



Patient Safety Attitudes of Nurses Working in Surgical Clinics: A Cross-Sectional Study

Cerrahi Kliniklerde Çalışan Hemşirelerin Hasta Güvenliği Tutumları: Kesitsel Bir Araştırma

Derya Uzelli Yılmaz¹, Fatma Düzgün², Dilek Yılmaz³

¹Izmir Katip Celebi University, Faculty of Health Sciences, Department of Fundamentals of Nursing, Izmir, Turkey

²Bursa Uludag University, Bursa Uludag University Hospital, Bursa, Turkey

³Bursa Uludag University, Faculty of Health Sciences, Department of Fundamentals of Nursing, Bursa, Turkey

Abstract

Aim: This study conducted to investigate the attitudes of nurses working in surgical clinics towards patient safety.

Material and Method: The descriptive and cross-sectional study sample consisted of 100 nurses working at the surgical clinics of a hospital in the Marmara region of Turkey. The data were collected between March 2020 and June 2020 by using a Nurse Identification Form and The Safety Attitudes Questionnaire. Median, percentage distribution, independent t-test and analysis of variance (ANOVA) test were used for statistical evaluation. A written permission was obtained from the Scientific Ethics Board where the study was conducted for the investigation to be carried out.

Results: The mean total attitude score of the nurses included in the study was found 155.88±20.77. No statistically significant difference was found to exist between the mean total scores of the Safety Attitudes Questionnaire, and the variables of the nurses' gender, education level or place of work ($p > 0.05$). A statistically significant difference was found between the marital status of nurses, working position and the mean total score of the of the Safety Attitudes Questionnaire.

Conclusion: It was concluded from this study that nurses working in surgical units had a positive attitude toward patient safety. Nursing leaders should therefore endeavor to maintain nurses' work motivation and improving working conditions to maintain patient safety.

Keywords: Nurse, surgical clinics, nursing, patient safety, attitude

Öz

Amaç: Bu araştırma cerrahi kliniklerde çalışan hemşirelerin hasta güvenliğine yönelik tutumlarını araştırmak amacıyla yapılmıştır.

Gereç ve Yöntem: Tanımlayıcı ve kesitsel tipteki araştırma örneklemini Türkiye'nin Marmara bölgesindeki bir hastanenin cerrahi kliniklerinde çalışan 100 hemşire oluşturdu. Veriler Mart 2020 ile Haziran 2020 arasında Hemşire Tanıtım Formu ve Hasta Güvenliği Tutum Ölçeği kullanılarak toplanmıştır. İstatistiksel değerlendirme için medyan, yüzde dağılımı, bağımsız t testi ve varyans analizi (ANOVA) testi kullanıldı. Araştırmanın yapılabilmesi için araştırmanın yapıldığı Bilim Etik Kurulu'ndan yazılı izin alındı.

Bulgular: Araştırmaya dahil edilen hemşirelerin ölçek toplam puan ortalamaları 155.88±20.77 olarak bulundu. Hasta Güvenliği Tutum Ölçeği toplam puan ortalamaları ile hemşirelerin cinsiyet, eğitim düzeyi veya iş yeri değişkenleri arasında istatistiksel olarak anlamlı fark bulunmadı ($p > 0.05$). Hemşirelerin medeni durumu, çalışma pozisyonu ve Hasta Güvenliği Tutum Ölçeği toplam puan ortalamaları arasında istatistiksel olarak anlamlı fark bulundu.

Sonuç: Bu çalışmada cerrahi birimlerde çalışan hemşirelerin hasta güvenliğine yönelik olumlu tutuma sahip oldukları sonucuna varılmıştır. Hemşirelik liderleri, hasta güvenliğini sağlamak için hemşirelerin çalışma motivasyonunu korumaya ve çalışma koşullarını iyileştirmeye çalışmalıdır.

Anahtar Kelimeler: Hemşire, cerrahi klinikler, hemşirelik, hasta güvenliği, tutum



INTRODUCTION

Patient safety is one of the most important issues in health care delivery. It is one of the basic patient rights for an individual to receive health care in a safe environment.^[1,2] The World Health Organization (WHO) has defined patient safety as "the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum."^[3] Patient safety is the crucial aspect of quality in health services, and avoidance of medical errors at every stage of care by health care providers to prevent the harm that health care services may cause to individuals.^[2] According to Robertson and Long^[4], preventable medical errors in related to patient safety commonly included errors related to surgical medication, hospital infections, falls, communication problems and errors related to material use. Nurses play a key role in reducing medication errors, reducing infection rates, and ensuring safe transitions from the hospital to the home in hospital settings. Patient safety in nursing practise also mandates that a professional healthcare provider support the patient in obtaining optimal health while ensuring that all required safety measures are taken to avoid or minimise risk.^[4,5]

One of the places where medical errors related to patient safety occur the most is surgery clinics.^[2] In a retrospective study in which medical errors were observed in clinics, it was found that 43.6% of the preventable errors were made in the surgical department.^[6] In the study conducted by Özata and Altunkan^[7], in which they evaluated the types of medical errors in terms of internal and surgical clinics, it was determined that the wrong route of drug administration was higher in surgical clinics than in internal clinics. Surgical clinics are settings where interventional procedures are frequently performed and where the workload is considerable. As a result, errors may occur more frequently, and medical error tendencies are increasing as nurses working in surgical services perform under stress. A recent study by Karacabay et al.^[7] found that most of nurses who working in surgical clinical faced medical errors during the clinical interventions. Increases in workload may also pose a risk to patient safety by reducing the nurse's ability to perceive and respond to clinical situations.^[7-9] To determine medical errors in surgical clinics, identify interventions that may threaten patient safety, it is critical to examine the attitudes of the nurses working in these clinics. Determining the patient safety attitudes of nurses working in surgical clinics will enable the prediction of medical errors and the determination of the approaches to be developed to prevent them. Therefore, this study conducted to investigate the attitudes of nursing working in surgical clinics towards patient safety.

MATERIAL AND METHOD

Written permission was obtained by email from the authors of the Turkish validity and reliability study of the scale in order to conduct the research. This study was approved by Uludağ University Faculty of Medicine Clinical Research Ethics Committee (Date: 19.02.2020, Decision No: 2020-3/2), and

from each of the nurses who voluntarily participated in the research. All the participants were provided verbal information about the study, and written informed consent was obtained from each participant. All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Study Design

This descriptive cross-sectional design study was conducted in surgical units of hospitals in the Marmara region of Turkey between March and June 2020.

Participant and Data Collection

The population of the study was 130 nurses employed in the surgical clinics of a large hospital in the Marmara region of Turkey. The research sample consisted of 100 nurses who were actively working in these units and who were willing to participate in the current study (Participation rate: %76.92).

Data were collected using with a Nurses' identification form and The Safety Attitudes Questionnaire.

Nurses' Identification Form

The form was prepared by the researchers and consisted of eight questions aimed at determining the participant nurses' sociodemographic and professional characteristics.

The Safety Attitudes Questionnaire (SAQ)

The scale was developed by Sexton et al.^[10] with the basic aim of measuring patient safety attitudes of nursing. Turkish validity and reliability of the scale was performed by Baykal et al. (2010).^[11] The scale consists of 46 items, structured as 5-point, Likert-type: (5) "I strongly disagree," (4) "I disagree," (3) "I have no opinion," (2) "I agree," and (1) "I strongly agree." The scale consisted of six subscales as Teamwork Climate, Safety Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition. The minimum score obtainable on the scale is 46 and the maximum is 230. The higher scores indicate that greater patient safety attitudes. In a previous study conducted in Turkey, the Cronbach's alpha was found to be 0.90 for the scale.^[11] The Cronbach alpha coefficient in the current study was 0.92. After consenting to participate in the current study, data were collected through face-to-face interviews conducted with the participant nurses in their clinics. This process was taken into consideration in order to ensure that the duration of the research did not negatively impact upon the participants' working hours. The time taken to complete each questionnaire was approximately 15-20 minutes.

Statistical Analysis

In evaluating the collected research data, IBM's Statistical Package for Social Science (SPSS, Version 22.0) was employed. There was no data found to be missing from the current study. Continuous variables are presented as median (min-max), whilst categorical variables are described using frequencies and percentages. Shapiro-Wilk normality test was applied in order to examine whether or not the numerical data

were distributed normally. Since the data were found to be normally distributed, independent t-test and analysis of variance (ANOVA) test were used to compare the scores of the sociodemographic information of the nurses.

RESULTS

The mean age of the participant nurses included in the research was 36.85 ± 7.51 years. In addition, 20.0% worked in the general surgery, 80.0% held a bachelor's degree, 94.0% were female, and 68.0% were married. The mean length of time that they had worked in the surgical clinic was 8.55 ± 7.55 years, they worked for 41.53 ± 3.04 hours per week, and 93.0% of them working as a clinical nurse (**Table 1**).

Characteristics	n	%
Age (Mean \pm SD)	36.85 \pm 7.51 years	
Weekly work time (Mean \pm SD)	41.53 \pm 3.4 hours	
Length of employment in surgical clinic (Mean \pm SD)	8.55 \pm 7.55 years	
Gender		
Female	94	94.0
Male	6	6.0
Marital status		
Married	68	68.0
Single	32	32.0
Highest educational qualification		
Health Vocational High School	4	4.0
Associate degree	6	6.0
Bachelor's degree	80	80.0
Postgraduate degree	10	10.0
Service of work		
Thoracic surgery	10	10.0
Ophthalmology	7	7.0
General surgery	20	20.0
Ears, nose, throat, head and neck surgery	6	6.0
Pediatric surgery	12	12.0
Urology	9	9.0
Orthopedic surgery	11	11.0
Gynecological surgery	7	7.0
Working position		
Clinical nurse	93	93.0
Administrator nurse	7	7.0

The mean total score from the scale of the nurses included in the study was found to be 155.88 ± 20.77 , from the sub-dimension mean scores; teamwork climate was 44.61 ± 6.97 , safety climate was 19.14 ± 3.38 , perceptions of management was 25.65 ± 5.00 , job satisfaction was 34.05 ± 7.73 , working conditions was 17.47 ± 2.85 , stress recognition was 14.96 ± 3.88 (**Table 2**).

SAQ and sub-dimensions	Mean \pm SD	Min-Max Score
Teamwork climate	44.61 \pm 6.97	12-57
Safety climate	19.14 \pm 3.38	5-25
Perceptions of management	25.65 \pm 5.00	7-35
Job satisfaction	34.05 \pm 7.73	11-53
Working conditions	17.47 \pm 2.85	6-25
Stress recognition	14.96 \pm 3.88	5-25
Total SAQ	155.88 \pm 20.77	46-199

SAQ: Nurses' Safety Attitudes Questionnaire

No statistically significant difference was found between the variable of the nurses' gender, education level or place of work and the mean total scores of the Safety Attitudes Questionnaire ($p > 0.05$). However, a statistically significant difference was found between the marital status of nurses, working position and the total score of the of the Safety Attitudes Questionnaire ($p < 0.05$) (**Table 3**).

DISCUSSION

This study was conducted with the aim of examining the patient safety attitudes of nurses working in surgical clinics. In this study, which was carried out on nurses who working in the surgical clinics of a university hospital in Turkey, the effect of variables including age, gender, educational status, marital status, place of work and working position on patient safety attitude is determined. The findings obtained from the current study are discussed against the findings of the existing literature.

According to the results obtained from this study; it was revealed that nurses had highest average among with the sub-dimensions of "working conditions" and "safety climate". It was determined that the lowest average was obtained to the "job satisfaction" sub-dimension. One of the essential factors influencing workforce productivity is job satisfaction. Preserving high level of job satisfaction among nurses is critical for achieving the appropriate high quality medical service.[12] Although these results revealed that the nurses were satisfied with the management actions related to safety aspects, the low level of job satisfaction might negatively affect the quality of the nurses' interventions. In study conducted with nurses working in surgical clinics, the motivation levels of nurses were examined, and it was reported that their willingness to work in the clinic may be related to their motivation.[12]

In the study by Özer et al.[13] on nurses working in a public hospital in Turkey, nurses had the highest average to the sub dimension of the working conditions and safety climate as in our study while the lowest average was given to the sub-dimension of stress recognition. Other studies found different findings in terms of sub-dimensions average of nurses.[13-15] The inconsistencies between the results of current study and previous studies could be related to differences in sample characteristics, sample size and the health institutions delivery system.

Several studies were examined some nursing characteristics to assess their relations with perception of patient safety. In the current study, it was revealed significant relations between marital status and working position and nurses' perception of patient safety. In contrast, some studies did not establish any significant relations between marital status or working position and scores of attitudes of patient safety.[13,16]. In the current study, it was obtained no significant relations between gender, education level or place of work and nurses' perception of patient safety.

Table 3. Distribution of nurses' some descriptive characteristics and mean scores of nurses' SAQ and sub-dimensions

Characteristics	Safety climate Mean ± SD	Teamwork climate Mean ± SD	Perceptions of management Mean ± SD	Job satisfaction Mean ± SD	Working conditions Mean ± SD	Stress recognition Mean ± SD	SAQ Mean ± SD
Gender							
Female	19.29±3.27	44.76±6.91	25.73±4.94	34.09±7.81	17.43±2.89	14.88±3.95	156.22±20.92
Male	16.66±4.36	42.00±8.07	24.33±6.28	33.33±6.91	18.00±2.28	16.16±2.48	150.50±19.05
Statistical test*	t = 1.869	t = 0.944	t = 0.663	t = 0.233	t = -0.467	t = -0.782	t = 0.653
p	p=0.650	p=0.347	p=0.509	p=0.816	p=0.641	p=0.436	p=0.506
Marital status							
Married	19.51±2.78	45.51±5.39	26.30±4.28	35.25±6.34	17.60±2.51	15.20±3.54	159.39±16.59
Single	18.34±4.33	42.68±9.32	24.25±6.10	31.50±9.71	17.18±3.49	14.43±4.55	148.40±26.41
Statistical test*	t = 1.627	t = 1.915	t = 1.946	t = 2.310	t = 0.677	t = 0.921	t = 2.535
p	p=0.107	p=0.058	p=0.054	p=0.023	p=0.500	p=0.359	p=0.036
Highest educational qualification							
Health Vocational High School	17.25±1.70	41.50±5.50	21.00±3.55	31.00±1.82	15.25±3.59	14.50±2.08	140.50±6.24
Associate degree	21.00±2.44	47.83±3.86	27.83±2.78	37.00±6.00	17.16±1.47	13.83±2.99	164.66±9.54
Bachelor's degree	19.10±3.42	44.38±7.25	25.53±4.98	33.96±7.88	17.55±2.92	15.28±3.80	155.82±21.98
Postgraduate degree	19.10±3.87	45.70±6.51	27.10±5.76	34.20±9.01	17.90±2.51	13.20±5.24	157.20±16.77
Statistical test**	F= 1.025	F= 0.795	F= 1.874	F= 0.495	F= 0.923	F= 1.060	F= 1.106
p	p=0.385	p=0.500	p=0.139	p=0.687	p=0.433	p=0.370	p=0.351
Service of work							
Thoracic surgery	19.00±1.49	44.50±2.87	24.30±3.46	33.30±15.04	18.10±1.28	14.80±2.97	154.00±15.04
Ophthalmology	21.33±4.27	46.66±7.31	27.33±5.46	36.50±10.36	17.83±2.48	13.00±5.93	162.66±18.01
General surgery	18.40±3.54	42.80±7.14	25.25±4.79	34.45±6.51	18.10±2.67	15.55±2.89	154.55±16.58
Ears, nose, throat, head and neck surgery	21.00±2.44	47.50±4.72	23.00±6.08	34.16±5.26	136.8±2.22	16.33±2.58	164.16±11.07
Pediatric surgery	20.33±1.77	48.75±4.57	28.16±4.38	37.58±6.20	16.16±2.28	14.58±3.80	165.58±12.39
Urology	20.66±2.34	47.33±3.57	26.77±3.63	35.55±7.41	16.63±1.56	12.77±5.44	161.55±12.81
Orthopedic surgery	18.54±2.69	42.18±4.23	22.36±3.61	32.18±5.94	18.44±1.81	14.54±2.54	146.45±14.18
Gynecological surgery	15.85±1.34	39.85±10.12	23.00±6.08	26.85±8.85	16.57±4.64	17.00±3.69	139.14±20.78
Statistical test**	F= 1.995	F= 1.737	F= 1.914	F= 1.319	F= 0.893	F= 0.994	F= 1.550
p	p=0.056	p=0.100	p=0.067	p=0.244	p=0.526	p=0.446	p=0.151
Working position							
Clinical nurse	19.01±3.44	44.18±6.95	25.29±4.86	33.44±7.54	17.57±2.90	15.15±3.77	154.66±20.75
Administrator nurse	20.62±2.19	49.50±5.58	29.75±5.03	41.00±6.80	16.25±1.90	12.75±4.77	169.87±15.98
Statistical test*	t = -1.298	t = -2.102	t = -2.248	t = -2.734	t = 1.264	t = 1.691	t = -2.018
P	p=0.197	p=0.038	p=0.015	p=0.007	p=0.209	p=0.094	p=0.046

SAQ: Nurses' Safety Attitudes Questionnaire; *: Independent t test; **: One-way Anova

In our study, it was determined that female nurses had higher scores than male nurses in sub-dimension of safety climate, teamwork climate, perceptions of management and job satisfaction. Female nurses had also higher scores in terms of total score of patient safety attitudes. According to these results, it may show that female nurses are more satisfied with their jobs, show a strong organisational commitment to safety, and are satisfied with managerial actions. In a study by Özer et al.[13], female nurses had higher scores than male nurses in all dimensions. The present study found that nurses who had associate degree of nurses had higher scores in total score of patient safety attitudes. Other studies found different relationships between educational level and total or sub-dimensions average of nurses. According to these results, it is recommended to review the training curriculum in all levels of nursing program in terms of improvements in attitude toward patient safety. When evaluating the total and subscale scores according to the working units of the nurses, results showed no difference. Nurses who working pediatric surgery had higher scores in total score of patient safety attitudes. A cross-sectional and descriptive study by Unver and Yenigun[17] investigated the attitudes of nurses working in surgical departments toward patient safety. The authors found that the patient safety culture was similar among the surgical units of the study hospital.

Limitations

The current study was conducted with nurses working in surgical clinics at a single health institution. Therefore, these conclusions cannot be generalized, although the current study's findings could be retested according to other contexts.

CONCLUSIONS

In conclusion of the current study, it was found that the nurses' attitudes regarding patient safety were moderate, but that their independent variables other than marital status and working position did not significantly affect their attitudes. Nursing and healthcare managers should consider the training and education of nurses with respect to the maintain of patient safety and to also improve the quality of nursing interventions. In line with these results, it is recommended that future studies be conducted with a larger sample, and to include nurses working in other clinical fields to potentially elicit results that consider a different perspective.

ETHICAL DECLARATIONS

Ethics Committee Approval: This study was approved by Uludağ University Faculty of Medicine Clinical Research Ethics Committee (Date: 19.02.2020, Decision No: 2020-3/2).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Acknowledgements: The researchers would like to acknowledge the contribution of all the nurses who participated in the study.

REFERENCES

1. Bates DW, Singh H. Two decades since to err is human:an assessment of progress and emerging priorities in patient safety. *Health Aff* 2018;37(11):1736-43.
2. James JT. A new, evidence-based estimate of patient harms associated with hospital care. *J Patient Saf* 2013;9(3):122-8.
3. World Health Organization (2020). Definition of patient safety 2021, Jul 12, 2020. Available from <https://www.who.int/patientsafety/en/>.
4. Robertson JJ, Long B. Suffering in silence:medical error and its impact on health care providers. *J Emerg Med* 2018;54(4):402-9.
5. Delacroix R. Exploring the experience of nurse practitioners who have committed medical errors:A phenomenological approach. *J Am Assoc Nurse Pract* 2017;29(7):403-9.
6. Ertem G, Oksele E, Akbıyık A. A Retrospective review about the malpractice applications in medicine. *Dirim Tıp Gazetesi* 2009;84(1):1-10.
7. Özata M, Altunkan A. Frequency of medical errors in hospitals, determination of medical error types and medical errors:Konya sample. *Tıp Araştırmaları Dergisi* 2010;8(2):100-11.
8. Karacabay K, Savcı A, Çömez S, Çelik N. Cerrahi hemşirelerinin iş yükü algıları ile tıbbi hata eğilimleri arasındaki ilişkinin belirlenmesi. *Mersin Üniv Sağlık Bilim Derg* 2020;13(3):404-17.
9. Korhan E, Dilemek H, Mercan S, Uzelli Yılmaz D. Determination of attitudes of nurses in medical errors and related factors. *Int J Caring Sci* 2017;10(2):794-801.
10. Sexton JB, Helmreich RL, Neilands TB, et al. The safety attitudes questionnaire:psychometric properties, benchmarking data, and emerging research. *BMC Health Serv Res* 2006;6(1):1-10.
11. Baykal Ü, Şahin N, Altuntaş S. Hasta güvenliği tutum ölçeğinin Türkçe'ye uyarlanması. *Hemşirelikte Eğitim ve Araştırma Derg* 2010;7:39-45.
12. Semachew A, Belachew T, Tesfaye T, Adinew YM. Predictors of job satisfaction among nurses working in Ethiopian public hospitals, 2014:institution-based cross-sectional study. *Hum Resour Health* 2017;15(1):2-8.
13. Özer Ö, Şantaş F, Gün Ç, Şentürk S. Hemşirelerin hasta güvenliği tutumlarına ilişkin algılarının değerlendirilmesi. *ACU Sağlık Bil Derg* 2019;10(2):161-8.
14. Gabrani A, Hoxha A, Simaku A, Gabrani J. Application of The Safety Attitudes Questionnaire (SAQ) in Albanian hospitals:a cross-sectional study. *BMJ Open* 2015;5:1-10.
15. Şahin A, Ayhan F, Kursun S. Evaluation of surgical nurses' attitudes concerning patient safety. *J Hum Sci* 2015;12:1537-46.
16. Özsayın FS, Özbayır T. Attitudes of operating theater workers toward patient safety. *Int J Antisept Disinfect Steril* 2016;1(1):1-6.
17. Ünver S, Yeniğün SC. Patient safety attitude of nurses working in surgical units:a cross-sectional study in Turkey. *J PeriAnesth Nurs* 2020;35(6):671-5.