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Intensive Care Experiences of Patients After Surgery

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Abstract

Background: Patients hospitalized in the intensive care unit are faced with many factors that can negatively affect the intensive care experience, such as pain, noise, insomnia, and lack of privacy.

Aim: The study was planned to determine the experiences of patients whose care and treatment were continued in the intensive care unit after surgery during their stay in these units.

Methods: The study, which was planned quantitatively and descriptively, was conducted between January 2019 and October 2019 with 220 patients in the inpatient clinics of a private hospital. The data were collected by face-to-face interview method within the first 24 hours after the patients were transferred from the intensive care unit in the service rooms where they were hospitalized, using the "patient information form" and "Intensive Care Experience Scale." Number, percentage, mean, standard deviation, *t*-test, and 1-way analysis of variance were used for data analysis.

Results: According to the results of this study, 61.4% of the participants in the study were male, and their average age was 58.795 ± 15.503 years. The total mean score of the patients from the Intensive Care Experience Scale was 73.809 ± 5.050. It was found that the satisfaction scores of the patients were significantly different according to the age variable ($P < .05$). The scores of satisfaction with the care taken were found to be higher in those aged 61 and over than those aged 40 and below ($P < .05$).

Conclusion: As a result of the study, the intensive care experience of patients who had previously been in intensive care and stayed in a single room was positive; however it has been found that problems such as pain, noise, and inability to sleep cause patients to feel discomfort.

Keywords: Critical care, intensive care units, nursing care

Introduction

Intensive care units (ICU) are units that provide 24-hour care using technological devices to patients who have a critical medical or surgical disease, organ failure, and who are dependent on intensive care monitoring and treatment to maintain their vital functions.[1-3] Intensive care units are units where nurses, specialist physicians, technical personnel and devices are located. They also contain some factors that cause the patients to be adversely affected physically, socioculturally, psychologically and environmentally. Many factors such as pain, insomnia, communication, visiting, information, privacy, noise, and infection can affect the intensive care experiences of patients.[4,5] Since patients hospitalized in ICUs are critical patients due to their medical conditions that require close monitoring and intensive follow-up, they are exposed to many invasive and noninvasive procedures such as hemodynamic monitoring, arterial catheterization, central venous catheterization, mechanical ventilation, endotracheal intubation, and endotracheal aspiration. In addition, surgical intervention may cause disturbances in the individual's self-concept.[6-8] For this reason, patients may face with situations that create more stress in physical, environmental, physiological, and psychosocial aspects. Since these stress factors may affect the intensive care experience of the patient, the intensive care nurse should identify these situations that the patient may encounter and determine appropriate interventions.[9] The study was planned in a way in order to determine the experiences of the patients who were cared for and treated in the ICU after surgery during their stay in these units. For this purpose, answers were sought to the questions of what are the intensive care experiences of the patients after surgery and what are the factors affecting the intensive care experience of the patients.

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Materials and Methods

Design and Participants

The population of the study consisted of patients whose treatment and care continued in cardiovascular surgery intensive care unit (CSICU) and post-surgical general intensive care unit (GICU). The sample consisted of 220 patients over the age of 18 years, who were treated and cared for at least 24 hours in these units, were referred to inpatient services, and agreed to participate in the study.

The sample size was calculated using the G Power Analysis method. When calculated by G Power Analysis (effect size: 0.20; power level: 80%), it was determined that there should be 199 patients. Considering the possible loss of data, it was decided that 220 volunteers to be included in the study would be sufficient for the size of sample.

Ethical Considerations

Ethics committee approval was received for this study from Acibadem Mehmet Ali Aydinlar University Medical Research Evaluation Board (decision date: 06/12/2018, decision number: 2018-19/10). Written consent was obtained from all patients participating in the study.

Survey Design and Measures

Data in the study were collected using the patient information form and Intensive Care Experience Scale (ICES). The study was carried out between January 2019 and October 2019. The forms were filled in, on average, in 25 minutes. The data were collected in the service rooms where the patients were removed after the ICU, using the "patient information form" and the "ICES" within the first 24 hours after they were transferred from the ICU. The patients were informed about the study and after written consent was obtained from the patients who agreed to participate, the data were collected by face-to-face interview method in which questions were asked to the patients by the researcher.

The patient information form was prepared by adding 26 questions in order to determine the demographic characteristics of the patients, their intensive care experiences regarding their previous and current hospitalizations, their knowledge about intensive care admissions, and their intensive care experiences during their current hospitalizations.

The ICES was developed by Rattray et al, and its Turkish validity and reliability were made in 2009 by Demir, Akın, Eşer, and Khorshid. For the use of the scale, permission was obtained from the responsible author via e-mail. The ICES consists of 19 questions and has 5 degrees. There are nine questions in the scale (questions numbered 1, 2, 3, 4, 5, 6, 7, 8 and 9) to evaluate the patient's compliance with the intensive care unit; "1–strongly agree (5 points), 2–agree (4 points), 3–undecided (3 points), 4–disagree (2 points), and 5–strongly disagree (1 point); 10 questions (questions numbered 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19) were prepared to evaluate patients on the scale of "1–always (4 points), 2–often." (4 points), 3–sometimes (3 points), 4–rarely (2 points), and 5–never (1 point).

The 4 sub-dimensions obtained as a result of the confirmatory factor analysis applied to the scale for construct validity are "awareness of the surroundings while in intensive care" (first sub-dimension), "pessimistic experiences experienced" (second sub-dimension), "recalling experiences in intensive care" (third sub-dimension), and "satisfaction with care in the intensive care unit" (fourth sub-dimension).

The lowest point was 19 and the highest was 95 points that are obtained from the ICES. It is evaluated that the consciousness levels of the patients who scored lower on the scale are not clear enough and their experiences in the ICU are more negative; patients who scored higher on the scale have higher awareness and their experiences are more positive. The item total score correlation of the scale was between 0.30 and 0.68, and the Cronbach's alpha coefficient was 0.79.[4] In this study, the Cronbach's alpha coefficient was found to be 0.723.

Data Analysis

The data obtained from the study were analyzed using the Statistical Package for Social Sciences for Windows 22.0 program. Number, percentage, mean, and SD were used as descriptive statistical methods in the evaluation of the data. The *t*-test was used to compare the quantitative continuous data between 2 independent groups and the 1-way analysis of variance (ANOVA) test was used to compare the continuous quantitative data between 2 independent groups. After the ANOVA test, the Scheffe test was used as a complementary post-hoc analysis to determine the differences.

Results

According to the results of the study, 61.4% of the patients were male and 38.6% were female. The average age of the patients participating in the study was 58.795 ± 15.503 years, 61.4% were male, and 87.3% were found to be married (Table 1).

The satisfaction scores of the patients with care received significantly differ according to the age variable ($P < .05$). It was determined that patients aged 61 and over had higher care satisfaction scores than those aged 40 and over ($P < .05$). The pessimistic experience scores of the single patients were higher than the pessimistic experiences of the married patients ($P < .05$). The satisfaction scores of the patients with care received significantly differ according to the educational status variable ($P < .05$). The reason for the difference is that satisfaction scores of those whose educational status is secondary school with care received are higher than those whose educational status is university and above ($P < .05$).

The environmental awareness scores of the patients who did not experience intensive care admission before were found to be higher than the environmental awareness scores of the patients with intensive care hospitalization ($P < .05$). It was found that the satisfaction scores of patients who did not have previous intensive care hospitalization experience were lower than the satisfaction scores of those who had previous intensive care hospitalization experience ($P < .05$). The pessimistic experience scores of the patients with GICU in their current hospitalization were found to be higher than the pessimistic experiences of the patients with CSICU ($P < .05$). The pessimistic experience scores of patient who stayed in the intensive care unit in a single room were higher than the scores of those who stayed in the general room in the intensive care unit ($P < .05$).

The total mean score of the patients in the ICES was 73.809 ± 5.050. The total mean scores of the 4 sub-dimensions of the scale are as follows: "awareness of the environment" 16.105 ± 2.075, "pessimistic experiences experienced" 17.518 ± 2.010, "remembering experiences" 17.082 ± 2.242, "satisfaction with the care received" 23.105 ± 2.593 (Table 2).

The scores of those who did not encounter a situation causing discomfort in the ICU were found to be higher than the recall scores of

Table 1. Differences Between the Intensive Care Experience Scale Scores of the Patients According to Their Demographic Characteristics and Intensive Care Characteristics

Demographic Features	n	Awareness of Surroundings	Pessimistic Experiences Experienced	Recall of Experiences	Satisfaction with Care Received	Intensive Care Experience Total
Gender						
Female	85	16.282 ± 1.868	17.671 ± 2.067	17.024 ± 2.493	23.024 ± 2.535	74.000 ± 5.300
Male	135	15.993 ± 2.194	17.422 ± 1.975	17.119 ± 2.077	23.156 ± 2.637	73.689 ± .4.901
t		1.009	0.892	−0.305	−0.367	0.444
P		.314	.373	.77	.714	.657
Age						
40 and below	33	16.727 ± 2.440	17.970 ± 2.325	16.394 ± 3.051	21.879 ± 3.180	72.970 ± 6.710
41-50	33	16.182 ± 2.214	17.636 ± 1.765	16.727 ± 2.140	22.939 ± 3.201	73.485 ± 5.351
51-60	43	16.047 ± 2.023	17.861 ± 1.740	17.558 ± 1.803	22.977 ± 2.188	74.442 ± 4.267
61-70	58	15.810 ± 1.849	17.517 ± 2.011	17.155 ± 2.323	23.379 ± 2.784	73.862 ± 5.246
71 and over	53	16.038 ± 2.009	16.887 ± 2.063	17.264 ± 1.862	23.774 ± 1.382	73.962 ± 4.038
F		1.07	2.105	1.589	3.059	0.44
P		.372	.081	.178	.018	.78
Post hoc					4 > 1.5 >1 (*P* < .05)	
Education status						
Secondary school and below	95	15.768 ± 1.882	17.390 ± 2.130	17.347 ± 2.201	23.642 ± 1.756	74.147 ± 4.566
High school	44	16.477 ± 2.257	17.500 ± 1.849	16.977 ± 1.836	23.227 ± 2.089	74.182 ± 4.277
University and above	81	16.296 ± 2.153	17.679 ± 1.961	16.827 ± 2.469	22.407 ± 3.405	73.210 ± 5.907
F		2.331	0.454	1.24	5.211	0.903
P		.1	.636	.291	.006	.407
Post hoc					1 > 3 (*P* < .05)	
Intensive care features						
Previous intensive care hospitalization experience						
No	144	16.306 ± 2.136	17.507 ± 2.119	16.965 ± 2.375	22.840 ± 2.842	73.618 ± 5.555
Yes	76	15.724 ± 1.909	17.540 ± 1.800	17.303 ± 1.960	23.605 ± 1.960	74.171 ± 3.927
t		1.992	−0.114	−1.062	−2.097	−0.772
P		.048	.909	.29	.02	.393
ICU where the patients stay/treated						
GICU	134	16.179 ± 1.919	17.746 ± 1.969	17.045 ± 2.124	23.231 ± 2.465	74.202 ± 4.760
CSICU	86	15.988 ± 2.303	17.163 ± 2.034	17.140 ± 2.426	22.907 ± 2.785	73.198 ± 5.442
t		0.665	2.117	-0.305	0.905	1.442
P		.507	.035	.76	.38	.151
The presence of drainage system						
No	21	16.571 ± 2.204	18.571 ± 1.599	17.762 ± 1.758	23.095 ± 2.189	76.000 ± 4.050
Yes	199	16.055 ± 2.060	17.407 ± 2.020	17.010 ± 2.279	23.106 ± 2.637	73.578 ± 5.097

(*Continued*)

Table 1. Differences Between the Intensive Care Experience Scale Scores of the Patients According to Their Demographic Characteristics and Intensive Care Characteristics (*Continued*)

Demographic Features	n	Awareness of Surroundings	Pessimistic Experiences Experienced	Recall of Experiences	Satisfaction with Care Received	Intensive Care Experience Total
t		1.085	2.556	1.466	-0.017	2.107
P		.279	.011	.144	.986	.036
Presence of an uncomfortable situation in ICU						
No	39	16.282 ± 2.395	17.103 ± 2.415	17.769 ± 2.019	23.359 ± 2.401	74.513 ± 4.920
Yes	181	16.066 ± 2.004	17.608 ± 1.908	16.934 ± 2.265	23.050 ± 2.636	73.658 ± 5.078
t		0.588	–1.427	2.128	0.675	0.959
P		.557	.226	.034	.501	.338

Values are given as mean ± SD. $P < .05$ is statistically significant.
CSICU, cardiovascular surgery intensive care unit; GICU, general intensive care unit; ICU, intensive care unit.

those who encountered a situation that caused discomfort in the ICU ($P < .05$). When the questions in the patient identification form are evaluated, the distribution of the patients according to the presence of discomfort in the intensive care unit as indicated in Table 3, 17.7% there is no situation causing discomfort, 82.3% of them have a situation that causes discomfort.

Discussion

The highest score that can be obtained from ICES is 95, and the average total score was found to be high in this study. When we look at the studies in the literature, it was seen that the scale score average of this study was higher than the study of Hintistan et al.[10] the study of Adsay,[1] and the study of Dinlegör Sekmen and Ünsar.[11] The difference in points may be thought to be due to the fact that other studies were conducted in state hospitals, this study was conducted in a private hospital, and the expectations of the patients from the hospital they applied to were different.

In the study, it was determined that the satisfaction scores of the patients with the care received varied significantly according to the educational status variable, and the satisfaction scores of those with an education level of middle school and below were higher than those of those with a university or higher education level ($P < .05$). Adsay,[1] Tuna et al.[13] and Zaybak and Yapucu Güneş[12] reported that there was no statistically significant difference between the ICES total score and the scale subgroup mean scores ($P > .05$). The reason for this difference can be attributed to the increase in awareness with the increase in the level of education and the decrease in satisfaction with the procedures and care provided.

In the study, the pessimistic experiences of the patients staying in a single room were higher than the pessimistic experiences of those staying in the general room ($P < .05$). In the study of Fredriksen and Ringsberg,[14] it was reported that patients staying in a single room had negative intensive care experiences, and the reason for this situation was associated with being alone in the room and fear. In studies examining the experiences of intensive care patients,[2-8] it is stated that invasive and noninvasive interventions applied in the ICU affect the intensive care experience of the patients. Surgical procedures, pain, sleep problems, orientation and consciousness disorders, inadequate communication, and the presence of noise can be considered as conditions that disturb the patient. Pain in the ICU is most frequently caused by invasive and noninvasive applications, surgical procedures, change of position, and dressing.[19-21]

In the study, it was determined that almost half of the patients experienced pain from surgical intervention areas in the intensive care after surgery. Mattila et al[15] stated in their study that the most common symptom seen in patients after surgical intervention was acute surgical pain. In the study of Liu et al.[16] it was reported that patients had a moderate and severe pain expressions on the first day after surgery. About 24.3% of the patients in the ICU are affected by door sounds, ambient noise, device alarms, staff voices, speeches, cleaning staff working by making excessive noise during garbage collection,

Table 2. The Mean Scores of the Patients From the Intensive Care Experience Scale and Its Sub-dimensions

ICES Total Score and Subgroups	Mean	SD	Minimum	Maximum
Total score of awareness of the environment subscale	16.105	2.075	11.000	22.000
Experienced pessimistic experiences sub-dimension total score	17.518	2.010	10.000	20.000
Total score of the subscale for remembering experiences	17.082	2.242	8.000	20.000
Total score for satisfaction with care taken	23.105	2.593	10.000	25.000
ICES total score	73.809	5.050	52.000	82.000

ICES, Intensive Care Experience Scale.

Table 3. Conditions Causing Discomfort in Intensive Care Unit

Presence of an uncomfortable situation in the intensive care unit (N=220)		
	n	%
Yes	181	82.3
No	39	17.7
Situations that cause disturbance	n	%
Pain (n=181)		
Yes	74	40.9
No	107	59.1
Fright (n=181)		
Yes	8	4.4
No	173	95.6
Noise (n=181)		
Yes	35	19.3
No	146	80.7
Speeches (n=181)		
Yes	9	5.0
No	172	95.0
Smell (n=181)		
Yes	1	0.6
No	180	99.4
Inability to sleep (n=181)		
Yes	28	15.5
No	153	84.5
Medical equipment (n=181)		
Yes	38	21.0
No	143	79.0
Lack of information about the transactions made (n=181)		
Yes	3	1.7
No	178	98.3
Visitor restriction (n=181)		
Yes	18	9.9
No	163	90.1
Other (n=181)		
Yes	18	9.9
No	163	90.1

repair and construction sounds in the hospital, crying noise of the baby patient in the other rooms, and the active work of the intensive care team. It was determined that they were disturbed by causing confusion and creating noise. In the studies of Yoder et al[17] and Kol et al.[18] it was reported that there was noise in ICU due to device alarms, telephone sounds, and speech sounds of the staff members, and patients were disturbed by the device and infusion pump alarms and employee speech. In the study, it was found that 21% of the patients were uncomfortable with medical equipment in the intensive care. It was determined that the patients were most uncomfortable with drains, thorax tube, central venous catheter, and bladder catheter.

In the study conducted by Akdemir,[6] it was reported that the intensive care experiences of patients with bladder catheters were negative for reasons such as pain and the perception that the catheter would be removed. In the study, it was determined that the reasons for not being able to sleep were caused by the difference in the intensive care environment, the inability to fall asleep due to noise, pain, feeling fear, anxiety, the nurses' procedures, and the difficulties in moving comfortably in the bed due to the equipment connected to the body, and 15.5% of the patients could not sleep.

In the study of Little et al.[19] the sleep quality of the patients was defined as bad, and it was reported that the reasons for not being able to sleep were caused by noise, pain, loud speeches, and catheters. In the study, it can be thought that the deterioration in the sleep state of the patients occurred due to the difference in the intensive care environment and physical and psychological factors.

Conclusion

In this study, it was determined that the intensive care experience of the patients was positive. It was found that the increase in age affected the intensive care experience positively, and the intensive care experience of the patients whose education level was secondary school and above was negative. It was found that the experiences of patients who had previous experience of hospitalization in the ICU, patients staying in the general intensive care unit and patients staying in a single room were more positive. It was determined that the experiences of the patients with a drainage system were more negative than those who didn't have a drainage system. In order to express the intensive care experience of the patients positively; It is recommended to consider the differences between the patients in the ICU and the surgical intervention to eliminate the negative effects in the care and treatment processes, to treat the pain, to provide sleep patterns, to eliminate the factors such as noise and loud talking that disturb the patients in the ICU.

Ethics Committee Approval: Ethics committee approval was received for this study from Acibadem Mehmet Ali Aydinlar University Medical Research Evaluation Board (date and number: 06/12/2018, 2018-19/10).

Informed Consent: Written consent was obtained from all patients participating in the study.

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