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ORIGINAL ARTICLE

PATIENT SAFETY IN THE TRANSOPERATORY: ANALYSIS OF THE SAFE SURGERY PROTOCOL

SEGURANÇA DO PACIENTE NO TRANSOPERATÓRIO: ANÁLISE DO PROTOCOLO DE CIRURGIA SEGURA

SEGURIDAD DEL PACIENTE EN LA TRANSOPERATORIA: ANÁLISIS DEL PROTOCOLO DE CIRUGÍA SEGURA

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ABSTRACT

Objective: to analyze the assistance to the surgical patient in the transoperative period according to the postulates of the World Health Organization's safe surgery protocol. ***Method:*** this is a quantitative, descriptive, observational study, in the operating room, with patients and anesthetic-surgical teams, from the checklist and a questionnaire. The data was analyzed descriptively, considering frequencies and percentages arranged in tables and figures. ***Results:*** the 127 surgeries in the specialties corresponded: Orthopedics; General; Head and neck; Neurology and buccomaxillofacial; in 34 surgeries, patients confirmed identity, place of surgery, procedure and consent; in 93 procedures, this item was not checked. ***Conclusion:*** it is concluded that the communication between the team, the knowledge and the application of what is available in the sector make patient safety happen. ***Descriptors:*** Perioperative Nursing; Safe Surgery; Patient safety; Verification List; Nursing Care; Elective Surgical Procedures.

RESUMO

Objetivo*:** analisar a assistência ao paciente cirúrgico no transoperatório conforme os postulados do protocolo de cirurgia segura da Organização Mundial de Saúde. ***Método*:** trata-se de um estudo quantitativo, descritivo, observacional, no bloco cirúrgico, com pacientes e equipes anestésicos-cirúrgicas, a partir do *checklist* e um questionário. Analisaram-se os dados de forma descritiva levando=se em consideração frequências e percentuais dispostos em tabelas e figura. ***Resultados*:** corresponderam-se as 127 cirurgias nas especialidades: Ortopedia; Geral; Cabeça e Pescoço; Neurologia e Bucomaxilofacial; em 34 cirurgias os pacientes confirmaram a identidade, local da cirurgia, procedimento e consentimento; em 93 procedimentos, este item não foi checado. ***Conclusão: conclui-se que a comunicação entre a equipe, o conhecimento e a aplicação do que dispõe no setor fazem com que a segurança do paciente aconteça. ***Descritores*:** Enfermagem Perioperatória; Cirurgia Segura; Segurança do Paciente; Lista de Verificação; Assistência de Enfermagem; Procedimentos Cirúrgicos Eletivos.

RESUMEN

Objetivo: analizar la atención quirúrgica del paciente durante la cirugía de acuerdo con los postulados del protocolo de cirugía segura de la Organización Mundial de la Salud. ***Método:*** estudio cuantitativo, descriptivo, observacional en el quirófano, con pacientes y equipos de cirugía anestésica, a partir del *checklist* y un cuestionario. Los datos se analizaron descriptivamente considerando frecuencias y porcentajes organizado en tablas y figuras. Resultados: correspondieron a 127 cirugías en las especialidades: Ortopedia; General; Cabeza y Cuello; Neurología y Bucomaxilofacial; en 34 cirugías, los pacientes confirmaron la identidad, el lugar de la cirugía, el procedimiento y el consentimiento; en 93 procedimientos, este elemento no ha sido verificado. ***Conclusión:*** se puede concluir que la comunicación entre el equipo, el conocimiento y la aplicación de lo que está disponible en el sector hace posible la seguridad del paciente. ***Descriptores:*** Enfermería Perioperatoria; Cirugía Segura; Seguridad del Paciente; Lista de Verificación; Asistencia de Enfermeira; Procedimientos Quirúrgicos Electivos.

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INTRODUCTION

It is known that, throughout the history of health care, representative figures have already expressed concern for the individual after the intervention, such as Hippocrates (460 to 370 BC), giving rise to the ideal Primum non nocere - first, do no harm, discerning that some harm could be generated as a result of care.[1]

It is added that, since then, figures such as Florence Nightingale, Ignaz Semmelweiss, Ernest Codman, among others, have cooperated in the qualification in health by reaffirming the relevance of the transmission of infection by hands, of care in an organized manner, by determining quality examples, as well as assessing health entities, considering clinical variations and based on evidence.[2]

According to the World Health Organization (WHO), patient safety is defined as "the absence of unnecessary or potential harm to the patient associated with health care". Care-related events are called adverse events, which can be physical, social, psychological and include from suffering to the patient's own death.[3]

Originated by WHO, considering that the occurrence of adverse events has a high incidence and, on average, 50% of these are preventable, in the month of May 2014, the World Patient Safety Alliance, which has come to be called the Patient Safety Program and launched the promotion of safe surgery by implementing the checklist as the second global challenge.[2]

This checklist was made using a checklist divided into three parts: before anesthetic induction (Sign in), before incision (Timeout) and before the patient leaves the operating room (Sign out).[4]

It was instituted, in Brazil, by Decree nº 529, of April 1, 2013, with the manual "safe surgery saves lives", the program at the national level. It addresses issues involving inadequate anesthetic safety practices, preventable surgical site infections and poor communication between team members as common, deadly and preventable problems in all countries and contexts.[5]

The Nursing team has stood out in the applicability of the list and the protocol during the surgeries, when employing the requirements for the sake of patient safety, thus, the autonomy of Nursing is necessary for the process to be carried out by someone who has awareness of its importance.[6]

Through this study, this checklist aims to reduce avoidable errors, contributing to the quality of life of patients, reflections on the analysis of assistance to surgical patients in view of the importance of implementing this checklist proposed by WHO.

OBJECTIVE

- To analyze the assistance to surgical patients during the operation according to the postulates of the World Health Organization's safe surgery protocol.

METHOD

This is a quantitative, descriptive, observational study. The descriptive study is also used when it is necessary to make a relationship between the material collected and the explanation of the discussed subject. In qualitative research, numbers and information are analyzed to establish hypotheses, guaranteeing precise results in order to curb contradictory analyzes and interpretations.[7]

It is informed that the sample is of the probabilistic type, in which the patients and their anesthetic-surgical teams were chosen at random. This work was carried out in the operating room sector of a reference hospital in the interior of Pernambuco. Data was collected during the surgery, a period called transoperative.

For this research, the checklist proposed by the World Health Organization (WHO) and a questionnaire for the characterization of surgical teams elaborated by the authors were used, which were applied in all elective surgeries. The instruments were filled out by the researchers after confirmation of the patients and surgical teams by signing the free and informed consent term (FICT).

Those responsible for the study were monitored in an observational manner, without actively interfering with the assistance commonly provided, the procedure. The checklist was filled according to what was seen.

It is revealed that the anesthetic-surgical teams participated in the research, including: the anesthesiologist; main surgeon; auxiliary surgeon; instrumentalist; circulating room; nurse, among other additional members who were working in the anesthetic-surgical procedure.

Patients who underwent elective surgery, over 18 years of age and who were not under the effect of pre-anesthetic agents, which could compromise the level of discernment, were included. The following exclusion criteria were listed: urgent and emergency surgeries and patients under 18 years of age without the prior authorization of the companion.

It is explained that all professionals and patients approached agreed to participate in the research, signing the FICT and respecting the ethical precepts that govern research involving

beings, in line with Resolution No. 466/2012 of the National Health Council.[8]

The data was exposed through tables and figures elaborated from the Microsoft Office Excel program®, version 2013. Data were discussed according to the literature.

The research project was submitted to the Research Ethics Committee (REC) of the Centro Universitário do Vale do Ipojuca, having a favorable opinion of 2,887,467.

RESULTS

In this study, 127 elective surgeries were observed, according to the surgical schedule of the sector, in the months of October and November 2018. These specialties encompassed all the specialties offered by the service, including the specialties of oral and maxillofacial surgery, orthopedics, general surgery, head and neck and neurology. The 127 surgeries observed corresponded to the following specialties as shown in figure 1.

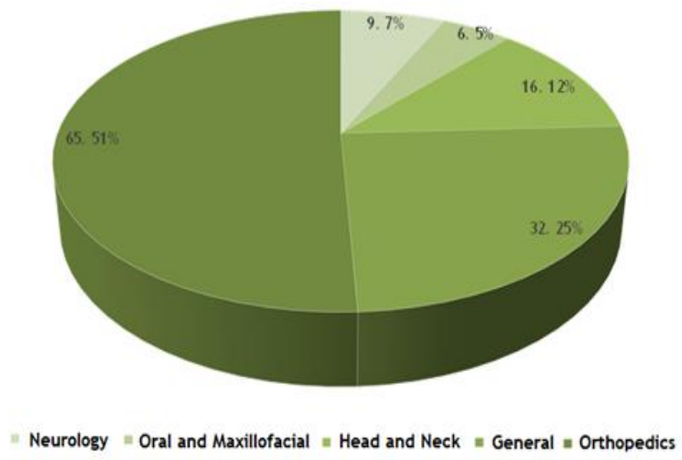

Figure 1. Distribution of surgeries by area of specialty. Caruaru (PE), Brazil, 2018.

For data collection, the WHO checklist was used as a reference for observing the procedures, regardless of surgical specialty, plus a questionnaire prepared by the authors to characterize the procedures and surgical teams. The instrument contained the name of the surgery, the anesthesia performed and the members that make up the surgical teams by procedures, according to Appendix A.

The types of anesthesia used in the procedures observed were described as general inhalation, spinal anesthesia, epidural, plexus block, sedation and location, and the professionals participating in the research were: main surgeon; auxiliary surgeon; anesthetists; interns; residents; nurses; circulating; anesthetist and instrumentalist assistant.

Data described in tables 1, 2 and 3 were observed, respectively, regarding the confirmation of the items proposed in the checklist.

Table 1. Distribution of items observed before anesthetic induction. Caruaru (PE), Brazil, 2018.

Variables	Yes	No	Not applicable	Total
The patient confirmed their identity, the location of the surgery, the procedure and their consent?	34 (26.8%)	93 (73.2%)		
Is the place marked?	26 (20.5%)	93 (73.2%)	8 (6.3%)	
Anesthesiology equipment and medication check completed?	85 (67.0%)	42 (33.0%)		
The pulse oximeter is placed on the patient and functioning?	119 (93.7%)	8 (6.3%)		
Known allergy?	115 (90.5%)	12 (9.5%)		
Difficult airway or risk of aspiration?	15 (11.8%)	112 (88.2%)		
Risk of blood loss> 500 mL (7 mL / kg for children)?	25 (19.7%)	102 (80.3%)		
				127

Table 2. Distribution of items observed before the incision. Caruaru (PE), Brazil, 2018.

Variables	Yes	No	Not applicable	Total
Confirm that all members have introduced themselves, indicating their name and role		127 (100%)		
Confirm the patient's name, procedure and where the incision will be applied		127 (100%)		
Antimicrobial prophylaxis	85 (66.9%)	29 (22.9%)	13 (10.2%)	
What are the critical or non-routine steps?	_	_		
How long is the case?	_	_		
How much blood loss is expected?	_	_		
There is some concern specifically related to the patient?	_	_		
Sterilization has been confirmed (including the results of the indicators)?	72 (56.7%)	55 (43.3%)		
Is there any concern or problem with the equipment?	_	_		
Essential imaging exams are available?	89 (70%)	24 (18.8%)	14 (11.2%)	
				127

Please be informed that the spaces filled with (__) show items that were not checked by the teams.

Table 2 shows the distribution of items observed before the surgical incision, representing the second part of completing the checklist, with five of the variables not being checked, therefore, it is filled with the hyphen sign; they are: critical and routine steps; duration of the case; amount of expected blood loss; some concern specifically related to the patient and some concern regarding the equipment.

The other variables alternate between filling in yes, no and not applicable; of these, confirm that all members have presented themselves, indicating name and function; confirm the patient's name, the procedure and where the incision will be applied, whether they were 100% or not. It is warned that, despite talking to the patient and talking to each other, these checks are not carried out.

Table 3. Distribution of items observed before the patient left the operating room. Caruaru (PE), Brazil, 2018.

Variables	Yes	No	Not applicable	Total
The name of the procedure	91 (71.7%)	36 (28.3%)		
Completion of counting instruments, compresses and needles.	118 (93%)	9 (7%)		
Sample identification (read sample IDs out loud, including patient name).	32 (25.2%)		95 (74.8%)	
If there are any problems with the equipment to be solved	_	_		
What are the main concerns for the recovery and management of this patient?	_	_		
				127

DISCUSSION

In 34 (26.8%) surgeries, their identity, place of surgery, procedure and consent were confirmed; in 93 (73.2%) of the procedures, this item was not checked, as the members of the surgical team used the medical record without necessarily asking the client, however, it is important for the patient to verbalize such elements, as failing to observe these items can result in surgical divergences and, of these, the ones that have the highest occurrence are: confusing patients, procedures and presenting flaws in laterality.[9-10]

It is pointed out, in a study carried out in Brazil about the use of the checklist in orthopedic surgeries, with 30 surgeons of that specialty, that 29 of these professionals claim to demarcate the member who will receive the intervention; even so, nine witnessed, on some professional occasion, errors in laterality.[11] It was declared, by the WHO, that to miss the surgery site was a damage like "never event", since its occurrence is completely preventable.[12]

It is indicated by the literature that one of the most common fields in which errors are observed in the places to be operated on is Orthopedics, precisely the specialty with the largest number of procedures observed in this study. For these errors, greater attention was received in the 1990s and, in order to prevent their occurrence, in 1994, the Canadian Orthopedic Association recommended "demarcating the incision site with a permanent marker".[5:26] In fact, demarcation with a permanent marker occurred in Head and Neck surgeries. In some orthopedic procedures, demarcation with a band was performed, however, this corresponds to only 26 (20.5%) cases, because, in 93 (73.2%), there was no marking. Furthermore, surgeries were considered not applicable (8 = 6.3%) in which the limb to be operated on had an external fixator.

It is pointed out that, in the observed service, although filling out the checklist does not happen, in most procedures, the anesthesia team checks the equipment, anesthesiology and medication. The anesthesiologist is responsible for knowing the functionality of the anesthesia equipment, as well as checking it before using it.[13]

It is inferred that the use of the oximeter did not happen in 100% of the surgeries; generally, in those minimally invasive procedures, with local anesthesia, the monitors were not turned on, however, for anesthetic practice to occur safely, it is recommended to comply with minimum monitoring standards regardless of the type of anesthetic, location and duration of this.[13] It is essential for the surgical patient to have monitoring equipment available, such as: instrument for the measurement of indirect blood pressure, pulse oximeter, among others.[14]

In the operating room, patients are exposed to different drug classes, and anaphylaxis reactions can be caused by antibiotics, neuromuscular blockers, latex, local anesthetics, chlorhexidine, therefore, the allergy check must occur so that, in the presence of a triggering agent, it is replaced, preventing unnecessary reactions.[15]

Units are considered as operating theaters, intensive care units and urgent and emergency services, as places where patients need intervention and have a difficult airway at higher levels, and such sectors must group differentiated material for predictable and non-predictable cases such as "laryngoscopes with special slides, video laryngoscopes, ntroductors with ventilation and oxygenation capabilities, supraglottic devices with intubation potential, fibroscope and material for invasive airway access".[14:14]

It is explained that, in the unit where the research was carried out, intubated and secretive patients had material for aspiration and a box with devices for ventilation in the advanced airway.

It includes, in the revision of the surgical plan, to foresee replacement of fluids and reserves of blood components according to the guidance of the national protocol of safe surgery. It is emphasized, in studies, that transfusion is important when the objective is to maintain the levels of coagulation factors, hemoglobin and blood volume for safety during the procedure. This avoids, for example, hypovolemic shock.[16-7]

The confirmation phase is approached by the Timeout before the skin incision is made in the patient. At this stage, the identification data of the patient is verbally checked by the team, thus, it is another opportunity for the correction of any undetected or unchecked factor by any member of the team.[18]

In all phases, effective communication between teams is essential for multiprofessional care for the patient; propitious step to resolve any inconsistencies to be clarified and to promote dialogue. It is evident that there is a flaw in the discussion among all the professionals on the team regarding the surgery itself, duration time, amount of blood loss, eventual problems with some equipment, specific concerns and possible preventable complications.[19]

Familiarity, personal contribution and greater efficiency in unexpected cases are reinforced by the team's presentation. Ensuring, when confirming the correct patient, greater security to check if the tests are related to the same, ensuring not to change the procedures;[5] in 70% of them, they were available for 18.8% of the non-applicable cases. It was observed, during the process, that anesthesiologists, medical residents and doctors of the Neurology specialties - Head and Neck - fulfilled this step for having performed the patient's preoperative.

It has been shown that the time in which antibiotics have the greatest therapeutic effect is 60 minutes, from exposure to microorganisms. This prevention was carried out to reduce the risks of infection and, according to protocols known to the team, not to induce microbial resistance to drugs.[5] In this study, it is shown that antimicrobial prophylaxis was administered in 66.9% of cases and in 22.9% were not administered.

The process of sterilizing materials is essential at the international level and aims to eliminate the most resistant forms of resident microorganisms, such as spores. It is indicated, by its elimination, that the process was carried out satisfactorily. It is added that, along with the materials, there is a certification confirming that they are sterile and called indicators that may be chemical, ranging from classes I to VI, and biological ones, ranging from the first to the third generation;[20] in turn, in 56.7% of cases, the sterilization of materials was confirmed, including the results of the indicators.

The last stage consists of sing out, completing it before the patient leaves the operating room. They involve surgical completion, confirmation of the name of the surgery, counting of the materials used, if there was any damage to the devices, steps aimed at the recovery of the client and correct identification in cases of pathological samples.[18]

A type of surgical intervention is proposed, depending on the patient, but in the course of the procedure, the procedure may be extended or changed. Therefore, one must be attentive to ask again what the final process used,[5] the data in compliance with this variant were 71.7% confirmed and 28.3% unconfirmed.

In the intervention, multiple surgical materials are used in different quantities for each surgical specialty. It is explained that the count of these surgical instruments is to confirm that they were not retained in the patient. This way, complications in the postoperative period resulting from hospitalizations and even death are avoided.[17] It should be noted that, in a positive way, this count of the instruments is performed in 95% of the surgeries in writing.

Some of these procedures can generate samples, anatomical parts taken from the patient. They must be correctly identified to reduce AEs risks, delay in treatment and diagnostic errors.[17] It is emphasized that most surgeries did not have samples to be identified.

It is recommended, at the end of the surgery, to check if any device has problems to be solved before the next intervention. Thus, the anticipation of possible problems will be promoted, because, with the eyes turned to the person undergoing surgery, the doctor, anesthetist and nurse discuss among themselves the main concerns for recovery in the postoperative period. This ensures the success of all the care provided for the safety of the surgical patient[17] and despite that, these steps do not happen before the patient leaves the operating room.

There was also a lack of a professional to apply the checklist, which would be very well conducted by the professional nurse, as he deals with the entire management issue of the operating room.[19] The actions of this professional are also closely linked to the post-surgical

recovery process by making decisions regarding the prevention of complications, complications and AE, requirements that are neither discussed by the team nor passed on to the Post-Anesthetic Recovery Room (PACU) team.[21]

It is believed, then, that the checklist proposed by the WHO will improve care for the objectives of preventing infection in a surgical site, promoting safe anesthesia, improving communication during the perioperative period, using indicators and creating a new culture in the face of surgery based on surgical safety practices.[22]

CONCLUSION

It was possible to observe, in the first stage of the checklist, that almost all variables are performed by means of questions, as recommended by the anesthesiologist and the members of the nursing team present. Only a few variables were completed in the second and third stages, however, there is no professional responsible for completing this form. It was also observed, in minor surgeries, that some questions did not happen, understanding, therefore, that they are performed according to what the professionals find pertinent.

The service provides a medium-sized staff adapted to the institution's routine in each operating room. In it, many variables present in the checklist are registered to be marked and generate general visualization by the team, and, at the door of the OR (Operation Room), there is a small table to identify the team present. It is possible to contribute, for these objects, to the process of safe surgery, as they guarantee more safety, develop barriers to prevent surgical errors and facilitate the work of the team in any moment of doubt or confirmation. It was found, however, that they are not filled.

It would contribute, by adhering to the checklist in the service, to reduce post-surgical infections, to prevent events such as volume loss, to avoid overloading the institution's blood stock, because if the blood typing is known, the patient will receive the necessary donor. In addition, fluid replacement would occur in a satisfactory manner, if the recommended accesses were punctured before the patient presented any changes and the prevention of such events corroborates the decrease in expenses to reverse the occurrences.

It is possible to optimize the communication between the surgical teams and the professionals of the PACU (Post-Anesthetic Recovery Room), as it would generate confirmation of specific concerns with patients and unforeseen events, which may occur, would be recorded. It is suggested to appoint a person in charge to record this information and, as a consequence, guarantee its compliance, since the checklist contributes to the patient safety culture, which may reduce the occurrence of preventable problems, better organization and quality of care.

Through the research carried out, a reflection about the nurse's decision-making is shown, showing that the operating room is a sector that often requires managerial work, and one of the ways to contribute would also be the SNC (Systematization of Nursing Care). SNC would help to standardize, as a whole, patient safety by encompassing the preoperative, transoperative and postoperative periods. This would ensure more humane and holistic care at a time in patients' lives, causing great tension and stress due to the procedure to be submitted.

Filling out the form at the international level is recommended, with an extreme importance for safety and for the reduction of errors, however, this is being neglected. Thus, it is expected that this study corroborates the growing research on this theme in the North-Northeast region and in hospitals that are reference, but do not have this service. In this way, permanent education should be carried out in the professionals to raise awareness of the benefits provided by the complete checklist, done in a correct manner, as well as the propagation of the idea that prevention brings more benefits and results in lower costs than the intervention.

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