

Relation between Health Quality Perceptions and Patient Safety Cultures of Nurses Working in Surgical Clinics

Cerrahi Kliniklerde Çalışan Hemşirelerin Sağlık Kalitesi Algıları ile Hasta Güvenliği Kültürleri Arasındaki İlişki

¹Gürkan KAPIKIRAN, ²Yasin ÇETİN, ³Emriye Hilal YAYAN

¹Malatya Turgut Ozal University, Faculty of Health Sciences, Malatya, Türkiye

²Adıyaman University, Faculty of Health Sciences, Adıyaman, Türkiye

³İnönü University, Faculty of Nursing, Malatya, Türkiye

Gürkan Kapıkıran: <https://orcid.org/0000-0002-3242-1059>

Yasin Çetin: <https://orcid.org/0000-0001-5783-5701>

Emriye Hilal Yayan: <https://orcid.org/0000-0003-0075-4171>

ABSTRACT

Objective: The study was carried out to determine the effect of health quality perceptions of nurses working in surgical clinics on patient safety culture.

Materials and Methods: The research is descriptive type and correlational. The sample of the research consisted of 237 nurses. Personal Information Form created by the researchers, Patient Safety Culture Scale (PSCS), and Quality Perception Scale (QPS) were used as data collection tools in the study. Data were collected between January 2021 and February 2022.

Results: The total mean score obtained from PSCS was found to be 3.36±0.21 in the study. In the study, it was found that the total mean score obtained from the QPS was 82.15±6.80. A positive, moderate correlation was found between the total score of PSCS and the total score of QPS ($r=0.407$, $p<0.01$).

Conclusions: It was determined that the increase in the quality perceptions of the nurses working in the surgical clinics increased the patient safety culture. It was observed that nurses who care for surgical patients attach importance to patient safety culture, especially in terms of patient benefit. It is recommended to organize in-service training programs to increase both quality perceptions and patient safety culture of healthcare professionals.

Keywords: Patient safety, surgical nursing, quality of healthcare

ÖZ

Amaç: Araştırma cerrahi kliniklerde çalışan hemşirelerin sağlık kalitesi algılarının hasta güvenliği kültürüne etkisini belirlemek amacıyla yapılmıştır.

Materyal ve Metot: Araştırma tanımlayıcı ve ilişki arayıcı tiptedir. Araştırma örneklemini 237 hemşire oluşturmuştur. Araştırmada veri toplama aracı olarak Kişisel Bilgi Formu, Hasta Güvenliği Kültürü Ölçeği (HGKÖ) ve araştırmacılar tarafından oluşturulan Kalite Algı Ölçeği (KAÖ) kullanılmıştır. Veriler Ocak 2021 ile Şubat 2022 arasında toplanmıştır.

Bulgular: Çalışmada HGKÖ'den elde edilen toplam puan ortalaması 3,36±0,21 olarak bulundu. Çalışmada KAÖ'den alınan toplam puan ortalamasının 82,15±6,80 olduğu bulunmuştur. HGKÖ toplam puanı ile KAÖ toplam puanı arasında pozitif, orta düzeyde bir ilişki bulundu ($r=0,407$, $p<0,01$).

Sonuç: Cerrahi kliniklerde çalışan hemşirelerin kalite algılarındaki artışın hasta güvenliği kültürünü arttırdığı saptandı. Cerrahi hastalarına bakım veren hemşirelerin özellikle hasta yararı açısından hasta güvenliği kültürüne önem verdikleri görüldü. Sağlık çalışanlarının hem kalite algılarını hemde hasta güvenliği kültürünü arttırmaya yönelik hizmet içi eğitim programları düzenlenmesi önerilmektedir.

Anahtar Kelimeler: Cerrahi hemşireliği, hasta güvenliği, sağlık hizmetinin kalitesi

Sorumlu Yazar / Corresponding Author:

Gürkan Kapıkıran
Malatya Turgut Ozal University, Faculty of Health Sciences, Emergency Aid and Disaster Management Department, Malatya, Türkiye
Tel: +0422 846 12 55
E-mail: gurkankpk@gmail.com

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INTRODUCTION

Quality perception in health can generally be defined as ensuring the safety of patients and employees, increasing satisfaction, providing effective and accurate healthcare service delivery. However, situations that are not predictable due to the complex organizational structure of health institutions cause many medical errors.¹ Medical errors that compromise patient safety are among priority quality problems because errors are irreversible.²

Attitude and behavior of healthcare professionals, past experiences and expectations of service areas constitute a personal sense of quality.³⁻⁵ It is important to increase the perception and awareness of healthcare professionals in order to create a culture on patient safety.⁶ One of the key objectives within the concept of patient safety is to ensure safe surgical steps. The safe surgical process, which includes the hospitalization of the patient, pre-operative, post-operative and even discharge processes, aims to provide treatment and care services safely. Due to the presence of complex medical devices and equipment in surgical clinics, the risk of undesirable events such as injury or accident is higher than in other clinics.⁶⁻⁷ For this reason, nurses working in surgical clinics have the responsibility to provide safe care for safe surgical processes, which reduces the risk of damage to patients before and after surgery.⁸ The concept of patient safety is an important concept that depends on the characteristics of nurses, clinics and patients in the surgical field.⁶ In a study examining the obstacles to the formation of a patient safety culture, which is one of the perceptions of quality in health in nurses, it is stated that the event notifications are insufficient.⁹ Similarly, in a different study, it was reported that nurses were generally reluctant to report event reports and.¹⁰

The nurses, who are the largest workforce in their healthcare presentation, spend almost all their time caring for patients.^{11,12} However, the working conditions of nurses are very difficult due to excessive workload, high hours of work, patient-induced emotional stress, inadequate nurse, lack of materials, and irregular working hours.¹³⁻¹⁵ These adverse working conditions increase the risk of unintended exposure to problems related to patient safety for nurses.⁸

In this study, the relationship between health quality perceptions and patient safety cultures of nurses working in surgical clinics was investigated.

MATERIALS AND METHODS

Ethics Committee Approval: Necessary permissions were obtained from the hospital where the study was conducted and the İnönü University Health Sciences Non-Invasive Clinical Research Ethics Committee (Date: 24.12.2019, decision no: 2019/138). The

nurses were informed by the researchers and the volunteer information form was presented to the nurses together with the questionnaire in line with the Helsinki Declaration.

Research Design and Sampling: The descriptive and correlational study was carried out between January 2021 and February 2022 with nurses working in the surgical clinics of a university hospital in Turkey.

The research population consisted of 298 surgical nurses working in the surgical clinics of the university hospital. It was aimed to reach the entire population without using any sampling method. The population consisted of nurses who met the inclusion criteria and volunteered to participate in the research (N=237). 79.5% of the research population has been reached. Since 19 of the nurses took unpaid leave, 28 of the nurses refused to participate in the study, and 14 of the nurses filled in the study questionnaire incompletely, they were not included in the sample. Criteria for inclusion in research: Working in surgical clinics/surgical intensive care units for at least six months, accepting participation in the study. The data were collected by the researchers in the surgical clinics of the relevant university hospital using a face-to-face survey method. It took an average of 7-8 minutes to fill out each questionnaire.

Data Collection Tools: "Personal Information Form" consisting of 14 questions, "Patient Safety Culture Scale" (PSCS), and "Quality Perception Scale" (QPS) were used as data collection tools in the research. Information about PSCS and QPS is presented below:

Patient Safety Culture Scale (PSCS): This scale, which was developed by Turkmen et al., consists of 51 items in total and includes five sub-dimensions.¹⁶ The scale is a four-point Likert scale. The total PSCS score is obtained by adding the mean score of the 5 sub-dimensions of the scale and dividing the result by 5. Interpretation of scale scores between 1 and 4 points: A mean score of 1 indicates the presence of a negative patient safety culture, and an increase of 4 indicates the presence of a positive patient safety culture. Türkmen et al.¹⁶ reported the Cronbach's alpha value of the PSCS as 0.97. In this study, the Cronbach's alpha value of the scale was 0.88.

Quality Perception Scale (QPS): The "Quality Perception Scale" developed by Bayer and Baykal and brought to the literature is divided into 7 sub-dimensions and includes 70 questions.¹⁷ The scale is of a 5-point Likert type and the lowest score that can be obtained in QPS is 20, and the highest score is 100. A high total score from the QPS and its sub-dimensions indicates that the perception of quality is positive, while a low score indicates that the individ-

ual's perception of quality is negative.¹⁷ Bayer and Baykal found the Cronbach's alpha value of the QPS to be 0.94. In this study, the Cronbach's alpha value of the scale was 0.93.

Analysis of Data: After the data obtained in our study was transferred to the computer environment, the Statistical Package for Social Sciences (SPSS) version 25.0 for the Windows computer program was used for statistical analysis. Descriptive statistical methods such as frequency, mean and standard deviation were used to evaluate the study data. Pearson correlation analyzes were used to determine the relationship between the scales. In the interpretation of the Pearson correlation coefficient, $0.00 \leq r \leq 0.49$ is considered a weak relationship, $0.50 \leq r \leq 0.69$ an intermediate relationship, and $0.70 \leq r \leq 1.00$ a high-level relationship.¹⁸ Cronbach's alpha coefficients of the scales were checked for validity and reliability analysis. The data of our study was accepted as a

confidence interval of 95 and a statistical significance level of " $p < 0.05$ ".

RESULTS

When some sociodemographic data of the nurses shown in Table 1 were examined, it was determined that the mean age was 32.90 ± 5.69 . It was observed that 67.5% of the participants were women, 89.5% of the participants had a bachelor's degree, and 50.2% of the participants worked in surgical clinics. It was observed that 38.4% of the participants had been nursing for 6-11 years, 63.3% of the participants worked 160 hours or more per month, and 87.3% of the participants worked in shifts. It was determined that 54.9% of the participants chose the profession voluntarily, 54.9% of the participants did not receive patient safety training and 67.5% received a training about quality (Table 1).

Table 1. Socio-demographic characteristics of nurses.

Socio-demographic characteristics	n (%); X±SD (Min-Max)	
Age	32.90±5.69 (23 - 46)	
Gender	Female	160 (67.5)
	Male	77 (32.5)
Marital status	Married	144 (60.8)
	Single	93 (39.2)
Education level	Associate degree	11 (4.6)
	Licence	212 (89.5)
	Graduate	14 (5.9)
Economical situation	Income less than expenses	33 (13.9)
	Income equals expenses	126 (53.2)
	Income more than expenses	78 (32.9)
Surgical unit	Surgical services	119 (50.2)
	Surgical Intensive Care Units	116 (49.8)
How many years have you been nursing?	0-5 years	71 (30.0)
	6-11 years	91 (38.4)
	12 years and above	75 (31.6)
How many years have you been working in the clinic?	0-5 years	115 (48.5)
	6-11 years	91 (38.4)
	12 years and above	31 (13.1)
Monthly working period	Under 159 hours	2 (0.8)
	160 hours	85 (35.9)
	Above 161 hours	150 (63.3)
Working Shift	All day long	30 (12.7)
	Day/Night shift	207 (87.3)
Did you choose nursing willingly?	Yes	105 (45.1)
	No	132 (54.9)
Have you received training on patient safety culture?	Yes	107 (45.1)
	No	130 (54.9)
Have you received training on quality?	Yes	160 (67.5)
	No	77 (32.5)

Min-max: Minimum-Maximum; X±SD: Mean±Standard deviation.

The lowest and highest scores, mean and standard deviation values obtained according to the PSCS and its five sub-dimensions used in this study are shown in Table 2. In the study, it was determined that the total mean score from PSCS was 3.36 ± 0.21 . A PSCS total score close to 4 indicates a positive

patient safety culture.¹⁶ Among the sub-dimensions of PSCS, the highest score was 3.48 ± 0.28 for the employee behavior sub-dimension, and the lowest score was 3.06 ± 0.35 for the care environment sub-dimension (Table 2).

Table 2. The mean score of the patient safety culture and quality perception scale and its sub-dimensions.

Scale		X±SD	Min-Max
Scale and sub-dimensions of patient safety culture	Management and Leadership	3.37±0.27	1.29 (4.00)
	Employee Behavior	3.48±0.28	1.86 (4.00)
	Unexpected Event and Error Reporting	3.46±0.39	2.00 (4.00)
	Employee Training	3.40±0.30	2.00 (4.00)
	Maintenance Environment	3.06±0.35	1.63 (4.00)
Total		3.36±0.21	2.06 (3.95)
Quality perception scale and its sub-dimensions	Management and Leadership	82.66±9.38	38.33 (100.0)
	Human Resources Use	72.45±11.11	34.29 (94.29)
	Quality Education	84.09±8.12	56.67 (100.0)
	Measurement and evaluation	83.23±0.40	43.33 (100.0)
	Institutional Benefit	86.59±8.68	42.00 (98.00)
	Employee Benefit	90.50±8.75	47.50 (100.0)
Total		82.15±5.71	45.71 (92.86)
Total		82.15±6.80	43.14 (94.29)

Min-max: Minimum-Maximum; X±SD: Mean±Standard deviation.

The lowest and highest scores, mean and standard deviation values obtained according to the QPS and seven sub-dimensions used in this study are shown in Table 2. In the study, the total mean score obtained from the QPS was found to be 82.15±6.80. Among the sub-dimensions of the QPS, the highest score was 90.50±8.75 for the employee benefit sub-dimension, and the lowest score was 72.45±11.11 for the human resources use sub-dimension (Table 2).

Table 3 shows correlation analyzes between PSCS and its sub-dimensions and QPS and its sub-dimensions. A strong positive correlation was determined between the PSCS total score and its sub-dimension, employee behaviors ($r=0.753$, $p<0.01$). There was a moderate positive correlation between PSCS total score and QPS total score ($r=0.407$, $p<0.01$). However, a strong positive correlation was found between PSCS and QPS patient benefit sub-dimension ($r=0.706$, $p<0.01$).

Table 3. Correlation analysis between patient safety culture and quality perception scale.

Correlation Matrix***							
Variables	X±SD	Patient Safety culture (Total)	Management and Leadership	Employee Behavior	Unexpected Event and Error Reporting	Employee Training	Maintenance Environment
Patient Safety culture (Total)	3.36± 0.21	1					
Management and Leadership	3.37±0.27	0.718**	1				
Employee Behavior	3.48±0.28	0.753**	0.638**	1			
Unexpected Event and Error Reporting	3.46±0.39	0.665**	0.294**	0.354**	1		
Employee Training	3.40±0.30	0.560**	0.304**	0.197**	0.223**	1	
Maintenance Environment	3.06±0.35	0.650**	0.305**	0.423**	0.195**	0.206**	1
Quality Perception (Total)	82.15±6.80	0.407**	0.448**	0.398**	0.312**	0.081	0.149*
Management and Leadership	82.66±9.38	0.337**	0.374**	0.350**	0.299**	0.040	0.083
Use of Human Resources	72.45±11.11	0.179**	0.164*	0.184**	0.179**	0.036	0.038
Quality Training	84.09±8.12	0.322**	0.365**	0.251**	0.191**	0.096	0.197**
Measurement and Evaluation	83.23±10.40	0.365**	0.361**	0.345**	0.138*	0.148*	0.270**
Institutional Benefit	86.59±8.68	0.197**	0.286**	0.198**	0.238**	-0.025	-0.029
Employee Benefit	90.50±8.75	0.344**	0.423**	0.332**	0.326**	0.043	0.048
Patient Benefit	82.19±5.71	0.706**	0.642**	0.591**	0.321**	0.174*	0.359**

*: $p<0.05$; **: $p<0.01$; ***: Pearson Correlation Co-efficient..

DISCUSSION AND CONCLUSION

It has been reported that employees' perceptions and attitudes related to patient safety must be measured and evaluated continuously in order to place the patient safety culture in their institution's policies.¹⁶ In this direction, the aim of the research is to examine the relationship between the health quality perceptions of surgical nurses and patient safety cultures. It has been reported that as the experience in nursing increases, the skills of truth-seeking, self-confidence, open-mindedness and inquisitiveness increase, and critical thinking skills are higher.¹⁹ It can be said that the experiences of nurses affect their perceptions of quality and thus increase their perceptions of patient safety. When the nurses participating in the study were evaluated in terms of patient safety cultures, it was determined that the average score was 3.36 ± 0.21 . In another study examining the factors affecting the patient safety culture of nurses working in a university hospital, it was reported that the mean total score of the scale was 2.64 ± 0.43 .²⁰ In a similar study on nurses, the average score of the patient safety culture was 2.81 ± 0.40 .²¹ The highest sub-dimension score was determined as 3.48 ± 0.28 in the "Employee Behavior" sub-dimension. When the studies in the literature were examined, it was seen that the highest score of the nurses was "Employee Behavior" 2.80 ± 0.58 .²¹ In another study, the "Employee Education" sub-dimension was reported as 3.04 ± 0.60 .²² The total score of nurses' patient safety in an accredited hospital was found to be 3.23 ± 0.37 . Similar to our study, the highest score in the sub-dimension scores of the scale was found to be the "behavior of the employees" sub-dimension. The lowest score was in the "unexpected event and error reporting" sub-size.²³ However, our research found that the "maintenance environment" is the lowest sub-size. It has been reported that there has been an increase in reporting unexpected incidents and errors in institutions with a perception of patient safety culture. The results of the research show relative similarity with the literature. It can be suggested that improvement activities can be conducted to increase the patient safety culture to higher levels. It was determined that the majority of the nurses participating in the study did not receive any training on patient safety culture but received training on quality. This situation can be considered as a negative situation in terms of patient safety. When the educational status of the nurses participating in the study was examined, it was determined that the majority of the participants were undergraduate graduates. In a study, it was reported that there is a relationship between the education level of nurses and the quality of patient care, and that the decreasing interventions as the education level decreases endanger patient safety.²³ In another study, it was reported

that senior nurses and training nurses had a better perception of patient safety culture.²⁴ In order to promote patient safety culture in nurses, it is believed that updating the undergraduate education curriculum and in-service training programs provided in the working life will contribute to patient safety.

When the quality perceptions of the nurses attending the study were examined, it was determined that the total score averages were 82.15 ± 6.80 , and that the "employee benefit" sub-dimension was found as the highest score with 90.50 ± 8.75 points. In a study, it was reported that the quality work carried out in the institution and the quality perceptions of the employees were greatly affected and that these studies were beneficial to the institution and positively impacted the quality perceptions of the employees.²⁵ In this respect, training programs or various informational meetings that can increase the quality perceptions of nurses should be organized to provide positive behaviors.

In conclusion, it was seen that the increase in quality perception increased the patient safety culture of surgical nurses. It was determined that nurses who care for surgical patients attach importance to patient safety culture in terms of patient benefit. The physical environments in which nurses work in relation to the care environment should be arranged in a way that supports the effective maintenance of patient and employee safety. Institutions should develop approaches to develop a safety culture, including management attitudes that try to find system-related problems and improve quality in unexpected events, as well as arrangements for adequate material supply and appropriate working hours, and encouraging nurses to report unexpected events and errors. The limitation of the study is that the study was conducted in a university hospital located in the east of Turkey and only on surgical nurses.

Ethics Committee Approval: Necessary permissions were obtained from the hospital where the study was conducted and the İnönü University Health Sciences Non-Invasive Clinical Research Ethics Committee (Date: 24.12.2019, decision no: 2019/138). The nurses were informed by the researchers and the volunteer information form was presented to the nurses together with the questionnaire in line with the Helsinki Declaration.

Conflict of Interest: No conflict of interest was declared by the authors.

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