

Quality of care perceived by patients during cystoscopy and affecting factors

Hülya Saray Kılıç, RN, PhD^{a,*} , Berrin Pazar, RN, PhD^b, Özlem İbrahimoglu, RN, PhD^c, Muhammet Emin Naldan, MD^d

Abstract

It is necessary and important for quality of care to ensure the comfort of patients during the procedure, as well as before and after surgery. According to literature, it is necessary to know what patients experience and how they perceive the care they receive. This study aimed to investigate the quality of care perceived by patients during cystoscopy and the factors affecting it. This descriptive study was conducted in the surgical clinic of a teaching and research hospital, with 105 patients who underwent cystoscopy in 2022. Data collection forms consisting of a Sociodemographic and Disease Characteristics Questionnaire and the Good Perioperative Nursing Care Scale (for Patients) (GPNCS) were used for data collection, with face-to-face interviews on the first day after the procedure. This study was conducted in accordance with the principles of the Declaration of Helsinki. The study included patients with urinary tract stones, transurethral prostatectomy, and transurethral bladder resection. Of the participants, 72.4% were male, and 81.9% were married. The mean age of the patients was 50.09 ± 16.79 years. The mean total score was 143.56 ± 16.62 . It was higher in single patients and those who had not previously undergone surgery. It was found that the mean of the environment sub-dimension was the highest at 18.57 ± 2.51 and the mean of the support sub-dimension was the lowest at 16.01 ± 3.44 . The results of this study showed that patients undergoing cystoscopy have a good perception of the quality of their peri-operative nursing care.

Abbreviation: GPNCS = Good Perioperative Nursing Care Scale (for Patients).

Keywords: cystoscopy, nursing, peri-operative care, quality of care

1. Introduction

Cystoscopy is a minimally invasive procedure that allows direct visualization of the bladder wall and urethra for abnormalities such as stones, infections, and tumors.^[1] It can be used for both diagnostic and therapeutic purposes in the evaluation of benign or malignant disease.^[2] It provides diagnostic observation and tissue biopsy in the presence of urinary system abnormalities such as recurrent urinary tract infections, hematuria, lower urinary tract stone disease, vesicourethral reflux, prostate obstruction, bladder tumor, urethral stricture.^[3,4] It also helps diagnose pathologies of the urinary system through direct visualization, perform regular checks, and treat diseases.^[5] In recent years, technological developments in the field of surgery have been reflected in the use of a cystoscopy device. This reduces the risk of procedure-related complications during and after the procedure and replaces the application of general anesthesia with regional anesthesia, especially in cystoscopy for diagnostic purposes.^[3] Thus, patients are protected as much as possible from the possible side effects of general anesthesia during the procedure, and they can actively experience the surgical process with their consciousness being

open.^[5] Because of these experiences during the perioperative period, the quality of care is extremely important for both patients and the surgical team.^[6]

Ensuring patient comfort during the procedure, as well as before and after the surgical procedure, is necessary and important for the quality of care.^[7] As cystoscopy is an invasive procedure, patients may experience pain, which may cause anxiety.^[4,8] Cystoscopy can also cause physiological symptoms such as increased cardiac output, increased blood glucose, and increased blood pressure due to peripheral vasoconstriction.^[4,8] Patients may experience discomfort and restlessness owing to anxiety and stress.^[9,10] The quality of care during the surgical procedure, effectiveness of drug and non-drug applications, pain prevention and relief applications, physiological and psychosocial well-being of patients, and meeting their expectations at an optimal level.^[11]

A review of studies evaluating nursing care for negative situations experienced by patients during cystoscopy found that listening to music during the procedure reduced patients' feelings of anxiety, pain, discomfort and dissatisfaction.^[12,13] Kwon et al (2018) found that heating during cystoscopy is an appropriate

The authors have no funding and conflicts of interest to disclose.

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

^a Faculty of Health Sciences, Department of Nursing, Bilecik Şeyh Edebali University, Bilecik, Turkey, ^b Faculty of Health Sciences, Department of Nursing, Lokman Hekim University, Ankara, Turkey, ^c Faculty of Health Sciences, Department of Nursing, Istanbul Medeniyet University, Istanbul, Turkey, ^d Department of Anesthesia and Reanimation, Erzurum City Hospital, Health Sciences University, Erzurum, Turkey.

*Correspondence: Hülya Saray Kılıç, Faculty of Health Sciences, Department of Nursing, Bilecik Şeyh Edebali University, Bilecik, 11011, Turkey (e-mail: h.saraykilig@gmail.com).

Copyright © 2023 the Author(s). Published by Wolters Kluwer Health, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial License 4.0 (CCBY-NC), where it is permissible to download, share, remix, transform, and buildup the work provided it is properly cited. The work cannot be used commercially without permission from the journal.

How to cite this article: Saray Kılıç H, Pazar B, İbrahimoglu Ö, Naldan ME. Quality of care perceived by patients during cystoscopy and affecting factors. *Medicine* 2023;102:50(e36314).

Received: 25 August 2023 / Received in final form: 24 October 2023 / Accepted: 3 November 2023

<http://dx.doi.org/10.1097/MD.00000000000036314>

and effective nursing intervention that reduces patient pain and anxiety, and increased patient satisfaction.^[8] Another study found that allowing patients to watch videos during the procedure provided distraction.^[14] Hand-holding during cystoscopy has also been shown to reduce patient anxiety and pain and increase patient satisfaction.^[8] Kukreja et al (2022) reported that, to reduce the discomfort experienced by patients, it is necessary to determine their experience and how they rate the care provided by healthcare professionals.^[10] In a study of women undergoing cystoscopy, Tam et al (2023) found that when their emotional, physical, and informational needs were met, when they were actively involved in their health care, when they had a say in their care, their fear of the unknown decreased and patient satisfaction increased.^[15] Biardeau et al (2017) found that the information given before cystoscopy had a negative effect on patient anxiety.^[1] It is therefore recommended to optimize the way in which information is given to patients. However, the quality of care perceived by patients during this process and the factors that affect it remain unknown.

2. Objective

Our study was designed to investigate the quality of care perceived by patients during cystoscopy and the factors that affect it.

3. Methods

3.1. Research type

The study was conducted as a descriptive study.

3.2. Location of the study

The study was conducted at the surgical clinic of a training and research hospital in Turkey. Care is provided by undergraduate nurses in the operating room where data is collected. All patients both included and excluded from the sample, received standard care to avoid confusion in data collection.

3.3. Research population and sample

The entire population consisted of all patients hospitalized for cystoscopy in 2022. No specific sampling was conducted, and the aim was to encompass the entire population (N = 129). Twenty-four participants who responded "0: I could not evaluate this situation" to any of the items in the Good Perioperative Nursing Care Scale (for Patients) during data collection were excluded from the study. Since there were no patients who met the inclusion criteria and did not agree to participate in the study, the entire population was reached. The study included 105 participants who met the inclusion criteria. The inclusion criteria were as follows: hospitalization for cystoscopy; age \geq 18 years; consciousness and awareness; and volunteering to participate in the study. In the power analysis performed to calculate the adequacy of the sample size after data collection, it was seen that the study was completed with a 95% confidence interval and 89% power.

3.4. Data collection tools

Data were collected using a form that included a Sociodemographic and Disease Characteristics Questionnaire as well as the Good Perioperative Nursing Care Scale (for Patients) (GPNCS).

3.4.1. Sociodemographic and disease characteristics questionnaire. This questionnaire encompasses a series of inquiries meticulously formulated by researchers, in accordance

with the prevailing scholarly literature. It encompasses a range of sociodemographic and disease-oriented attributes that are germane to patients' profiles.^[3,6,7,11] Patients were examined for variables such as age, sex, body mass index, level of education, marital status, occupational status, presence of chronic morbidities, utilization of assistive adjuncts (e.g., canes, eyeglasses, hearing aids, and walkers), antecedent hospitalization history, and any prior encounters with surgical and cystoscopy interventions.

3.4.2. The Good Perioperative Nursing Care Scale (for Patients). Originally developed by Leinonen in 2002,^[16] the scale Turkish validity and reliability were established by Dönmez and Özbayır in 2008.^[6] Comprising 32 items, this scale employs a 5-point Likert-type rating system and encompasses 7 sub-dimensions: physical care, giving information, support, respect, personnel characteristics, environment, and nursing process. The scores on the scale ranged from a minimum of 32 to a maximum of 160. Notably, as the scores derived from the scale increased, patients' perceived quality of care also demonstrated an upward trend.

3.5. Ethical considerations of the study

The study received ethical approval from the Bilecik Şeyh Edebali University Faculty of Medicine Non-Interventional Clinical Research Ethics Committee (approval number: 6/1, date: 26.10.2021) and the affiliated hospital. All participants were informed of their right to withdraw from the study at any point and written informed consent was obtained from each participant. This study was conducted in compliance with the principles of the Declaration of Helsinki.

3.6. Data collection

Patients who fulfilled the inclusion criteria were visited on the day following the procedure, and data were gathered through face-to-face interviews conducted between January and December 2022. The data collection process lasted approximately 15 minutes. Complications or survival of the patients were not examined after the application of postoperative data collection forms.

3.7. Data analysis

Descriptive statistics were used for percentages, means, and standard deviations. Pearson correlation analysis was employed to examine correlations, while the Mann-Whitney U and Kruskal-Wallis tests were used for comparative analysis, depending on the conformity of the data to normal distribution. The appropriateness of data normality was assessed using the Kolmogorov-Smirnov test. A significance level of $P < .05$ was adopted to determine statistical significance across all analyses.

4. Results

This study included 105 patients who underwent cystoscopy for conditions such as urinary tract stones, transurethral prostatectomy, and transurethral bladder resection. The patients had an average age of 50.09 ± 16.79 years and a mean body mass index of 27.04 ± 4.07 . Among the participants, 72.4% were male, 48.6% had completed primary education, and 81.9% were married. In terms of occupation, 50.5% of the participants were unemployed. Moreover, 72.4% had no chronic illnesses and 73.3% did not require assistive devices. Approximately 75.2% of the participants had a history of hospitalization, 69.5% had undergone previous surgeries, and 28.6% had undergone cystoscopy procedures (Table 1).

The outcomes of the participants' Good Perioperative Nursing Care Scale (GPNCS) are presented in Table 2. The average overall score on the scale was 143.56 ± 16.62 . The findings from the comparison of participants' GPNCS scores

Table 1
Details on participants' sociodemographic characteristics and previous experiences.

	Mean ± SD	Min-Mak
Age	50.09 ± 16.79	19–93
Body mass index	27.04 ± 4.07	18.14–42.22
	n	%
Gender		
Female	29	27.6
Male	76	72.4
Education status		
Primary education	51	48.6
High school	25	23.8
Higher education and above	29	27.6
Marital status		
Married	86	81.9
Single	19	18.1
Employment status		
Working	52	49.5
Not working	53	50.5
Chronic disease status*		
Yes	29	27.6
No	76	72.4
Assistive device use status**		
Yes	28	26.7
No	77	73.3
Previous hospitalization		
Yes	79	75.2
No	26	24.8
Previous surgery status		
Yes	73	69.5
No	32	30.5
Previous cystoscopy status		
Yes	30	28.6
No	75	71.4

Mak = maksimum; Min = minimum, SD = standard deviation.

*Current chronic diseases: Diabetes, hypertension, chronic obstructive pulmonary disease, coronary artery disease, glaucoma, and hypothyroidism.

**Assistive devices used; glasses, hearing aid, cane.

Table 2
Good Perioperative Nursing Care Scale (for Patients) results.

	Cronbach alpha	Mean ± SD	Min-Mak
Total scale	0.943	143.56 ± 16.62	59–160
Physical care	0.868	46.00 ± 5.12	25–50
Giving information	0.875	21.89 ± 3.93	5–25
Support	0.720	16.01 ± 3.44	8–20
Respect	0.865	13.86 ± 1.97	5–15
Personnel characteristics	0.844	18.20 ± 2.69	4–20
Environment	0.888	18.57 ± 2.51	4–20
Nursing process	0.609	8.99 ± 1.51	2–10

Mak = maksimum; Min = minimum, SD = standard deviation.

with their sociodemographic attributes and prior experience are outlined in Table 3. The total score was higher among individuals who were single and those without a history of surgery. It appears that patients' perceived quality of care is affected by their marital status and previous surgery. Moreover, within the sub-dimensions, the domains of physical care and environment exhibited higher scores in males. The giving information sub-dimension showed higher scores among singles, whereas the support sub-dimension displayed elevated scores for singles and individuals with no previous hospitalizations. Respect scores were notably higher for those without prior hospitalization and those without previous surgical experience. Furthermore, the personnel characteristics sub-dimension recorded higher scores in males, as well as

among individuals with no history of hospitalization or prior surgeries ($P < .05$). There was no statistically significant difference between the nursing process and the sociodemographic characteristics of the participants, as well as their knowledge of prior experiences ($P > .05$).

The findings regarding the association between participants' GPNCs outcomes and their age and body mass index are presented in Table 4. A statistically significant negative weak correlation was observed between participants' age and the support sub-dimension ($P < .05$).

5. Discussion

The efficacy of pharmaceutical and non-pharmaceutical interventions, pain management, meeting patient expectations, and addressing both physiological and psychosocial well-being are essential for ensuring high-quality nursing care during the surgical process.^[11] Quality nursing care throughout the perioperative phase significantly affected postoperative recovery, contentment with care, complication prevention, and discharge readiness. To enhance the quality of perioperative care, it is imperative to identify the factors that influence patient satisfaction and experiences.^[17] In the existing literature, research on patient experience during the perioperative period has primarily focused on orthopedic and abdominal surgical procedures. Furthermore, ongoing investigations seek to determine whether the specific type of surgical intervention employed has an impact on patient satisfaction with their perceived perioperative nursing care.^[18–22] Therefore, the present study aimed to evaluate the perceived quality of care of patients undergoing cystoscopy, a surgical procedure involving the urinary system.

In this study, the average total score of the GPNCs was found to be 143.56 ± 16.62 (min:59, max:160). This outcome, derived from the GPNCs, which assesses patient satisfaction and experience with perioperative nursing care, indicates a notably elevated level of patient satisfaction. In the available literature, various studies have also examined the perceived quality of care using the GPNCs. The mean GPNCs score was 101 ± 15.5 by Çevik Acar and Yıldız Fındık (2015), 124.79 ± 25.96 by Eyi et al (2016), 111.19 ± 21.38 by Yılmaz et al (2018), 129.49 ± 13.84 by Şahin and Başak (2018), 146 by Hertel-Joergensen et al, 6 ± 14 , 113.08 ± 21.45 by Yaman Aktaş and Karabulut (2020), 147.44 ± 14.71 by Koçak and Aydın Akbuğa (2022), 140.0 ± 16.9 by Kızılıçık Özkan et al (2023) and 134.61 ± 16.29 by İbrahimoglu et al.^[17,22–29] According to the results of this study, it is evident that patients perceived the quality of nursing care received throughout the perioperative phase to be exceptionally high. This conclusion was drawn from the fact that the GPNCs scores among patients who underwent cystoscopy procedures exceeded those reported in previous studies conducted with different patient groups and at different timeframes.

The GPNCs used in this study consisted of 7 sub-dimensions: physical care, giving information, support, respect, personnel characteristics, environment, and nursing process. In our study, the mean of the physical care sub-dimension of the GPNCs was found to be 46.00 ± 5.12 . In the studies conducted, the mean of the physical care sub-dimension of the GPNCs was found to be 41.61 ± 7.62 by Eyi et al (2016), 36.56 ± 6.80 by Yılmaz et al (2018), 38.6 ± 7.1 by Yaman Aktaş and Karabulut (2020), 45.93 ± 5.42 by Koçak and Aydın Akbuğa (2022) and 43.35 ± 5.45 by İbrahimoglu et al.^[24,25,27–29] It has been documented in the literature that patients' most positive experiences during the intraoperative period pertain to the efficacy of anesthesia and the absence of pain perception. Conversely, one of the most challenging encounters for patients is chills because of the cold environment of the operating room.^[24] While it is essential for the operating room to maintain a clinically cold temperature, it remains imperative to address patient discomfort arising from coldness through the provision of electric

Table 3
Good Perioperative Nursing Care Scale (for Patients) comparison results.

		Total scale	Physical care	Giving information	Support	Respect	Personnel characteristics	Environment	Nursing process
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Gender	Female	140.10 ± 15.67	44.44 ± 4.81	22.20 ± 2.83	16.62 ± 3.45	13.37 ± 2.30	17.68 ± 2.42	17.96 ± 2.55	8.79 ± 1.39
	Male	144.88 ± 16.89	46.60 ± 5.13	21.77 ± 4.29	16.17 ± 3.45	14.05 ± 1.81	18.40 ± 2.78	18.80 ± 2.47	9.06 ± 1.56
	p	0.090	0.008	0.851	0.408	0.109	0.040	0.040	0.129
	Z*	-1696	-2644	-1187	-0.827	-1604	-2058	-2055	-1517
Education status	Primary education	142.41 ± 18.68	46.01 ± 5.34	21.76 ± 4.24	15.49 ± 3.77	13.86 ± 1.81	18.13 ± 2.83	18.27 ± 2.82	8.86 ± 1.67
	High School	146.44 ± 14.44	46.72 ± 4.55	22.56 ± 3.17	17.40 ± 2.72	13.80 ± 2.51	18.44 ± 2.75	18.40 ± 2.84	9.12 ± 1.48
	Higher education and above	143.10 ± 14.65	45.37 ± 5.26	21.55 ± 4.02	15.75 ± 3.16	13.93 ± 1.79	18.13 ± 2.46	19.24 ± 1.29	9.10 ± 1.26
	p	0.636	0.455	0.743	0.076	0.943	0.525	0.385	0.711
	KWX ^{2**}	0.906	1574	0.594	5154	0.117	1288	1907	0.683
Marital status	Married	141.96 ± 17.48	45.52 ± 5.37	21.54 ± 4.06	15.68 ± 3.59	13.75 ± 2.02	18.12 ± 2.80	18.43 ± 2.63	8.89 ± 1.55
	Single	150.78 ± 9.30	48.21 ± 2.97	23.47 ± 2.89	17.52 ± 2.16	14.36 ± 1.70	18.57 ± 2.14	19.21 ± 1.81	9.42 ± 1.26
	p	0.034	0.053	0.015	0.048	0.153	0.579	0.202	0.076
	Z*	-2116	-1933	-2438	-1980	-1429	-0.554	-1275	-1776
Employment status	Working	145.34 ± 13.60	46.01 ± 4.72	22.23 ± 3.62	16.40 ± 3.30	14.01 ± 1.77	18.48 ± 2.46	18.98 ± 1.83	9.21 ± 1.33
	Not working	141.81 ± 19	46.00 ± 5.52	21.56 ± 4.22	15.64 ± 3.56	13.71 ± 2.16	17.94 ± 2.89	18.16 ± 3.00	8.77 ± 1.65
	p	0.424	0.631	0.300	0.277	0.600	0.245	0.176	0.109
	Z*	-0.800	-0.481	-1036	-1087	-0.524	-1164	-1352	-1603
Chronic disease status	Yes	141.58 ± 14.56	45.86 ± 4.44	21.65 ± 3.78	15.34 ± 3.10	13.51 ± 2.04	17.96 ± 2.42	18.41 ± 2.21	8.82 ± 1.44
	No	144.31 ± 17.38	46.06 ± 5.38	21.98 ± 4.01	16.27 ± 3.55	14.00 ± 1.94	18.30 ± 2.80	18.63 ± 2.63	9.05 ± 1.54
	p	0.160	0.421	0.502	0.126	0.252	0.408	0.436	0.268
	Z*	-1405	-0.805	-0.671	-1531	-1146	-0.828	-0.779	-1109
Assistive device use status	Yes	143.67 ± 15.37	46.42 ± 4.42	21.78 ± 3.55	16.00 ± 3.32	13.82 ± 1.84	18.10 ± 2.33	18.50 ± 2.21	9.03 ± 1.45
	No	143.51 ± 17.15	45.85 ± 5.36	21.93 ± 4.08	16.02 ± 3.51	13.88 ± 2.03	18.24 ± 2.82	18.59 ± 2.62	8.97 ± 1.54
	p	0.977	0.595	0.549	0.933	0.952	0.621	0.642	0.913
	Z*	-0.029	-0.532	-0.599	-0.084	-0.060	-0.494	-0.465	-0.109
Previous hospitalization	Yes	141.53 ± 17.32	45.50 ± 5.40	21.67 ± 3.87	15.63 ± 3.35	13.62 ± 2.12	17.87 ± 2.90	18.32 ± 2.76	8.89 ± 1.58
	No	149.73 ± 12.70	47.53 ± 3.82	22.57 ± 4.10	17.19 ± 3.53	14.61 ± 1.16	19.23 ± 1.55	19.30 ± 1.28	9.26 ± 1.28
	p	0.011	0.096	0.120	0.019	0.007	0.017	0.120	0.215
	Z*	-2531	-1667	-1553	-2352	-2699	-2377	-1553	-1240
Previous surgery status	Yes	141.75 ± 17.32	45.65 ± 5.24	21.75 ± 3.85	15.67 ± 3.35	13.63 ± 2.16	17.82 ± 2.98	18.27 ± 2.83	8.94 ± 1.56
	No	147.68 ± 14.31	46.81 ± 4.80	22.21 ± 4.15	16.81 ± 3.56	14.40 ± 1.34	19.09 ± 1.57	19.25 ± 1.34	9.09 ± 1.42
	p	0.039	0.303	0.306	0.073	0.034	0.042	0.111	0.573
	Z*	-2063	-1030	-1023	-1794	-2115	-2030	-1593	-0.564
Previous cystoscopy status	Yes	141.90 ± 15.20	46.03 ± 4.64	21.70 ± 3.83	15.70 ± 2.91	13.66 ± 1.88	17.70 ± 2.81	18.33 ± 2.29	8.76 ± 1.56
	No	144.22 ± 17.21	46.00 ± 5.32	21.97 ± 3.99	16.14 ± 3.64	13.94 ± 2.01	18.41 ± 2.63	18.66 ± 2.60	9.08 ± 1.49
	p	0.323	0.860	0.713	0.327	0.176	0.162	0.339	0.259
	Z*	-0.989	-0.176	-0.367	-0.980	-1352	-1397	-0.955	-1129

Mak = maksimum; Min = minimum, SD = standard deviation, $P < .05$.

*Mann-Whitney U test.

**Kruskal Wallis test.

Table 4
The relationship between participants' Good Perioperative Nursing Care Scale (for Patients) results and age and body mass index.

		Total scale	Physical care	Giving information	Support	Respect	Personnel characteristics	Environment	Nursing process
Age	r	-0.103	0.010	-0.106	-0.212	-0.029	-0.053	-0.089	-0.130
	p	0.294	0.920	0.282	0.030	0.770	0.590	0.368	0.188
Body Mass Index	r	0.046	0.115	0.021	-0.003	-0.034	0.017	0.057	-0.015
	p	0.644	0.245	0.832	0.973	0.732	0.860	0.564	0.880

r = Pearson Correlation; $P < .05$.

heaters, blankets, and other warming materials. Contemporary advancements in science and technology have led to enhanced patient comfort and proficient execution of roles and responsibilities within operating room teams. This, in turn, has a positive impact on treatment and care interventions. Within the context of this study, the elevated scores attained by patients in the physical care sub-dimension signify the successful fulfillment of their physical care requirements during the perioperative phase.

In our study, the mean GPNCS information-giving subscale of the participants was found to be 21.89 ± 3.93 . In previous

studies, the mean of the GPNCS information-giving subscale was found to be 17.25 ± 6.27 by Eyi et al (2016), 13.78 ± 6.11 by Yılmaz et al (2018), 15.6 ± 5.6 by Yaman Aktaş and Karabulut (2020), 22.62 ± 2.94 by Koçak and Aydın Akbuğa (2022), and 18.54 ± 5.20 by İbrahimoğlu et al.^[24,25,27-29] A study that focused on patients' perspectives regarding the operating room revealed that knowledge pertaining to the operating room was often lacking. However, patients who received education about the operating room reported feeling more secure within that environment, leading to positive sentiments regarding

their experiences.^[30] Significantly, within the realm of surgical nursing, one of the paramount roles is that of an educator, as emphasized by Aydemir Gedük (2018).^[31] Patients scheduled for surgical intervention require a clear understanding of their disease trajectory and potential complications, both in the pre-operative and intraoperative periods.^[24] Insufficient information during these critical stages increases patient anxiety and vulnerability to both physical and psychological complications.^[32] In the context of this study, the observation that patients' mean scores within the sub-dimension of information provision surpassed those reported in other relevant studies implies the efficacy of the education they received both before and during surgical intervention.

In our study, it was determined that the participants had a mean score of 16.01 ± 3.44 in the GPNCS support sub-dimension and had the lowest mean score compared to other sub-dimensions. In previous studies, the mean of the GPNCS support sub-dimension was found to be 13.16 ± 5.84 by Eyi et al (2016), 12.35 ± 3.88 by Yılmaz et al (2018), 10.3 ± 4.2 by Yaman Aktaş and Karabulut (2020), 16.44 ± 5.67 by Koçak and Aydın Akbuğa (2022) and 14.54 ± 3.17 by İbrahimioğlu et al.^[24,25,27-29] Similar to the findings of the present study, Kızılıcak Özkan et al (2023) reported a similar outcome in their own research, highlighting that the lowest mean score within the GPNCS was attributed to the support sub-dimension.^[22] This trend underscores the insufficiency of support provided to patients, particularly at the psychological level, in operating room settings. Given the inherent vulnerability of patients in the operating room environment, this aspect has garnered notable attention.^[33] Research findings consistently emphasize that patients enter the perioperative process with the expectation of alleviating their apprehensions and concerns.^[19,34] Therefore, it is crucial to provide robust support to empower patients to actively participate in decisions related to their treatment during this phase. Individual perspectives and thoughts should hold significant weight, and patients should be actively encouraged to voice their inquiries.^[24] Although the average scores of patients within the support sub-dimension were lower than those in other sub-dimensions of the scale, they still surpassed the findings reported in other studies in the literature. This implies that patients' requirements in this domain were adequately addressed.

In our study, the mean GPNCS with respect sub-dimension was 13.86 ± 1.97 . In previous studies, the mean of the respect sub-dimension of the GPNCS was found to be 12.92 ± 2.30 by Eyi et al (2016), 11.97 ± 2.89 by Yılmaz et al (2018), 11.3 ± 2.9 by Yaman Aktaş and Karabulut (2020), 14.50 ± 1.22 by Koçak and Aydın Akbuğa (2022), and 13.59 ± 1.66 by İbrahimioğlu et al.^[24,25,27-29] Safeguarding the safety of unconscious patients under anesthesia and preserving their privacy during surgical interventions are fundamental responsibilities of surgical nurses. It is essential to ensure that patients do not encounter embarrassment or discomfort regarding privacy in the operating room environment.^[24] Moreover, the respectful conduct exhibited by healthcare professionals is a significant influencer in shaping patient satisfaction with their care.^[35] Within the scope of this study, the notably higher mean scores attained by patients in the respect sub-dimension may indicate that operating room nurses uphold human dignity and individual values, aligning with the requisites of their professional roles.

In our study, the average of the participants' GPNCS personnel characteristics sub-dimension was 18.20 ± 2.69 . In previous studies, the mean of the GPNCS personnel characteristics sub-dimension was found to be 15.30 ± 5.09 by Eyi et al (2016), 14.79 ± 4.73 by Yılmaz et al (2018), 14.6 ± 4.5 by Yaman Aktaş and Karabulut (2020), 19.21 ± 1.73 by Koçak and Aydın Akbuğa (2022) and 17.77 ± 2.39 by İbrahimioğlu et al.^[24,25,27-29] The quality of care throughout surgical procedures is intricately linked to professional dynamics among the members of the surgical team, which includes physicians, nurses, and other healthcare professionals. A collaborative approach

to teamwork assumes paramount significance in fostering a constructive safety culture in the operating room.^[24] Notably, research has consistently underscored the pivotal role of positive communication and harmonious relationships within teams. These factors contribute to the prevention of adverse events in the operating room and play a pivotal role in establishing a secure and safe environment.^[30,36,37] In this study, the patients' average scores within the sub-dimension of personnel characteristics were notably elevated. This outcome underscores harmonious collaboration and effective communication within surgical and operating room teams. Furthermore, it indicates how this collaborative spirit permeates patient care and reflects seamless cooperation and teamwork.

In our study, it was determined that the mean score of the participants in the GPNCS environment sub-dimension was 18.57 ± 2.51 and had the highest mean score compared to other sub-dimensions. In previous studies, the mean of the GPNCS environmental sub-dimension was found to be 16.22 ± 3.79 by Eyi et al (2016), 14.39 ± 3.74 by Yılmaz et al (2018), 15.3 ± 4.2 by Yaman Aktaş and Karabulut (2020), 19.28 ± 1.60 by Koçak and Aydın Akbuğa (2022), and 18.02 ± 2.00 by İbrahimioğlu et al.^[24,25,27-29] The literature contains few studies that have assessed the operating room environment from the perspective of patients. In one study, the physical and social ambience of both the operating room and post-anesthesia care unit was depicted by patients as being characterized by excessive noise, excessive brightness, heightened activity, and inducing a sense of fear.^[24] According to Yeşilyaprak and Özşaker (2018), findings from their research revealed that 18.1% of patients described the operating room as intimidating, 15.7% viewed it as technologically advanced, 10.3% likened it to a butcher shop, 4.4% recalled it as cold, and 58.8% perceived the operating room traffic as normal.^[30] These outcomes underscore the inadequacy of patients' familiarity with the operating room. The noteworthy scores achieved in the environmental subscale in this study signify that patients perceive both the operating room and the post-anesthesia care unit as secure environments, both in terms of physical attributes and social considerations.

In our study, the mean GPNCS nursing process sub-dimension of the participants was 8.99 ± 1.51 . In previous studies, the mean GPNCS nursing process sub-dimension was found to be 8.30 ± 1.98 by Eyi et al (2016), 7.35 ± 2.42 by Yılmaz et al (2018), 7.1 ± 2.0 by Yaman Aktaş and Karabulut (2020), 9.46 ± 0.99 by Koçak and Aydın Akbuğa (2022) and 8.79 ± 1.43 by İbrahimioğlu et al.^[24,25,27-29] Nursing care for patients undergoing surgical intervention is rooted in a systematic process and proficient nursing practices.^[24] Research has indicated that the most influential element in shaping patient comfort during surgical intervention is the experience of waiting within the operating room.^[30] Attentive planning and coordinated efforts to minimize waiting periods contribute to increased patient satisfaction and the quality of nursing care. The elevated mean score within the nursing process subscale, as revealed by this study, suggests effective collaboration and communication between the clinical and operating room teams.

In this study, it was determined that there was a statistically significant difference between the gender of the participants and the physical care, environment, and personnel characteristics sub-dimensions of the scale and that the mean scores of men in these sub-dimensions were higher. In the existing literature, Eyi et al (2016) highlighted findings parallel to those of this study, noting that male participants exhibited elevated scores in the sub-dimensions of physical care, environment, and personnel characteristics.^[24] Sevin (2018) observed that male patients attained higher overall scale and mean scores within the physical care sub-dimension than female patients.^[11] However, Çevik Acar and Yılmaz Fındık (2015) found that female patients achieved higher mean scores on an entire scale.^[23] Yeşilyaprak and Özşaker (2018) and Aydın and Kaşıkçı (2019) found that gender had no discernible influence on quality of care

and patient satisfaction.^[30,38] The dissimilarity observed in the sub-dimensions of physical care, environment, and personnel characteristics based on gender within the context of this study could potentially stem from distinct expectations held by male and female patients.

This study revealed a statistically significant correlation between patients' marital status and both the total scale score and the scores of the giving information and support sub-dimensions. Notably, single patients had higher scores than married patients did. In a previous study, a higher total score on the scale was documented among married patients,^[23] whereas another study reported elevated sub-scores in giving information, support, respect, personnel characteristics, and environment among single patients.^[24] The higher average scores registered among single patients in the current study point toward the fulfillment of their psychosocial needs and the effectiveness of care interventions.

Another notable finding of this study pertains to the statistically significant association identified between the patients' history of previous surgeries and both total scale scores. Remarkably, those who had not undergone prior surgery had higher scores on this scale. Furthermore, a significant statistical correlation was established between patients' history of previous hospitalizations and the respect and personnel characteristics sub-dimensions of the scale. Specifically, lower scores were observed within the respect and personnel characteristics sub-dimensions among those with a history of prior hospitalizations. Similar to the findings of this study, previous reports have demonstrated that patients without prior hospital experience tend to perceive a higher quality of care.^[39] However, in contrast to these results, Sevin (2018) reported that patients with a history of previous surgeries attained higher scores across the total scale and sub-dimensions, such as physical care, giving information, respect, personnel characteristics, and nursing process.^[11] Additionally, Eyi et al (2016) found that previously hospitalized patients exhibited higher scores in sub-dimensions including physical care, information provision, respect, personnel characteristics, environment, and nursing process.^[24] Patients' previous experiences with hospitalization or surgery can shape their subsequent interactions with healthcare facilities. These experiences can render patients more vigilant and informed, elevating their expectations and sensitivity toward the services they receive.^[40,41] This outcome could potentially be linked to factors such as the nature of patients' prior hospitalizations or surgeries, the extent to which their preoperative physiological and psychological needs were addressed, and the caliber of nursing care they received during their postoperative phase, despite these aspects not being directly inquired about within this study.

This study revealed a weak negative correlation between patient age and support sub-dimension scores. This means that as the patients' age increased, the scores associated with the support sub-dimension demonstrated a slight decrease. Upon reviewing other studies utilizing the same scale, it became evident that only Sevin (2018) documented a statistically significant connection between the support sub-dimension of the scale and age.^[11] In alignment with the present study, Sevin (2018) findings also demonstrated a decrease in scores within the support sub-dimension as age advanced.^[11] Surgery can lead to anxiety in individuals owing to hospitalization, separation from their families, disruption of their daily routines, unfamiliar medical procedures, negative experiences encountered during the perioperative process, and postoperative pain.^[42] It has been reported that the age of patients scheduled for surgical interventions often corresponds to increased anxiety and decreased satisfaction levels.^[23,42] Patient satisfaction is a pivotal metric in assessing the quality of perioperative nursing care, and perceived quality of care is posited to influence patient levels of anxiety and contentment. Particularly in the perioperative process, patients should receive comprehensive psychological support to alleviate their anxiety levels.^[22]

6. Conclusion

The findings of this study revealed that patients who underwent cystoscopy positively assessed the quality of nursing care they received during the perioperative phase. Effective intraoperative nursing care has the potential to enhance postoperative recuperation, elevate patients' quality of life, and amplify their satisfaction with the nursing care. Our study results can be used in in-service training on nursing care in the operating room and may guide policies and further studies to improve the quality of perceived care. Future investigations should be designed to explore the individual and environmental factors influencing patients' perceptions of nursing care quality during the perioperative period as well as the obstacles impeding care quality and potential solutions.

6.1. Limitations

The primary limitation of this study is its exclusive focus on patients seeking treatment at the Urology Service of a training and research hospital within the western region of Turkey, specifically those undergoing cystoscopy. Consequently, the results of this study can only be extrapolated to patients who share the characteristics of this particular sample group. Moreover, owing to the reliance of data collection on face-to-face interviews, the reliability of the data was constrained by the accuracy of the information supplied by the interviewees.

Acknowledgments

The authors would like to thank the patients who participated in the study and the nurses who cared about them.

Author contributions

Conceptualization: Hülya Saray Kılıç, Berrin Pazar, Özlem İbrahimoğlu, Muhammet Emin Naldan.

Formal analysis: Hülya Saray Kılıç, Özlem İbrahimoğlu.

Methodology: Hülya Saray Kılıç, Berrin Pazar, Özlem İbrahimoğlu, Muhammet Emin Naldan.

Supervision: Hülya Saray Kılıç, Özlem İbrahimoğlu.

Writing – original draft: Hülya Saray Kılıç, Berrin Pazar, Özlem İbrahimoğlu, Muhammet Emin Naldan.

Writing – review & editing: Hülya Saray Kılıç, Berrin Pazar, Özlem İbrahimoğlu, Muhammet Emin Naldan.

References

- [1] Biardeau X, Lam O, Ba V, et al. Prospective evaluation of anxiety, pain, and embarrassment associated with cystoscopy and urodynamic testing in clinical practice. *Can Urol Assoc J*. 2017;11:104–10.
- [2] Assmus MA, McLarty R, Senthilselvan A, et al. Direct to cystoscopy: a prospective quality assessment of patient preferences. *Can Urol Assoc J*. 2020;14:118–21.
- [3] Köllükçü E, Özbek LM, Ceylan SR. The efficacy of Intraurethral Lidocaine Gel Use on Pain Control in Male Cystoscopy Patients. *Journal of Gaziosmanpasa University Faculty of Medicine*. 2019;11:33–9.
- [4] Kwon OS, Kwon B, Kim J, et al. Effects of heating therapy on pain, anxiety, physiologic measures, and satisfaction in patients undergoing cystoscopy. *Asian Nurs Res (Korean Soc Nurs Sci)*. 2022;16:73–9.
- [5] Kanan N. Surgical Diseases and Care of the Urinary System. N. Akyolcu, N. Kanan & G. Aksoy (Ed.) in *Surgical Nursing II* (613–671). 2018; İstanbul, Nobel Tıp Kitabevi. (Üriner Sistemin Cerrahi Hastalıkları ve Bakımı. Cerrahi Hemşireliği)
- [6] Dönmez YC, Özbayır T. Examination of the validity and reliability of the “good perioperative nursing care scale” for the Turkish nurses and patients. *Journal of Ege University Nursing Faculty*. 2008;24:1–22.
- [7] Şahin PB, Rızalar S. Perianesthesia comfort levels of the patients undergone operation and its affecting factors. *HSP*. 2018;5:404–13.

- [8] Kwon WA, Lee JW, Seo HK, et al. Hand-holding during cystoscopy decreases patient anxiety, pain, and dissatisfaction: a pilot randomized controlled trial. *Urol Int*. 2018;100:222e7.
- [9] Kim HJ, Kim JW, Park HS, et al. The use of a heating pad to reduce anxiety, pain, and distress during cystoscopy in female patients. *Int Urogynecol J*. 2019;30:1705–10.
- [10] Kukreja JB, Schrock FR, Lotan Y, et al. Discomfort and relieving factors among patients with bladder cancer undergoing office-based cystoscopy. *Urol Oncol*. 2022;40:9.e19–27.
- [11] Sevin K. Evaluation of perioperative nursing care quality in patients undergoing orthopedic surgery (Master's thesis). 2018 (Ortopedik cerrahi geçiren hastalarda perioperatif hemşirelik bakım kalitesinin değerlendirilmesi) <https://openaccess.hku.edu.tr/xmlui/handle/20.500.11782/1756>.
- [12] Yeo JK, Cho DY, Oh MM, et al. Listening to music during cystoscopy decreases anxiety, pain, and dissatisfaction in patients: a pilot Randomized Controlled Trial. *J Endourol*. 2013;27:459–62.
- [13] Gauba A, Ramachandra MN, Saraogi M, et al. Music reduces patient reported pain and anxiety and should be routinely offered during flexible cystoscopy: Outcomes of a systematic review. *Arab J Urol*. 2021;19:480–7.
- [14] Gezginci E, İyigün E, Kibar Y, et al. Three distraction methods for pain reduction during cystoscopy: a randomized controlled trial evaluating the effects on pain, anxiety, and satisfaction. *J Endourol*. 2018;32:1078–84.
- [15] Tam J, MacDonald E, Sparks DA, et al. Creating an extraordinary experience for women undergoing cystoscopy: a patient-centered approach to process improvement. *Urology*. 2023;174:23–7.
- [16] Leinonen T. The Quality of Perioperative Care Developing A Patient-Oriented Measurement Tool. In *Annales-Universitatis Turkuensis Series D (Vol. 481)*. 2002;Turun yliopisto.
- [17] Hertel-Joergensen M, Abrahamson C, Jensen C. Translation, adaptation and psychometric validation of the Good Perioperative Nursing Care Scale (GPNCS) with surgical patients in perioperative care. *Int J Orthop Trauma Nurs*. 2018;29:41–8.
- [18] Andemeskel YM, Elsholz T, Gebreyohannes G, et al. Patient satisfaction with peri-operative anesthesia care and associated factors at two National Referral Hospitals: a cross sectional study in Eritrea. *BMC Health Serv Res*. 2019;19:669.
- [19] Arslan S, Gürsoy A. Nursing care satisfaction of patients: surgical patients example. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi*. 2021;4:21–8.
- [20] Leser C, Tan YY, Singer C, et al. Patient satisfaction after breast cancer surgery. *Wien Klin Wochenschr*. 2021;133:6–13.
- [21] Fetene MB, Bayable SD, Wendimu ES, et al. Perioperative patient satisfaction and its predictors following surgery and anesthesia services in North Shewa, Ethiopia, A multicenter prospective cross-sectional study. *Ann Med Surg (Lond)*. 2022;76:103478.
- [22] Kızılçık Özkan Z, Dığın F, Dinlegör Sekmen I. Perioperative nursing care quality in patients and affecting factors. *CBU-SBED: Celal Bayar University-Health Sciences Institute Journal*. 2023;10:26–32.
- [23] Çevik Acar E, Yıldız Fındık U. Evaluation of patients' opinions and anxiety levels about nursing care quality in the operating room. *Journal of Anatolia Nursing and Health Sciences*. 2015;18:268–73.
- [24] Eyi S, Kanan N, Akyolcu N, et al. Ameliyat sırasında uygulanan hemşirelik bakımının hastalar tarafından değerlendirilmesi. *Türk Silahlı Kuvvetleri Koruyucu Hekim Bul*. 2016;15:159–70.
- [25] Yılmaz E, Çeçen D, Kızıl Toğaç H, et al. Comfort levels and nursing care of patients in the operation process. *CBU-SBED: Celal Bayar University-Health Sciences Institute Journal*. 2018;5:3–9.
- [26] Şahin G, Başak T. Evaluation of perioperative nursing care by nurses and patients. *International Refereed Journal of Nursing Researches*. 2018;0:0–0.
- [27] Yaman Aktas Y, Karabulut N. The association between quality of perioperative nursing care and comfort among neurosurgery patients. *Clin Exp Health Sci*. 2020;10:332–7.
- [28] Koçak T, Aydın Akbuğa G. Determination of the relationship between perioperative care quality and patient satisfaction in patients undergoing orthopedic surgery. *Journal of Ankara University Faculty of Medicine*. 2022;75:361–7.
- [29] İbrahimoğlu O, Gezer N, Öğütlü O, et al. The relationship between perioperative care quality and postoperative comfort level in patients with hip replacement surgery. *J Perianesth Nurs*. 2023;38:69–75.
- [30] Yeşilyaprak T, Özşaker E. The investigation of the patients' opinions about the operating room environment. *E-Journal of Dokuz Eylül University Nursing Faculty*. 2018;11:315–21.
- [31] Aydemir Gedük E. Developing roles of the nursing profession. *HSP*. 2018;5:253–8.
- [32] Akın DE, Beydağ KD. The anxiety levels and thoughts about nursing care of patients who underwent gynecology and urogynecology surgeries. *Mus Alparslan University Journal of Health Sciences*. 2022;2:1–7.
- [33] Candaş B, Gürsoy A. Patient safety in the surgery: safe surgery checklist. *ERÜ Sağlık Bilimleri Fakültesi Dergisi*. 2015;3:40–50.
- [34] Gobbo M, Saldana R, Rodriquez M, et al. Patients' experience and needs during perioperative care: a focus group study. *Patient Prefer Adherence*. 2020;14:891–902.
- [35] Oyebede A, Adeyemo C, Oshineye A, et al. Perception of quality of primary health care services in South-West Nigeria: a cross sectional study. *Int J Community Med Public Health*. 2022;9:3426.
- [36] Hergül FK, Özbayır T, Gök F. Patient safety in the operating room: A systematic review. *Pamukkale Medical Journal*. 2016;9:87–98.
- [37] Karayurt O, Turhan Damar H, Bilik O, et al. The evaluation of patient safety culture and use of the surgical safety checklist in the operating room. *Acıbadem University Health Sciences Journal*. 2017;1:16–23.
- [38] Aydın M, Kaşıkçı M. Patients' perceptions of nursing care. *Hemşirelikte Araştırma Geliştirme Dergisi*. 2019;21:14–24.
- [39] Çevik K, Eşer I. Dependency levels of inpatients effect of nursing care quality's perception in neurosurgery clinic. *Flor Night J Nurs*. 2014;22:76–83.
- [40] Dikmen Y, Yılmaz D. Patient's perceptions of nursing care-a descriptive study from Turkey. *Ann Nurs Pract*. 2016;3:1048–52.
- [41] Gülen D, Zaybak A. The perception of nursing care quality by patients and nurses: Descriptive Study. *Türkiye Klinikleri J Nurs Sci*. 2023;15:108–17.
- [42] Yurddaş B, Seyhan Ak E. The effect of anxiety levels of patients before laparoscopic cholecystectomy surgery on postoperative pain and sleep: descriptive research. *Türkiye Klinikleri J Nurs Sci*. 2022;14:1000–8.