgery intensive care nurses and patients working in the hospital where the study was conducted. Therefore, they cannot be generalized.

Conclusion

It was concluded that the 12-hour training given to cardiovascular surgery intensive care nurses had a positive impact on the patients' perception of the nurse's presence and their intensive care experience and had an impact on the physiopathological stressors affecting the patients.

In line with these results;

-To prepare and disseminate training programs for nurses and cooperate with professional organizations to reduce environmental stressors in intensive care.

-To make arrangements to ensure full-time participation of nurses in education,

- Conducting qualitative studies for nurses and patients before and after training,

-It is recommended that the training content be prepared in a way that highlights the psychosocial dimension.

Çıkar Çatışması

Yazarlar herhangi bir çıkar çatışmasının olmadığını beyan ederler.

Etik Onayı

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