Clinical and Experimental Health Sciences

The Association between Quality of Perioperative Nursing Care and Comfort among Neurosurgery Patients

Yesim Yaman Aktas [1], Neziha Karabulut [2]

[1] Giresun University, Faculty of Health Sciences, Department of Surgical Nursing, Giresun, Turkey.
[2] Ataturk University, Faculty of Nursing, Department of Surgical Nursing, Erzurum, Turkey.

Correspondence Author: Yesim Yaman Aktas
E-mail: yesimyaman28@hotmail.com
Received: 11.02.2019 **Accepted:** 14.10.2020

ABSTRACT

Objective: This study was carried out in an effort to find out how surgical hospital patients perceived the quality of perioperative care they received at an operating department and to determine its association with comfort level.

Methods: This cross-sectional study was conducted between March and July 2016 at the neurosurgery clinic of a Training and Research Hospital. A random sample of patients (n =175) who were conscious and oriented, did not stayed in the intensive care unit following the surgery, had been hospitalized for at least one night and were on their first postoperative day were included.

Results: A significant positive and weak correlation was found between the quality of perioperative nursing care and perianesthesia comfort levels *(r=0.264, p<0.01)*.

Conclusion: These study findings showed that perianesthesia comfort was affected by the quality of perioperative nursing care.

Keywords: Comfort, quality, neurosurgery patients, perioperative care.

1. INTRODUCTION

The concept of quality in healthcare is complex and multidimensional, therefore, difficult to define and assess. Healthcare quality measures have traditionally focused on structure and outcome indicators, such as morbidity, mortality and hospitalization, as well as aspects defined entirely through professional healthcare perspectives (1). When healthcare professionals define quality, there tends to be less focus is on what service users feel is important and patients' views are not explicitly considered (2). Since patients tend to assess healthcare quality according to responsiveness to their specific needs, healthcare professionals tend to define quality in terms of the attributes and results of care, the perspectives of each party are valuable and both perspectives must be considered when assessing healthcare (3).

Despite increasing awareness of the patient perspective in quality of care, patients' experiences are currently not routinely measured in neurosurgery patients or in perioperative settings. The large numbers of operations performed daily makes the care provided at operating departments an important aspect of modern healthcare. To improve quality of care, the factors that adversely affect satisfaction and experience must be identified (4). Patients are generally very satisfied with their surgical nursing care (5,6), but not all quality standards are always met. In physical care, quality consists of staff competence, efficient pain management and success in the surgical operation (7). In this regard, there have been reports of some problems with pain management, postoperative nausea and vomiting, particularly within operating departments (5,7).

Holistic comfort is also a desirable outcome of nursing care in the perianesthesia setting. Moreover, it is an umbrella term under which the discomforts that patients experience as a result of surgery or procedures can be placed. These discomforts are many and include pain, nausea, anxiety, and hypothermia (8). Kolcaba has defined comfort as "the immediate state of being strengthened through having the human needs for relief, ease, and transcendence met in 4 contexts of experience including physical, psychospiritual, sociocultural, and environmental" (9-12). The terms "relief", "ease", and "transcendence" are derived from the above dictionary definitions plus a review of the professional literatures in medicine, theology, ergonomics, psychology, and nursing (9,10). "Relief" is the state of having a severe discomfort mitigated or alleviated (e.g, a patient with nausea

DOI: 10.33808/clinexphealthsci.525635

obtains relief from ondansetron). "Ease" is the absence of specific discomforts. To experience ease a patient does not have to have a previous discomfort, although the nurse may be aware of predispositions to specific discomforts (e.g, the tendency for shortness of breath in a patient with chronic obstructive pulmonary disease). "Transcendence" is the ability to "rise above" discomforts when they cannot be eradicated or avoided (e.g, the patient feels motivated to ambulate although (s)he knows it will exacerbate pain) (8,9).

Briefly, comfort is an important criterion for initial, ongoing, and discharge assessment and management of the perianesthesia patient. Perianesthesia nurses are patient advocates who provide care to every age group and are committed to the safety and comfort of perianesthesia patients (13).

The specific aims of this study were to determine:

1. How do neurosurgery patients perceive the quality of perioperative care they received at an operating department?

2. Is there any relationship between the quality of perioperative care and perianesthesia comfort level?

2. METHODS

2.1. Design and Sample

A descriptive cross-sectional correlational design was used to identify the quality of perioperative care patients received at an operating department and to examine its relationship with perianesthesia comfort level. This study was conducted between March and July 2016 in the neurosurgery clinic of a Training and Research Hospital in the northeast region of Turkey. The inclusion criteria consisted a random sample of patients who were conscious and oriented, did not stay in the intensive care unit following the surgery, had been hospitalized for at least one night and were on their first postoperative day. The sample was restricted to adult patients who were capable of completing the questionnaire without help and returned to their own wards after their recovery period at the department. Patients requiring intensive care after surgery, as well as those who were unconscious, confused or very tired were excluded from the study. The G POWER 3.1 (Heinrich-Heine University of Dusseldorf, Germany) computer program was used to calculate the sample size. A sample size of 175 was calculated based on adding a 10% attrition rate for a power of 0.80, at significance level of 0.05.

2.2. Instruments

The data for the study were collected using the Good Perioperative Nursing Care Scale (GPNCS) and Perianesthesia Comfort Questionnaire (PCQ). The GPNCS, which was developed by Leinonen and Leino-Kilpi (6) and whose validity and reliability in a Turkish setting was tested by Dönmez and Özbayır (14), was used to measure the quality of perioperative nursing care. The GPNCS is a 34-item tool for measuring the quality of perioperative nursing care. The scale has six subscales: physical care, giving information, support, respect, personnel characteristics, environment and nursing process. The instrument is a Likert type scale (0–5). The responses are given as five points for 'I completely agree' to one point for 'I completely disagree'. A score of 0 was given for 'I can't evaluate this aspect' and a score of 3 was marked for 'I neither agree nor disagree, not different, I don't have any idea' (it does not matter). As a result of expert opinion and construct-language validity, study items that were similar to each other were removed, and the scale was revised to 32 items to prevent repetition (6,14).

PCQ is developed by Kolcaba (13). The validity and reliability of the questionnaire to test its use on the Turkish population was conducted by Ustundag and Eti Aslan and the Cronbach's alpha value was found to be 0.83 (15). The questionnaire includes 24 items questioning the self-understanding and feelings of a patient that reflect the general thoughts about pre – and post-operative periods. The questionnaire is scored using a 6-point Likert scale (1= strongly disagree to 6= strongly agree). The total possible score that can be obtained from the scale is a minimum of 24 and a maximum of 144. The total score obtained is divided by the number of scale statements, the mean score is then calculated, and the result is expressed in the range of 1-6. A low score indicates a poor level of comfort and a high score indicates a good level comfort (15).

2.3. Data Collection

After obtaining the necessary permissions, data collection tools were completed by patients. Patients were briefly informed by the researchers about the purpose and methods of the study. Patients completed the forms within approximately 20 to 25 minutes.

2.4. Ethical Considerations

The study was approved by the Ethics Committee (Approval Date: 29.02.2016, Approval Number: 49715540/050.01.04) and conducted according to the ethics guidelines established in the Declaration of Helsinki. Written consent was obtained from patients who agreed to enroll in the study. All participants were informed about the purpose and design of the study.

2.5. Statistical Analysis

Statistical analysis was performed using SPSS Statistics software for Microsoft Windows XP (Version 21.0, SPSS Inc., Chicago, IL). Demographic and clinical characteristics of participants were described using frequency distributions for categorical variables and means/standard deviations (median, min-max) for continuous variables. To make a comparison of the means of the variables, the Pearson Correlation test was used. A p-value below 0.05 was considered to indicate a statistically significant difference.

3. RESULTS

A total of 183 potential participants were assessed; 175 were deemed eligible, consented to participate, and completed the survey. Eight patients were not eligible because they were very tired and experiencing intense pain. Table 1 shows the participants' demographic characteristics. The patients' mean age was 55 years with a standard deviation 11.4 years; 70.9% were female. Of the participants, 78.3% were married, 48.6% graduated from primary school, 69.7% were housewives. General anesthesia was the most common type of sedation (90.9%); surgery was primarily performed in the afternoon (40%). An elective neurosurgery was performed in the study (93.9%).

Table 1. *Demographic Characteristics of Patients (n=175)*

Age (Mean±SD)	55.24±11.47 (range: 24-79)	
	n	**%**
Gender		
Female	124	70.9
Male	51	29.1
Marital status		
Single	38	21.7
Married	137	78.3
Level of education		
Literate	69	39.5
Primary school	85	48.6
Secondary school	15	8.6
High school	4	2.3
University	2	1.1
Profession		
Housewife	122	69.7
Self-employed	13	7.4
Worker	5	2.9
Retired	22	12.6
Farmer	13	7.4
Type of surgery		
Elective	164	93.9
Urgent	11	6.3
Premedication		
Yes	70	40.0
No	104	60.0
Type of anesthesia		
General anesthesia	159	90.9
Local anesthesia	16	9.1
Arrival at operating department		
Morning	60	34.3
Midday	30	17.1
Afternoon	70	40.0
Evening	15	8.6

SD: standard deviation

The mean score of the GPNCS was 113.08±21.45, and their mean sub-scale scores were 38.6±7.1 for physical care, 15.6±5.6 for giving information, 10.3±4.2 for support, 11.3±2.9 for respect, 14.6±4.5 for personnel characteristics, 15.3±4.2 for environment, and 7.1±2.0 for nursing process. The participants' total PCQ mean score was 4.27±0.58 (Table 2). Items from each questionnaire with the highest mean are listed in Table 3.

Table 2. *Mean Scores for GPNCS and PCQ Sub-scales*

	Mean±SD	**Minimum**	**Maximum**
Physical care	38.6±7.1	4	50
Giving information	15.6±5.6	1	25
Support	10.3±4.2	0	19
Respect	11.3±2.9	0	15
Personnel characteristics	14.6±4.5	0	20
Environment	15.3±4.2	0	20
Nursing process	7.1±2.0	1	10
Total GPNCS	113.0±21.4	25	152
Total PCQ	4.2±0.5	2	5

GPNCS: Good Perioperative Nursing Care Scale; PCQ: Perianesthesia Comfort Questionnaire; SD: standard deviation

Table 3. *Items with the Highest Mean per Questionnaire*

Item	**Mean±SD**
Good Perioperative Nursing Care Scale	
I think my operation/treatment was well performed	4.27±0.86
I think my anesthesia (general or regional anesthesia) was well performed	4.21±0.98
Staff in the operating department were professional	4.18±1.07
Perianesthesia Comfort Questionnaire	
My family/friends helped me to cope	5.48±1.09
My sense of self-respect was not preserved	5.29±1.19
The noises were disturbing	5.10±1.31

SD: standard deviation

A significant positive and weak correlation was found between the GPNCS scores and PCQ scores (*r=0.264, p<0.01*) (Table 4). It was found that perianesthesia comfort levels of participants increased if the scores of the quality of perioperative nursing care were higher in the study. Statistical analysis showed that there was a significant correlation between the scores of GPNCS sub-scales including physical care, giving information, respect, personnel characteristics, environment, nursing process and PCQ scores (*p<0.05*), while no significant correlation was found between sub-scale "support" score and PCQ scores (*p>0.05*) (Table 4).

Table 4. *Correlation between the GPNCS and the PCQ Scores of Patients*

GPNCS	**PCQ**	
	r	**p**
Physical care	0.235**	0.002
Giving information	0.156*	0.039
Support	0.105	0.168
Respect	0.173*	0.022
Personnel characteristics	0.162*	0.032
Environment	0.245**	0.001
Nursing process	0.183*	0.015
Total GPNCS	0.264**	0.000

*GPNCS: Good Perioperative Nursing Care Scale; PCQ: Perianesthesia Comfort Questionnaire; *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed)*

4. DISCUSSION

The aim of this study was to explore the quality of perioperative care patients received at an operating department and to examine its relationship with perianesthesia comfort level. Having to undergo surgery can be a major life event (16). During this period, patients reported both satisfaction and dissatisfaction with their quality of care (7,17). Patients are in a vulnerable situation and dependent on hospital staff during the perioperative period (18). Surgical patients may also have difficulty expressing their care needs (19). Therefore, it is important that surgical patients be given the opportunity to evaluate the care they receive and to express their own needs to further develop the quality of perioperative care.

This study showed that the overall patient perception regarding quality of perioperative nursing care was moderately good, with a score of 113.0±21.4. The study finding was consistent with those of the previous studies examining patients' perceptions regarding quality of care (20-22). In a study by Hertel-Joergensen et al. quality of perioperative nursing care scores of orthopedic patients were found to be 146.6±14.0 (23). At another study, Dönmez et al. reported that quality of perioperative nursing care scores of surgical patients were 128.2±1.2 (14). The scores of neurosurgery patients in the current study were lower than those of the surgical patients' reported by the aforementioned researchers. Patients' perceptions are needed to achieve unique insights into what works and what does not work in healthcare, so researchers that identify patients' perspectives on quality of healthcare are needed (23).

Neurosurgery patients reported higher scores for the items "I think my operation/treatment was well performed", "I think my anesthesia (general or regional anesthesia) was well performed", and "Staff in the operating department were professional" in the perioperative nursing care scale. These items were under the factor, 'Physical Care' which included 10 items. This finding was consistent with an earlier study by Forsberg et al., where the authors reported that the majority of patients rated it as important that their surgery (95.1%) and anesthesia (96.9%) were performed in the best way, and 97.0% were satisfied with the surgery and anesthesia procedures (16). Similarly, Leinonen et al. indicated that patients had high ratings for setting up the surgical position, performing the anesthesia and operation, and staff skills in the recovery room in the area of physical activities (17). It was particularly encouraging to see that physical care received the highest score; after all, that plays a key role in the work of all operating departments.

Patients also scored higher on "My family/friends helped me to cope", "My sense of self-respect was not preserved", and "The noises were disturbing" in the comfort questionnaire. Factors in the environment that detract from patients' comfort are cold, noise, chaos, endless bright lights, bad odors, lack of privacy, and uncomfortable stretchers, chairs, and beds (8). When nurses are unable to provide a peaceful, health-producing environment, they may be able to help patients transcend less than ideal settings. However, nurses should make conscious efforts to decrease noise, lights, and interrupted sleep to facilitate a peaceful environment (13).

Comfort is a positive outcome that has been linked to successful engagement in health seeking behaviors and is an important indicator to measure for perianesthesia nursing care and research (8,24). Findings of this study revealed that there was a direct and significant relationship between comfort and quality of perioperative nursing care in the perioperative period. Patients who reported more comfort also had more quality of perioperative nursing care. In other words, this study showed that there was a reciprocal relationship between comfort and quality of perioperative nursing care, which was consistent with the Comfort Theory (25). However, there has been no research examining its relationship with quality of perioperative nursing care among surgical patients. Nurses should implement a variety of interventions to meet comfort needs, and assess patients' comfort levels and quality of perioperative nursing care during perioperative period. The holistic, interrelated, and individualized nature of comfort needs is better understood when nurses mentally place their patients' needs within the cells on the grid. This approach makes it easier for nurses to identify and implement comfort interventions targeted to meet perioperative needs (8, 13).

Limitations

Although this study is the first research comparing the quality of perioperative nursing care and perianesthesia comfort level of neurosurgery patients, our findings have several limitations. This study is limited by its single-center design and the exclusive use of neurosurgery patients, which may weaken the strength of generalizations. Despite the inclusion of patients of differing ages, gender, material status, and conditions (acute or chronic) who received both elective and acute surgery, our findings may not apply to other groups, such as cardiovascular or other surgical patients. Using self-administration and leaving patients alone while answering the questionnaire may have increased their willingness to disclose sensitive information and reduced social desirability bias (25).

5. CONCLUSION

This study concluded that perianesthesia comfort was affected by the quality of perioperative nursing care. After surgery and anesthesia, nurses are the patients' first links with normalcy. Nurses are coaches in perianesthesia settings, assuring patients that they can recover, are safe, are protected from harm, and are capable to create and participate in their treatment plan (13). Perianesthesia nurses may address the patient's fears regarding the procedure and the anesthesia with information/education, compassion, and reassurance. Nurses may also facilitate a productive educational environment for recovery and rehabilitation. Future studies may be conducted to explore and compare patients' and

their nurses' perceptions of the quality of perioperative care and to identify possible differences in these perceptions.

Acknowledgements

We would like to thank neurosurgery patients for their participation in this study.

REFERENCES

[1] Donabedian A. Evaluating the quality of medical care. Milbank Q 2005;83(4):691-729.

[2] Siriwardena AN, Gillam S. Patient perspectives on quality. Qual Prim Care 2014;22:11-15.

[3] Piligrimiene Z, Buciunjiene I. Different perspectives on health care quality: Is the consensus possible? Eng Econ 2008;56(1):104-110.

[4] Beattie M, Lauder W, Atherton I, Murphy DJ. Instruments to measure patient experience of health care quality in hospitals: a systematic review protocol. Syst Rev 2014;3(4):1-8.

[5] Leinonen T, Leino-Kilpi H, Katajisto J. The quality of intraoperative nursing care: the patient's perspective. J Adv Nurs 1996;24(4):843-852.

[6] Leinonen T, Leino-Kilpi H, Stahlberg MR, Lertola K. The quality of perioperative care: development of a tool for the perceptions of patients. J Adv Nurs 2001;35(2):294–306.

[7] Hocking G, Weightman WM, Smith C, Gibbs NM, Sherrard K. Measuring the quality of anaesthesia from a patient's perspective: development, validation, and implementation of a short questionnaire. Br J Anaesth 2013;111(6):979-989.

[8] Wilson L, Kolcaba K. Practical application of comfort theory in the perianesthesia setting. J PeriAnesth Nurs 2004;19(3):164-173.

[9] Kolcaba K, Tilton C, Drouin C. Comfort theory: A unifying framework to enhance the practice environment. J Nurs Adm 2006;36(11):538-544.

[10] Kolcaba K, Steiner R. Empirical evidence for the nature of holistic comfort. J Holist Nurs 2000;18(1):46-62.

[11] Kolcaba K. The art of comfort care. J Nurs Scholar 1995;27:287-289.

[12] Kolcaba K. Evolution of the midrange theory of comfort for outcomes research. Nurs Outlook 2001;49(2):86-92.

[13] Kolcaba K, Wilson L. Comfort care: A framework for perianesthesia nursing. J PeriAnesth Nurs 2002;17(2):102-114.

[14] Dönmez YC, Özbayir T. Validity and reliability of the 'good perioperative nursing care scale' for Turkish patients and nurses. J Clin Nurs 2010;20(1-2):166–174.

[15] Ustundag H, Eti Aslan F. The Turkish adaptation of Perianesthesia Comfort Questionnaire. Turkiye Klinikleri J Nurs 2010;2(2):94-99.

[16] Forsberg A, Vikman I, Walivaara B, Engstrom A. Patients' perceptions of quality of care during the perioperative procedure. J Perianesth Nurs 2015;30(4):280-289.

[17] Leinonen T, Leino-Kilpi H, St_ahlberg M, Lertola K. Comparing patient and nurse perceptions of perioperative care quality. Appl Nurs Res 2003;16(1):29-37.

[18] Reynolds J, Carnwell R. The nurse-patient relationship in the post-anesthetic care unit. Nurs Stand 2009;24(15-17):40-46.

[19] Humphreys S. Patient autonomy legal and ethical issues in the post-anesthetic care unit. Br J Perioper Nurs 2005;15(1):35-43.

[20] Wilde-Larsson B, Larsson G, Chanterau MW, Von Holstein KS. International comparisons of patients' views of quality of care. Int J Health Care Qual Assur 2005;18(1):62-73.

[21] Muntlin A, Gunningberg L, Carlsson M. Patients' perceptions of quality of care at an emergency department and identification of areas for quality improvement. J Clin Nurs 2006;15(8):1045-1056.

[22] Danielsen K, Garratt AM, Bjertnaes O, Pettersen KI. Patient experiences in relation to respondent and health service delivery characteristic: A survey of 26,938 patients attending 62 hospitals throughout Norway. Scand J Public Health 2007;35(1):70-77.

[23] Hertel-Joergensen M, Abrahamsen 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;29:41-48.

[24] Kolcaba K. Comfort Theory and Practice: A Vision for Holistic Health Care and Research. New York: Springer Publishing;2003.

[25] Bowling A. Mode of questionnaire administration can have serious effects on data quality. J Public Health 2005;27(3):281-291.

How to cite this article: Aktas Yaman Y, Karabulut N. The Association between Quality of Perioperative Nursing Care and Comfort among Neurosurgery Patients. Clin Exp Health Sci 2020; 10: 332-336. DOI: 10.33808/clinexphealthsci.525635