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PATIENT SAFETY IN THE OPERATING ROOM OF TRAINING AND RESEARCH HOSPITALS IN ISTANBUL

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Goal:

This study was done descriptively to determine the practices for providing patient safety in the operating room.

Methods:

The study environment and the sample group consisted of the general operating room of Training and Research Hospitals in İstanbul. The sample group included 21 hospitals. The data were collected with "Questionnaire Form of The Operating Room General Characteristic" by interviewing the manager of operating room nurses and "Check List of Patient Safety Goals in Operating Room" by interviewing a general surgery operating room nurse, who was at least two years experienced. In the assesment of the study number and percentages were used.

Findings:

In this study result; it is found out that 4.8 % of the operating rooms weren't used wrist band for identify the patient, side and site marking for operative site and the surgeon weren't involved the patient in the marking process, 19 % of them weren't marked the site in surgery department, 9.5 % of them weren't used a check list to verify that all documents and equipment needed for surgery side and site marking, 71.5 % of them were transferred the patient from stretcher to operating room bed with surgical drapes, 28 % of them were used bad or room number for identfy the patient, 33.3 % of them weren't saved the medicine case which were used in sterile field to operation ending. It is found out that all of the operating rooms were have fire tubes and have no problems in communication of operating room team members and all of the operating rooms staff were known about high risk patients and for positioning the patient all of them were used suitable position equipment. *In line with the findings of the study;* It can be said that patient safety in the operating room of Training and Research Hospitals in İstanbul is partially provided.

Keywords: Medical errors, operating room, patient safety, perioperative care

INTRODUCTION

Every year millions of people have been had surgical procedure to provide and improve the level of health. If necessary, precautions are not taken, surgical procedure can be the most harmful treatment for the patient (Ogun 2008).

In recent years, medical errors are one of the issues that draw attention with the harm they cause to patients in the field of health and with an increasing rate (Buetow 2005, Akalin 2007). A medical error is a preventable adverse effect of medical care, whether or not it is evident or harmful to the patient (Hofer et al 2000). The frequency of encountering medical errors has led to the creation of a patient safety culture in health institutions in order to prevent these errors. Patient safety is 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 (www.who.int, Acess date:01.12.2020, Hergul et al 2018).

While it is possible to see medical errors in all areas of health care, this rate is higher in some areas. One of the areas with a high rate of medical errors is the operating room departments of hospitals (www.iom.edu.tr, Access date: 01.12.2020).

Operating theaters, where surgical treatment is applied, are special places that require special knowledge, skills, equipment and attention in terms of complex internal structure, stressful working environment and the variety of medical devices used (Gocmen 2003). Due to these features, it can be said that operating rooms contain many elements that may threaten patient safety.

In 2008, World Health Organization (WHO) drew attention to the importance of patient safety and published its slogan "Safe surgery saves lives." After this slogan published, a series of measures published also to prevent / reduce medical errors (www.who.int, Acess date:01.12.2020). Besides WHO, the two organizations that have been working on patient safety for a long time were the Joint Commission International (JCI) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). According to JCI, Patient Safety Goals are:

- Identify Patients Correctly.
- Improve Effective Communication Among Caregivers
- Improve the Safety of Using Medications
- Eliminate Wrong-Site, Wrong-Patient Procedure Surgery (Ensure safe surgery)
- Reduce the Risk of Health Care-Associated Infections
- Reduce the Risk of Patient Harm Resulting From Falls
- Reduce the Risk of Surgical Fires And Burns (Due to The Surgical Procedure And Environment)
- Determine The High Risk Patients.
- Prevent Pressure Ulcers (Decubitus Ulcers /Bedsores)

When the requirements of these patient safety goals are not practices correctly, medical errors occur. The medical errors caused by the operating room can be listed as follows: not identified the patient correctly, lack of communication between healthcare professionals, medication administration errors, wrong side/wrong patient/wrong surgical intervention, health care risks due to infection, falls, surgical procedure and related burns, not determining high-risk patients,

and pressure ulcers (Kaymakci 2001, Eastman 2006, Ogun 2008, www.iom.edu Date of access: 01.12.2020, www.jointcommission.org Accessed date: 01.12.2020).

It is a curious matter to what extent these goals, which are determined to ensure patient safety, are achieved when medical errors originating from the operating room are taken into consideration.

This study was done descriptively to determine the practices for providing patient safety in the operating room.

METHODS

The study environment and the sample group consisted of the general operating room of Training and Research Hospitals in İstanbul. There were 25 training and research hospitals (environment) In İstanbul. But one of them was Vakif University Hospital (owned by an association) and three of them were Special Branch Hospital. Because of this reason, these hospitals were excluded from the research. The sample group included 21 hospitals.

The data collection started after the instutituon permission was obtained from where the study will be carried out. Collecting data continued until the entire universe was reached. Ethical principles were followed at every stage of the study. The data were collected by the researcher using face-to-face interview method. Hospital names were not used in the study and a code number were given the hospitals.

The data were collected through the «Questionnaire Form of The Operating Room General Characteristic» consisting of 12 questions containing information about the general characteristics of the operating rooms. and other form was a «Check List of Patient Safety Goals in Operating Room», which was used for determining the practices to ensure patient safety in the operating room and is based on nine patient safety goals of JCI. These forms were prepared by the researcher to fit for the purpose.

The "Questionnaire Form of The Operating Room General Characteristic" data were collected by interviewing the manager of operating room nurses and "Check List of Patient Safety Goals in Operating Room" by interviewing a general surgery operating room nurse, who was at least two years experienced.

In this study, it was accepted as a limitation that only the general operating rooms of the training and research hospitals in Istanbul were included in the study and the verbal statements of the interviewees were accepted as correct.

In the evaluation of data, number and percentages were used.

FINDINGS

Table 1. Patient Safety Goals in the Operating Room *(N=21).*

	Yes		***No***	
Patient Safety Goals in the Operating Room	***n***	***%***	***n***	***%***
Identity Identification	**20**	**95.2**	1	4.8
➢ Is arm band used?	**6**	**28.6**	15	71.4
➢ Is bed number used to identify the patient?				

* Hospitals that do not contain medication in the injector were listed in the "No" section.

Communication Status				
➢ Is there a telephone in every operating room?	**12**	**57.1**	9	42.9
➢ Is there a communication subject in the service education program	**19**	**90.5**	2	9.5
Safe Drug Practice Principles				
➢ Are medicines that have been used previously and have an uncertain opening date reused?	0	0	**21**	**100**
➢ Are the bottles of the drugs given to the sterile field kept until the end of the surgery?	14	66.7	**7**	**33.3**
➢ *Are the drugs into the injector tagged?	**19**	**90.5**	2	9.5
➢ ** Is premedication application controlled?	**18**	**85.7**	3	14.3
Side Surgery Practice Principles				
➢ Are sides and landmarks applied to the surgical site?				
➢ Is the marking done at the service?	**20**	**95.2**	1	4.8
➢ Does the surgeon ask the patient to confirm party and location?	**17**	**81**	4	19
	20	**95.2**	1	4.8
➢ Is a surgical invasive intervention form including side surgery created?	**19**	**90.5**	2	9.5
	19	**90.5**	2	9.5
➢ Does the circulated nurse verify and record the party and location?				
Principles for Prevention of Infection-Related Risks				
➢ Has the hand washing instruction been created?				
➢ Is the hand washing instruction hanging in a place where it can be seen?	**21**	**100**	0	0
	18	**85.7**	3	14.3
➢ Are the instructions for use of medical devices located near the device?	**16**	**76.2**	5	23.8
	19	**90.5**	2	9.5
➢ *** Are tools, needles, scalpels and sponges counted?	**18**	**85.7**	3	14.3
➢ Has a count registration form been created?	**20**	**95.2**	1	4.8
➢ **** Are implants placed on the patient recorded in the file?				
Surgical Burn and Fire Precautions				
➢ Are there fire suppression systems?	**13**	**61.9**	8	38.1
➢ Are there fire extinguishers?	**21**	**100**	0	0

** Hospitals without premedication were listed in the "No" section.
*** Hospitals without abdominal and thoracic surgery were listed in the "No" section.
**** Hospitals where the patient is not implanted were listed in the "No" section.

Although the general principle of medicine is “do no harm first”, some forms of treatment may have benefit and harm inherent (Yildirim, 2005). Surgery, defined as a "controlled trauma", is a form of treatment that causes trauma in the patient as well as its benefits (Dagoglu 2002).

When "patient safety goals in the operating room" are examined in the operating rooms included in the study;
The patient identification which one of the goals of patient safety in the operating room, it was determined that 95.2% (n = 20) of the hospitals used arm bands for patients and 28.6% (n = 6) of them also used the bed number.
The risk of error will increase if patients are sedated, disorientated or sensory loss, the patient's service, bed or room has changed in the hospital, inadequate / incomplete patient evaluation and medical record control, illegible handwriting and abbreviations. (Kaymakci 2001, Yildirim 2005, Güven 2007, www.jointcommission.org, www.jcipatientsafety.org, Access date: 01.12.2020). In the study, it is thought that re-checking the identity of the patient, obtaining informed consent, addressing the patient by name, keeping the records correct and complete before the applications in all operating rooms will be effective in preventing such errors.
When the communication status in the operating room is examined; In all operating rooms (N = 21), there was no problem in communication within the team, between teams and with support units. There was a telephone in general use, 57.1% (n = 12) had a telephone in each operating room, 90.5% (n = 19) had the subject of communication was also included in the clinical training program.
Davies (2005) stated that good communication is vital not only in the operating room, but also in ensuring safety in all areas of healthcare and patient care, as well as in other critical work areas. In addition, Awad et al. (2005) stated that unwanted events can be prevented and a safe environment can be created by improving communication in the operating room.
Considering that medical errors can also result from communication problems between team members and inter-team coordination problems (Makary et al 2006, Christian et al 2006, Alfredsdottir and Bjornsdottir 2007), it is gratifying that there are no communication problems in the operating rooms included in this study. It can be said that this situation will be effective in reducing medical errors caused by communication.
When the principles of safe drug administration are examined; It was observed that drugs that were previously used in all operating rooms (N = 21), whose opening date and who have not been opened were not re-used. The drugs in the sterile field were delivered during the change of duty. On the other hand, in 33.3% (n = 7) of the operating rooms, the bottles of the drugs given to the sterile area were not stored until the end of the surgery, 90.5% (n = 19) of the drugs taken into the injector were labeled according to the drug they contain, but in 9.5% (n = 2) It was determined that there was no medication in the injector. premedication was controlled in 85.7% (n = 18), but premedication was not applied to the patients in 14.3% (n = 3).
It is stated that medication administration errors in the operating room also develop due to misunderstanding of the name / dose of the drug due to the oral administration of drug requests and the use of masks (Demir and Dramali 2005). In order to prevent these errors, repeating the name and dose of the drug given to the sterile field loudly, keeping the drug bottles given to the sterile field until the end of the surgical procedure, but discarding the previously used drugs without labels, delivering all the drugs given to the sterile field during the change of duty, must be registered (Erdil 2001, Demir and Dramali 2005).
In line with the findings in this study, it can be said that possible medication errors that may occur in the operating rooms may occur only because the bottles of the drugs given to the sterile area are not stored until the end of the surgery.
When the application principles of side surgery are examined; the surgeon weren’t involved the patient in the marking process, 19 % of them weren’t marked the site in surgical clinic, 9.5 % of them weren’t used a check list for surgery side/site marking.
Considering that the operating room environment is a risk factor that threatens patient safety, it becomes evident how important it is to use checklists and universal protocols to ensure environmental safety and consequently patient safety in the operating room (Stumpf 2008). It is thought that the cases of wrong side surgery, which have become an increasing health

problem in the world, cannot be prevented adequately in hospitals where the principles of side surgery are not followed or where applications are performed incompletely.

When the principles of preventing the risks associated with infection are examined; all of the operating rooms (N = 21) had hand washing instructions, but only 85.7% of them hanged the instruction in a place that can be seen in operating rooms, 76.2% (n = 16) of the medical devices had the instructions for use next to the device, In 90.5% (n = 19) of the device, needle, scalpel and sponge count was made, but only 85.7% (n = 18) had a counting record form, 95.2% (n = 20) of the implants placed on the patient were recorded in the file, but It was determined that 4.8% (n = 1) did not use an implant.

The majority of hospital infections are caused by operating room-related infections, therefore, ensuring the continuous training of operating room staff on the subject and also having an infection control and prevention program of every health institution will prevent infection formation (Elbaş 2001, www.das.org.tr, Access date: 01.12.2020). In this context, the findings were found to be consistent with the literature.

When the burns and fire measures related to surgery are examined; There is a fire safety plan in all operating rooms (N = 21). In addition, 61.9% of the operating rooms did not have fire extinguishing systems, while it was seen that all (N = 21) had fire tubes.

As a result of technological developments, it is possible to say that the risk of burns and fires is quite high in operating theaters where there are many electrical medical devices and they are frequently used; (Dallı 2001). Even if all precautions are taken, the risk continues as a result of a momentary carelessness.

When the determining high-risk patients were examined, it was determined that the patients in the high-risk patient group were known in all operating theaters included in the study and all team members received training on the care of these patients (N = 21).

Patients aged seventy and over, those who undergo emergency surgery, those with chronic diseases, those with infectious diseases, those who are immunocompromised, sedated, unconscious, mentally ill, dialysis patients and pediatric patients can be considered in the high risk patient group (ogun 2008). In this respect, while the findings in the study are consistent with the literature, it is possible to say that the operating room team members, both the elderly and children in the high-risk patient group, pay more attention to these patients due to the nature of the Turkish society.

When the prevent pressure ulcers were examined, it was determined that the patient was given the appropriate surgical position in all operating rooms included in the study, and the compression areas were supported by positioning equipment while positioning (N = 21).

In the formation of pressure sores, the position of the patient and the suitability of positioning equipment, friction and abrasion, excessive humidity of the solutions used in the cleaning of the incision area before surgery, and factors related to the patient are involved (Karadag and Sayin 2002, Ogun 2008).

Although it seems that all precautions are taken to prevent positional complications during the surgical intervention in line with the findings obtained in the study, more comprehensive studies should be carried out on the adequacy of these measures and whether the development of complications is observed.

When the preventing falls were examined, it was observed that all operating theaters included in the study had patient transfer instructions, patient transfer staff were trained in transportation, transfer stretchers had safety locks and stretchers were edge protected (N = 21). With a trained patient transfer team, the use of transfer stretchers with lock systems and edge protection, creating patient transfer instructions and training the newly recruited staff about patient transfer will prevent the patient from being harmed by a fall (Kaymakci 2001, Ogun 2008). In this context, the findings were found to be consistent with the literature.

CONCLUSIONS

In line with the findings of the study; It can be said that patient safety in The Operating Room of Training and Research Hospitals in İstanbul is partially provided.

According to these results, it can be said that most of the practices / patient safety goals aimed at ensuring patient safety in the operating room are realized in all hospitals, but the practices that are not implemented can threaten patient safety to a considerable extent.

It is recommended not to use room or bed number for the patient identification, It is recommended to apply the principles of side surgery completely, and It is recommended to create and spread a patient safety culture in all health institutions.

It is thought that this study, which was carried out to determine the practices for ensuring patient safety in the operating room, will give a general idea about the current approaches to ensure patient safety in the general operating rooms of training and research hospitals in Istanbul and will form the basis for future studies.

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