

Evaluation of the Attitudes about Patient Safety in Perioperative Care

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Abstract

Background: Improving patient safety is an increasing priority for health workers who have roles in perioperative care about patient safety. Also, patient safety initiatives aimed at creating a safe operating room culture are increasingly being adopted. This study aims to evaluate the attitudes of health workers who have roles in perioperative care about patient safety. **Methods:** The cross-sectional study was conducted in a state hospital in the eastern part of Turkey between January 2018 and March 2018 with the participation of 129 volunteer health workers including surgeons, surgical technicians, nurses and other health workers who have roles in perioperative care by using the SAQ-OR instrument. **Results:** An analysis of the relationship between SAQ-OR total and sub-scales score and age indicated a positive, significant relationship between Teamwork Climate, Job Satisfaction, Safety Climate, Working Conditions and SAQ-OR total scores ($p < 0.05$). Besides, Job Satisfaction, Perceptions of Management, Safety Climate sub-scales and weekly working hours indicated a positive, statistically significant relationship ($p < 0.01$). **Conclusion:** Participating health personnel's attitudes towards operating rooms were found to be low. More attention should be attached on the issue by the hospital administration in order to improve patient safety culture which was not found at good levels.

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Keywords: Perioperative care, Safety Attitudes Questionnaire, Patient Safety

Introduction

Surgical interventions, which is one of the most important experiences of an individual's life, are commonly used in the treatment of the diseases and improvement of health. In the intra-operative period when the surgical interventions are applied, by lying down operating table for diagnosis and a qualified surgical intervention, patients generally give full control and responsibility to authorized health workers so that they can take actions on behalf of them.^{1,2}

As it is known, presentation of health service has a quite complicated structure. It is inevitable to think a process which involves more than one profession serving the same goal not to be complicated. Today, more than thirty occupation groups, from doctor to nurse and secretary to security personnel, have to work together in harmony in order to provide diagnosis, treatment, care, and other services. The most important priority should be providing service without harming the patient.^{3,4}

Institute of Medicine (IOM), which is known to be the most effective institution that directs medical practices, defines patient safety as "prevention of patients' injury". It is reported that such case could be achieved with a care system which is based on safety culture involving health care workers, institutions, and patients; which prevents mistakes; and which learns from the mistakes happened.⁵ Half of the injurious cases happening in patients in the industrialized countries are reported to be surgery-related, and 5% are preventable.⁶

The World Health Organization reports maintenance of safe surgery as "operating the right person and the right area; using protective methods for the hazards of anesthesia; being prepared for life-threatening respiratory tract, functions, and excessive blood loss; avoiding allergic or risky medicine; using methods that minimize the surgical area infection risk; preventing leaving sponge or surgical tools in the surgical area; defining surgical features accurately and safely; taking the necessary precautions for preventing traumas; enhancing effective communication techniques; and following surgical interventions and practices under the supervision of hospitals".⁷

Prevention of patients' injury is the responsibility of all the surgical team, and the precautions that should be taken should be for the patient, surgical team, and operating room.⁸ Majority of patient care and medical practices in the patient safety process are carried out by nurses. As nurses are the health personnel group which has most contact with patients, they have great importance in creating the patient safety culture.^{9,10}

Kunaviktikul et al. (2015) reported a positive correlation between extended working hours and patient outcomes such as patient identification errors, pressure ulcers, communication errors and patient complaints as well as nurse outcomes such as emotional exhaustion and depersonalization. Additionally, study noted a negative correlation between extended work hours and job satisfaction as a whole, intent to stay and organizational productivity.¹¹

American Institute of Medicine reports that formation of a patient safety culture plays an important role in decreasing preventable accidents and errors in health services.¹² Patient safety culture to be formed in institutions will create an environment where errors, processes, and system-related problems are discussed openly and without any worries about being punished; make patient safety-related practices successful and continuous; and thus substantially improve the health outcomes related to the diagnosis and treatment processes.¹³⁻¹⁵

This study aims to find answers to the following questions:

What are the attitudes of health professionals having roles in perioperative care towards patient safety?

What are the factors that affect health professionals' attitudes towards patient safety?

Methods

Participants and Setting

This study, which is descriptive and relational in nature, aims to assess the attitudes of health workers who take part in perioperative care about patient safety. Researcher conducted the study between January and March, 2018. Target population of the study was health workers who worked in a state hospital in the

eastern part of Turkey, who were aged 18 and over, who were at least graduates of high school, and who volunteered to participate in the study. The sample was 129 volunteer health workers that included surgeons, surgical technicians, nurses, and other health workers who worked in state hospitals. Researcher did not conduct power analysis for the optimal sample size of this study. As the study was cross-sectional in nature, it involved volunteer participants who were accessed between January 2018 and March 2018.

Data Collection

Data were collected using the “Demographic Data Form” and “Safety Attitudes Questionnaire-SAQ” (Operating Room Version). Data were collected after the volunteer participants working in the previously determined state hospitals were given the forms to fill. Once the necessary explanations were made, the participants were asked to fill in the forms individually. The filled forms were then collected back by the researcher. Filling the data collection forms took about 10 to 15 minutes. The parts that were not filled in were considered as missing data.

Demographic Data Form: The Demographic Data Form consisted of 11 items that included age, gender, marital status, education level, occupation, general working hours, orientation program, regular in-service trainings, patient safety education, weekly working hours and duration of experience. Researcher formed the form in line with the related literature.¹⁰⁻¹⁴

Safety Attitudes Questionnaire-SAQ (Operating Room Version): Safety Attitudes Questionnaire-SAQ Operating Room Version was developed by Sexton et al. at Texas University in order to identify the attitudes of the operating room workers about patient safety; reliability and validity of the scale was performed.¹⁶ Önlü and Akyolcu performed the validity and reliability of the scale in Turkey.¹⁶ The Turkish version of the SAQ Operating Room Version includes 58 items and 6 domains. Additionally, Some of the items (1, 12, 16, 24, 25, 27, 31, 32, 33, 36, 39, 44, 47, 49, 52, 53, 56, 58), which enable to collect data related to enhancing safety in six areas, have negative statements; these six areas are Teamwork Climate (14 items), Job Satisfaction (5 items), Perceptions of Management (7 items), Safety Climate (17 items), Working Conditions (3 items), and Stress Recognition (12 items). As the negative statements are scored reversely, higher scores indicate more positive attitudes. The items are responded on a 5-point Likert scale (1= Disagree Strongly, 2=Disagree Slightly, 3= Neutral, 4= Agree Slightly, 5= Agree Strongly). Responses given to each item in the scale is summarized, divided into the number of items, and converted to a 100-point system with scores ranging from 0 to 100. The scale also had open-ended questions that required views about improving patient safety as well as 5-point Likert type questions that aimed to investigate collaboration and communication among workers (1=Very Poor, 2=Poor, 3=Moderate, 4=Good, 5=Very Good).¹⁶ Studies show that the Cronbach’s alpha values of the scale are over 0,7.^{16,17} In this study, Cronbach’s alpha values of the scale were found 0,99 for the whole scale and between 0,84 to 0,96 for the sub-scales.

Analysis

Analysis of the data was performed using SPSS statistical package programming. Numbers, percentages, means, Kolmogorov Smirnov test, Kruskal Wallis, Mann Whitney U, and Spearman correlation tests were used for the analysis of the data.

Ethical Considerations

Written permission was obtained from the institution where the study was conducted. Ethical approval was approved by the Independent Ethics Committee of the University and agreed with the ethical principles of the Declaration of Helsinki. Informed consent was obtained from the participants. The participants were told that they had the right to withdraw from the study if they wished. No names were used in the forms so that their identity could be kept confidential.

Results

Demographics

Average age of the participants was 28.77 ± 6.09 , average experience duration was 54.93 ± 54.37 , and average weekly working hour was 51.8 ± 14.4 , 61.2% of the participants were female, 61.2% were married, 48.1% had undergraduate degree, 43.4% were surgical nurses, and 64.3% worked in night + daytime shifts. In addition, 57.4% of the participants received orientation, 72.9% participated in in-service trainings regularly, and 55% participated in trainings on patient safety (Table 1).

Distribution of SAQ-OR Total Mean Scores of the Health Personnel According to their Socio-Demographic and Occupational Features

A comparison of health personnel's safety attitudes total mean score according to gender, marital status, education level, and participation in in-service training programs regularly indicated no statistically significant difference between the mean scores ($p > 0,05$; Table 2). An analysis of health personnel's safety attitudes total mean scores according to occupation, working hours, participation in the orientation program and trainings on patient safety indicated a statistically significant difference between the mean scores ($p < 0,05$; Table 2).

Mean Scores of the Patient Safety Attitudes Questionnaire and Sub-Scales

The mean scores for the participants' Safety Attitudes Questionnaire (SAQ-OR) were found 115.38 ± 83.94 for the total score, 29.47 ± 22.19 for Teamwork Climate mean score, 10.95 ± 8.33 for Job Satisfaction mean score, 14.27 ± 10.91 for Perceptions of Management, 33.93 ± 25.11 for Safety Climate mean score, 5.95 ± 4.86 for Working Conditions mean score, and 20.82 ± 16.11 for Stress Recognition (Table 3).

Relationship between SAQ-OR total and sub-scales scores and age and average working hours weekly

An analysis of the relationship between SAQ-OR total and sub-scales scores and age indicated that there was a positive, statistically significant relationship between Teamwork Climate, Job Satisfaction, Safety Climate, Working Conditions and SAQ-OR total scores ($p < 0,05$; Table 4). In addition, except for Stress Recognition sub-scale, there was a positive, statistically significant relationship between Perceptions of Management sub-scale and age ($p < 0.01$; Table 4). An analysis of the relationship between SAQ-OR total and sub-scales scores with average working hours weekly indicated a positive, statistically significant relationship between Teamwork Climate, Working Conditions, Stress Recognition sub-scales and SAQ-OR ($p < 0,05$; Table 4). In addition, there was a positive relationship between Job Satisfaction, Perceptions of Management, Safety Climate sub-scales and weekly working hours ($p < 0.01$; Table 4).

Communication with Team Members and Quality of Cooperation according to SAQ-OR

Communication with team members and quality of cooperation was defined by the health professionals participating in the study as adequate in the proportion of 52% with specialist surgeons, 32% with surgical assistants, 42% with anesthetists, 34% with anesthesia technicians, 44% with operating room nurses, 37% with post-anesthesia care nurses, 36% with service nurses, and 32 % with other health workers.

Discussion

Diversity and quality elements in health service presentation are prioritized as the health services improve and patients learn about their rights. Patient safety is one of the most important issues among these. Patient safety, in general sense, is the precautions taken by the institution and workers at the phase of healthcare services presentation in order to prevent the patient from getting harm. Complicated nature of health care presentation might harm patients while they receive services and could affect the formation of patient safety culture negatively. Health care providers are aware of the fact that several cases that are reflected on patients are experienced almost every day. These events should not be ignored; they should be recorded, measured, analyzed, and improved. ¹⁸⁻²⁰ The present study found that the existing practices and working conditions did not provide workers' comfort at good level; and this case was found to affect patient safety attitudes and practices.

Patient safety has become an irreplaceable component due to a number of factors such as increase in the consciousness level, expectations, and demand for health services in Turkey; technological developments and the risks they create; increased cost of services and the burden it causes in social security system; increase in the service quality standards; increasing competition; legal responsibilities; and constantly improving health policies.²¹ A study on patient safety conducted by Karaca and Arslan (2014: 14), which involved two private hospital workers, reported no significant differences between gender and marital status and patient safety in one hospital; but such difference was found in the other hospital.²² As for the present study, I found no significant differences between the workers' gender and marital status according to their patient safety attitudes mean scores. Gender and marital status are not major variables that affect patient safety attitudes, which indicates why there is lack of significant difference between patient safety attitudes mean scores. Rızalar et al. (2016: 9) reported that nurses' receiving education on patient safety, departments where they worked, duration of working in this profession, and type of duty significantly affected patient safety culture levels.²³ A study conducted in Iran with 302 nurses working in university hospitals²⁴ and a study conducted in China with 463 nurses reported that the nurses' perceptions of patient safety culture were not at desired levels.²⁵

In their study which evaluated safety attitudes of operating room nurses and surgeons, Prati and Pietrantonio (2013: 669) found a statistically significant difference between the occupation groups.²⁶ A comparison of the participants' safety attitudes according to the occupation groups indicated a statistically significant difference between the groups' mean scores in the present study. Particularly the surgeons' significantly higher safety attitudes scale mean scores could result from a number of factors including being more knowledgeable about patient safety and having more responsibilities.

Working in shifts, working in changing times at daytime and nights have negative effects on nurses' biological rhythm, inner physiological clock, and balance; a tired, sleepless nurse's work affects patient care and safety. Long working hours is a factor that affects workers' working performance and threatens worker and patient safety.²⁷⁻²⁹ In the study conducted with 393 nurses in the USA, Rogers (2004: 202) reported that nurses working for more than 12 hours a day and more than 40 hours a week tended to make more mistakes and could risk patient safety.³⁰ According to the results of a study that investigated 31.627 registered nurses in general medical/surgical units of 488 hospitals in 12 European Countries, lower quality and safety and more care left undone were reported among European registered nurses working shifts of [?]12 hours and those working overtime. A 12-hour nursing shift pattern is an issue that should be approached with caution. Further risks to quality would be caused with the use of overtime working to mitigate staffing shortages or increase flexibility.³¹ The present study found that patient safety attitudes mean scores of those who had both night and daytime shift were found to be significantly higher than those who worked only daytime.

Orientation training, which is complicated especially in terms of the technical equipment used and processes, is highly important in enhancing work adaptation of those who work in units that require special knowledge and skills. One of these units are operating rooms.³²⁻³⁵ Van Beuzekom et al. (2013: 112) reported that lack of training and experience is the source of medical errors.³⁵ Patient safety attitudes mean scores of the health professionals participating in this study were found to be significantly different according to participation in orientation programs and trainings on patient safety. Patient safety attitudes score of those who participated in the orientation program and received training on patient safety were found to be significantly higher.

Despite the fact that the health personnel participating in this study defined the communication with team members and quality of cooperation as "adequate" at various levels, it is considered that communication and Teamwork Climate quality should be improved more. In the perioperative care, where worker and patient traffic is very high and where it is compulsory to work with technological tools and devices that require special knowledge and skills, it is highly important to ensure patient safety at optimum levels and enhance workers' job satisfaction and safety. An analysis of the Safety Attitudes Questionnaire (SAQ-OR) mean scores in this study showed that stress recognition mean score was the lowest, and that of safety climate was the highest. Although workload and work tempo are very high in perioperative care, workers' job satisfaction levels are considered to be high due to the nature of the job done. Development of a

common attitude towards patient safety culture seems to be impossible without improving workers' working conditions. Health workers that have roles in perioperative care (surgeon, anesthetist, operating room nurse, etc.) should develop a behavior style about patient safety practices as a whole team, and general standards of the institution should be identified and followed clearly so that a homogenous structure could be formed about patient safety. Despite this, particularly safe surgical practices should be followed carefully, necessary interventions should be planned in order to meet the identified requirements, and education programs should be organized. Workers should be encouraged about error reporting; their worries and fears about this issue should be eliminated.³⁶

The limitation of this study is that it was conducted in one hospital and with a small group of participants. Such study should be carried out in hospitals with various systems and in larger groups. This way, it would be possible to raise awareness of the institutions and workers about patient safety, which is a neglected issue.

Conclusions

In this study, which investigated health workers' attitudes about patient safety in perioperative care and the factors affecting these attitudes, healthcare workers' operating room patient safety attitudes were found to be very low. In addition, health workers defined communication and collaboration between team members as adequate in various rates. Therefore, this kind of a study is recommended to be replicated in hospitals that have a more equipped team.

Due to the factors such as high number of patients requiring perioperative care and various occupational groups' providing health care services cause to encounter many problems that risk patient safety. Therefore, particularly working hours should be regulated according to laws, all the workers to work in the institution should be provided with an orientation program, practices that would improve occupational groups' communication and cooperation should be organized, and in-service trainings on patient safety should be organized with the participation of administrations. Views of the institution about patient safety culture and each clinic's general management understanding play an important role in patient safety attitude.

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