ORIGINAL ARTICLE

PERCEPTION OF NURSING CARE AND SATISFACTION LEVELS OF ORTHOPEDICS AND TRAUMATOLOGY PATIENTS

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Abstract

Introduction: Aging adversely impacts the functioning of the organs of the human body and the musculoskeletal system. Orthopedics and traumatology clinics are a speciality area where services are provided for health issues requiring long-term care and multi-disciplinary teamwork. Consequently, patient–nurse interaction occurs for an extended period.

Materials and Metod: This descriptive study aimed to determine the perception of nursing care and satisfaction levels of orthopedics and traumatology patients. The data were collected after face-to-face interviewswith patients who had applied to an orthopedics and traumatology clinic between May 2022 and April 2023 and had undergone surgical procedures. The patient information form, Newcastle Nursing Care Satisfaction Scale, and Patient's Perception of Nursing Care Scale were used for data collection.

Results: The mean age of the study participants was 65.83±15.90 and 47.6% (n=137) of the participants were catagorized as elderly. The mean score on the Newcastle Nursing Care Satisfaction Scale was 85.01±16.85 and on the Patient's Perception of Nursing Care Scalewas 64.47±13.26. There was a moderate positive significant relationship between the scores on the Newcastle Nursing Care Satisfaction Scaleand Patient's Perception of Nursing Care Scale (r_s=.391; p<.01).

Conclusion: Patients' satisfaction with nursing care and perception of care were positive. Additionally, as the patients' satisfaction with nursing care increased, their perception of nursing care also increased.

Keywords: Nursing; Perception; Personal Satisfaction; Orthopedics; Patients.

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INTRODUCTION

Surgical interventions induce many physiological and psychological changes in the human body (change in homeostatic balance, fear, susceptibility to infection, pain, etc.). In the post-operative period, patients need effective and individualized nursing care to cope with these changes (1). Nurses are the healthcare professionals most needed by surgical patients before and after surgery. Orthopedics and traumatology nursing plays a crucial role in minimizing dependence and maximizing independence in the case of issues related to the musculoskeletal system of individuals. To achieve this goal, care should be individualized and planned in a multi-dimensional manner to encompass the emotional, social, and physical aspects of the individual (2,3).

The quality of nursing care is directly related to how the care service is perceived by the service recipients (1,4,5). In addition to the individual characteristics of the patients, the support received from the nurse, respect and courtesy shown by the nurse, access to the nurse whenrequired, and unambiguous and satisfactory information are also extremely effective in the formation of perception of care (1,4). Akey indicator in the evaluation of the service and quality of care provided by healthcare professionals is the patient's satisfaction with the care provided (6). Patient satisfaction is determined based on the level of perception of the care provided in line with the expectations of the patients (7). According to the definition commonly applied in the field of nursing, patient satisfaction refers to the degree of closeness between the patient's ideal nursing care expectation and the actual nursing care perception (8).

Orthopedics and traumatology clinics, as a speciality providing services for health issues requiring long-term care and requiring multi-disciplinary teamwork, are health care organizations where patient–nurse cooperation is experienced for an extended period. Thus, it is evident that nurses play a key role in improving the quality of nursing care provided in orthopedics and traumatology clinics and making the necessary arrangements for patient satisfaction/expectations in nursing practices. In this context, this descriptive study was conducted to determine the perception of nursing care and satisfaction levels of orthopedics and traumatology patients.

Hypotheses of the Research

- H_0: There is no relationship between orthopedics and traumatology patients' perception of nursing care and their satisfaction levels.
- H_1: There is a relationship between orthopedics and traumatology patients' perception of nursing care and their satisfaction levels.

MATERIALS AND METHOD

This descriptive and cross-sectional study aimed to determine the perception of nursing care and satisfaction levels of orthopedics and traumatology patients. The study population comprised patients who had applied to the Orthopedics and Traumatology Clinic of the Karabuk University Training and Research Hospital and underwent orthopedic surgery. The study sample included patients who had no problem in reading, writing, and speaking Turkish; who were older than 18 years of age; who accepted the research; and who had no problem in understanding and answering the questions (N=288). The data were collected based on face-to-face interviews with patients who had applied to the Orthopedics and Traumatology Clinic between May 2022 and April 2023 and underwent surgical procedures. Data were collected in the patient's room after the patient's discharge decision was made and before they left the clinic.Before commencing the study, an informed consent form was completed by the patients. Participants were informed that they could withdraw from the study at will.

Data-collection Tools

Patient identification form: This form, which was prepared by the researchers based on the literature, included 11 questions about the patient's personal information (age, gender, educational status, marital status, etc.), income status, place of residence, chronic disease, hospitalization experience, duration of hospitalization, and type of surgery.

Newcastle Nursing Care Satisfaction Scale (NNCCS): It was developed by Thomas et al. in 1996, and Turkish validity and reliability studies were conducted by Uzun in 2003 and by Akın and Erdoğan in 2007. This Likert-type scale comprises 19 items scored on a scale of 0–100 points by adding the scores of all items marked and converting them to 100. A total score of 100 indicates satisfaction with all dimensions of nursing care. The Cronbach's alpha of the satisfaction scale is 0.96(9-11).

Patient's Perception of Nursing Care Scale (PPNCS): The scale was developed by Dozier et al. in 2001 in the USA. This Likert-type scale comprises 15 statements related to the quality of nursing care. The Turkish validity and reliability study of the scale was conducted by Çoban (2006). A minimum of 15 and a maximum of 75 points could be obtained from the scale. An increase in the total score obtained from the scale indicates that the patient is satisfied with nursing care. A score of 45 or above indicates that the perception of care is good. The Cronbach's alpha of the scale is 0.92 (12,13).

Statistical Analysis

The research data were analyzed using the SPSS 23v package program. The reliability of the scales used in the study were tested based on the Cronbach's Alpha reliability coefficient. An alpha coefficient higher than 0.70 indicates that the test is reliable. To decide on the analysis of the data, the Kolmogorov-Smirnov Test was applied to both the general scale scores and the scale scores based on the categories. The normal distribution of the data was questioned. As the scale scores did not show normal distribution, the relationship between the scales was analyzed based on the Spearman Rank Difference correlation coefficient. A correlation coefficient between 0 and 0.30 indicates a low level of relationship; that between 0.30 and 0.70 indicates a medium level of relationship; and that between 0.70 and 1 indicates a high level of relationship (14). Significant differences in scale scores based on groups were analyzed via the Mann Whitney U Test in pairwise comparisons and the Kruskal Wallis H Test in comparisons of three or more groups. A value of $p<0.05$ was accepted for the significance level of the tests.

Limitations of the Study: The limitations of the study are that the research was conducted in a single center and was conducted with all patients who underwent orthopedic surgery rather than a single patient group. The number of surgical procedures performed and the variety of surgeries performed in the hospital where the research was conducted are limited. Therefore, the results cannot be generalized to all patients. The fact that the research is one of the first studies conducted in this field can be considered as a strength of the study.

Ethical Approval: Before commencing the study, permission was obtained from the Karabuk University Non-Interventional Research Ethics Committee (Date: 04.25.2022, Number: E-77192459-050.99-123169 Decision No: 2022/888). Additionally, institutional permission was obtained from the Karabuk University Training and Research Hospital where the study was conducted (Date: 05.18.2022, Number: E-34771223-774.99).

RESULTS

The mean age of the patients participating in the study was 65.83±15.90. Based on the World Health Organization(WHO) age classification, 47.6% (n=137) of the participants were elderly when age groups were analyzed. Among the study

Table 1. Sociodemographic characteristics of the participants (n=288)

Variable	Category	n	%
Age (Mean±SD)	65.83±15.90		
	Young (18-44)	30	10.4
	Middle age (45-59)	58	20.1
	Elderly (60-74)	137	47.6
	Old age (75-89)	53	18.4
	Advanced old age (90 and above)	10	3.5
Gender	Female	183	63.5
	Male	105	36.5
Education level	Illiterate	46	16.0
	Literate	48	16.7
	Primary school	131	45.5
	Middle school	25	8.7
	High school	25	8.7
	University and above	13	4.5
Marital status	Single	97	33.7
	Married	191	66.3
Place of residence	Village	70	24.3
	District/town	83	28.8
	Province centre	135	46.9
Profession	Retirement	43	14.9
	Housewife	162	56.3
	Shopkeeper	18	6.3
	Self-employment	42	14.6
	Not working	13	4.5
	Private sector	4	1.4
	Officer	6	2.1
Income status	Income less than expenses	82	28.5
	Income equal to expenditure	189	65.6
	Income more than expenditure	17	5.9
Hospitalization experience	Yes	222	77.1
	No	66	22.9
Chronic illness	Yes	156	54.2
	No	132	45.8
Type of surgery	Total joint replacement	107	37.2
	Amputation	22	7.6
	Infection	36	12.5
	Fracture/hemiarthroscopy	75	26.0
	Other	48	16.7
Duration of Hospitalization (Mean±SD)	10.06±15.84		

participants, 63.5% were female (n=183), 45.5% were primary school graduates (n=131), and 66.3% were married (n=191). A total of 46.9% of the patients resided in the city centre (n=135), 56.3% were housewives (n=162), and 65.6% had equal income and expenses (n=189). Of the patients, 77.1% (n=222) had hospitalization experience and 54.2% (n=156) suffered from a chronic disease. Regarding the type of operation, 37.2% of the patients had undergone total joint replacement (n=107). The mean hospitalization duration was 10.06±15.84 days (Table 1).

The mean scores of the study participants on the NNCCSwas 85.01±16.85 and on the PPNCS was 64.47±13.26. A total of 91% of the participants (n=262) showed a positive attitude on the scale of perception of nursing care. The Cronbach's alpha coefficient for the NNCCS was 0.972 and for the PPNCS was 0.962. These coefficients show that the scales are reliable at a good level (Table 2).

Although not presented in the table, the scores obtained by the participants on the NNCCS showed a significant difference based on their level of education (χ2=16.058; df=5; p<.05). The scores of the participants with university and higher level of education were significantly lower than the scores of those with secondary school education, primary school education, and illiterate participants (p<.05). The scores obtained on the scale by literate participants were significantly lower than the scores of the participants with primary school education and illiterate participants(p<.05). Additionally, the scores obtained by the participantson the NNCCS showed a significant difference based on the place of residence (χ2=13,273; df=2; p<.05). The scores of the participants residing in villages were significantly higher than the scores of those residing in the district/town and in the city centre (p<.05). Furthermore, the scores obtained by the participants on the NNCCS show a significant difference based on income status (χ2=7,221; df=2; p<.05). The scores obtained by participants whose income exceeded their expenses were significantly lower than the scores of those whose income was equal or less than their expenses (p<.05). Finally, the

Table 2. Distribution of the scores obtained by the participants from the Newcastle Nursing Care Satisfaction Scale and the Patient's Perception of Nursing Care Scale

	Mean±SD	Min	Max	Cronbach's Alpha
NNCCS	85.01±16.85	33.68	100.00	0.972
PPNCS	64.47±13.26	15.00	75.00	0.962

Newcastle Nursing Care Satisfaction Scale: NNCCS,Patient's Perception of Nursing Care Scale: (PPNCS)

Table 3. Correlations between the Newcastle Nursing Care Satisfaction Scale and the Patient's Perception of Nursing Care Scale in the research group

		Patient's Perception of Nursing Care Scale (PPNCS)
Newcastle Nursing Care Satisfaction Scale (NNCCS)	r_s	.391**
	p	.000
	N	288

**p<.01

scores obtained by the participants on the NNCCS showed a significant difference based on the type of surgery ($\chi 2$=11.114; df=4; p<.05). The scores of participants with infectionswere significantly higher than the scores of those with fracture/ hemiarthroscopy and total joint replacement. Additionally, the scores of participants with amputation were significantly higher than the scores of the participants with fracture/hemiarthroscopy and total joint replacement patients (p<.05).

Although it is not presented in the table, the scores obtained on the PPNCS show a significant difference based on the place of residence ($\chi 2$=8.804, df=2, p<.05). The scores of the participants residing in the village and those residing in the city centre were significantly higher than the scores of those residing in the district/ town (p<.05). Additionally, the scores obtained on the PPNCS show a significant difference based on income status($\chi 2$=15.855; df=2; p<.05). The scores of the participants whose income was equal to their expenses were significantly higher than the scores of those whose income was less than their expenses (p<.05). Furthermore, the scores obtained on the PPNCS show a significant difference based on age ($\chi 2$=9.491; df=2; p<.05). The scores of the participants in the middle age group were significantly higher than the scores of those in the younger, older, and old age groups (p<.05).

Analysis of Table 3 revealed a moderate positive significant relationship between the scores obtained on the NNCCS and the PPNCS (r_s=.391; p<.01). As the patients' satisfaction level with nursing care increases, so does their perception of nursing care.

DISCUSSION

Technological and scientific innovations in the field of health, developments in the diagnosis and treatment of diseases, and improvements in the standard of living due to better knowledge and education increase the proportion of the elderly in the total population. The incidence of chronic diseases, mobility issues, and degenerative joint diseases is increasing in parallel with the increase in elderly population worldwide (15-17). Musculoskeletal problems are among the most common complaints by the elderly,adversely impacting their quality of life (2). Therefore, individuals experience difficulty in meeting their basic human needs and may become dependent on others. A study examined the post-operative nursing care needs and affecting factors in elderly patients and reported that 45.5% of the participants were in the orthopedics and traumatology clinic (18). Similarly, in our study, the mean age of the participants was 65.83±15.90 years and 69.5% of them were in the elderly and advanced old-age categories based on the WHO classification.

The mean score of the study participants on the NNCCSwas 85.01±16.85. In other studies conducted with patients hospitalizedin surgical clinics, mean satisfaction scores ranged from 62.30±16.09 points to 82.6±14.8 points (3,19,20). In a study that investigated the relationship between perioperative care quality and patient satisfaction in patients undergoing orthopedic surgery, the mean total score on the NNCCS was 94.65±7.73 (21). In this context, our study is in line with the literature. The paramount health quality indicator is patient satisfaction. As in all fields, the quality of health services is changing and developing in parallel with ever-changing science and technology. Additionally, both the characteristics of the nurses providing care (education, experience, communication, etc.) and the characteristics of the patient receiving care (level of expectation, dependency status, post-operative complications, etc.) impact the level of satisfaction (15). Especially in orthopedics clinics, which is one of the surgical interventions with high pain levels, patient satisfaction should be measured at regular intervals using tools with proven validity and reliability, nursing care should be planned according to patient expectations, and quality of care should be improved (7).

Orthopedics and traumatology clinics, as a speciality area where services are provided for health problems requiring long-term care and multi-disciplinary teamwork, are health care centres where patient–nurse cooperation is experienced for an extended duration. After orthopedic surgery, issues such as pain, limitation of movement, risk of bleeding, and anxiety increase the care needs of patients. In the study, the mean score of the patients on the PPNCS was 64.47±13.26. A total of 91% of the study participants had a positive attitude (n=262) on the scale of perception of nursing care. In a study examining the perception of nursing care and satisfaction levels of surgical patients, the mean score on the PPNCSwas 68.03±9.87 (1). In another study examining the perception of nursing care in Turkey, the mean score on the PPNCS was 60.44±9.41 (4). Twayana and Hari Adhikari (2015) stated that the nursing care of patients was positive in their study (22). Our study is in line with the literature. Factorsthat induce a positive perception of nursing care include patients' dependence on nursing care-albeit brief-after orthopedic surgeries; increase in the care needs of the patients; greater care provided to meet patients' needs; frequent post-operative follow-ups; and patients feeling safer during this critical period.

The study participants' scores on the NNCCS show a significant difference based on the type of surgery ($\chi 2=11.114$; df=4; $p<.05$). The scores of infection patients are significantly higher than the scores of fracture/hemiarthroscopy patients and total joint replacement patients; the scores of amputation patients are significantly higher than the scores of fracture/hemiarthroscopy patients and total joint replacement patients ($p<.05$). Thus, satisfaction with care is higher among patients with greater care needs, extended hospitalization, and deeper patient–nurse interaction compared to other patient groups.

Currently, with the increase in the elderly population, the number of elderly patients undergoing surgical intervention is increasing. Aging-induced changes have biopsychosocial impacts on individuals, increasing their care needsand dependency on others. Akyüz and Büyükyılmazdetermined that elderly patients who underwent surgery in orthopedics and traumatology clinicsconsidered themselves more dependent on others in meeting their care needs (18). In our study, the scores obtained on the PPNCSshow a significant difference based on age ($\chi 2=9.491$, df=2, $p<.05$). The scores of the study participants in the middle-age group are significantly higher than the scores of those in the younger, older, and old age groups ($p<.05$). According to Kol et al., patients' agedoes not affect their perception of nursing care (4). In contrast to our study, Özcan and Kurşun, who conducted a study with 134 elderly patients hospitalized in the surgical clinic of a university hospital,identified that patients' perceptions of quality of care were high (23). We believe that with age, the patient feels more dependent on the nurse, buttheir perception of care decreases. Additionally, longer-term care expected by the elderly patients cannot be provided because of high clinical density, high number of patients per nurse, high frequency of patient follow-up, and age-related cognitive changes.

The quality of nursing care is directly related to how the care service is perceived by the service recipients (1,5). Our study identified a moderate positive significant relationship between the scores of the study participants on the NNCCS and the PPNCS(=.391, $p<.01$). A study examining the perception of nursing care and satisfaction levels of surgical patients reported a statistically significant positive relationship between the scores obtained on the nursing care satisfaction scale and the nursing care perception scale ($r=0.665$; $p=0.001$) (1). Akça Doğan et al. reported a statistically positive relationship between the care behaviors perceived by the patients and the satisfaction score (0.591; $p<0.01$) (5). Similarly, studies conducted in surgical

clinicsdetermined that the care satisfaction score increased as the care behaviors perceived by the patients increased (24,25). Our study is in line with the literature. In addition to the individual characteristics of the patients treated in the orthopedics and traumatology service, the support received from the nurse, the respect and courtesy shown by the nurse, access to the nurse in case of need, and unambiguous and satisfactory information have a positive impact on the perception of care and satisfaction.

CONCLUSION

This study was conducted to determine the perception of nursing care and satisfaction levels of orthopedics and traumatology patients. Patients' nursing care satisfaction and care perceptions were positive. Additionally, as their satisfaction level with nursing care increased, their perception of nursing care also increased. While the scores obtained on the NNCCS showed statistical significance depending on education level, place of residence, income status, and type of surgery, the PPNCS scores revealed statistical significance based on place of residence, income status, and age. Future research and strategies should focus on the approaches that could be applied to increase the care behaviors and satisfaction level perceived by patients. It is also recommended that the study should be conducted as a mixed method study with patients who have undergone major orthopedic surgery. In the case of orthopedics and traumatology clinics, the average age of patients is generally high. Therefore, it is recommended that in such cases, care needs of elderly patients should be addressed on priority-for example, providing support related to social life, ensuring mobility, and meeting basic needs in the post-operative period. Additionally, it is crucial that nurses determine these needs from the perspectives of type of surgery and surgical unit, and plan, implement, and evaluate the results of the care required by and provided to individuals.

Conflict of Interest: There is no conflict of interest.

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