



**THE RELATIONSHIP BETWEEN THE USE OF WHO SURGICAL SAFETY CHECKLIST AND IMPLEMENTATION OF SURGERY PATIENT SAFETY**

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**ABSTRACT**

Patient safety is very important in the operating room to prevent death and complications due to surgery and is a variable for measuring and evaluating the quality of nursing services that have an impact on health services. The mortality rate due to Unexpected Events (KTD) in hospitalized patients is 33.6 million per year. The patient safety program aims to reduce the number of unexpected events (KTD) that often occur in patients while hospitalized so that it is very detrimental to both the patient himself and the hospital. Efforts to improve the quality of surgical services include using the WHO Surgical Safety Checklist. Knowing the relationship between the use of the WHO Surgical Safety Checklist and the implementation of patient safety operations at Depati Hamzah Hospital, Pangkalpinang City. This research is a quantitative observational method with a cross-sectional design. The population of this study were anesthesiologists and surgical nurses at Depati Hamzah Hospital, Pangkalpinang City for one month, March 1 - March 30, 2023 with a sample of 30 people. Statistical test using the Chi-Square test. The results showed that all Anesthesiologists and Surgical Nurses filled out a complete Surgical Safety Checklist sheet (83.3%), and improving the implementation of patient safety showed the level of patient safety (83.3%). The results of the study showed that there was a relationship between the use of a surgical safety checklist and the implementation of surgical patient safety with a value of  $p = 0.004$ . There is a relationship between the use of a surgical safety checklist who and the implementation of surgical patient safety.

Keywords: ktd; patient safety; surgical safety checklist

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**INTRODUCTION**

Surgery is a medical procedure with the aim of preventing disability and complications and saving the patient's life. A disease, defect or injury that may be cured with simple treatment is treated with surgery to diagnose or treat it. (1). In 2016, the World Health Organization (WHO) reported that unexpected events (AEs) caused 33.6 million deaths each year among hospitalized patients. Meanwhile, a hospital in Surabaya, Indonesia, recorded an increase in the number of near-death events (KNCs) from 88 to 168 between 2017 and 2018. Meanwhile, the variety of adverse events ranged from four to thirteen. The nature of emergency clinic services is very important to avoid adverse events such as medication errors, patient falls/injuries, patient errors and procedural errors..

The reduction of adverse events that are part of patient safety incidents, as well as the implementation of risk management in all aspects of care provided by health services, are some of the various patient safety goals. A patient safety organization with standards, seven

steps to, and patient safety goals used to drive specific improvements in patient safety was created to achieve these goals. (2). One way to measure and evaluate the quality of nursing services that affect health services is to see how safe patients are. The goal of a patient safety program is to reduce the number of unexpected events (AEs) that can be very detrimental to both the patient and the hospital while the patient is in the hospital.(3). WHO explains that the three stages used in the Surgical Safety Checklist (SSC) in the operating room are before induction of anesthesia (Sign In), before skin incision (Time Out), and before removing the patient from the operating room (Sign Out).(4).

Complications and deaths from surgery are a global problem. It is known that (WHO, 2018) estimates that surgery can prevent the death of at least half a million people. Utilizing the Surgical Safety Checklist (SSC) created by the World Health Organization (WHO) is one way to improve the standard of surgical care. If these SSC procedures are followed, the rate of safe surgeries can increase and wrong surgeries and near misses can be avoided. (5) The results of research conducted by (6) on surgical safety checklists were evaluated at Panembahan Senopati IBS Hospital and it was found that there were exceptions in cases with observational types of allergies, examination of difficulty breathing (16.28 percent), and examination of the risk of blood loss of more than 500 milliliters (6.98 percent), the implementation of SSC was carried out optimally in accordance with standard operating procedures. SSC has been implemented optimally for the type of observation of special equipment examination (98.8 percent) and the implementation of CTScan and MRI X-ray (14 percent), the implementation of SSC during the time out process is well implemented. It is known that the implementation of SSC for the sign out process has been completed optimally.

Based on the results of data obtained from the surgical room of patients undergoing surgery at Dr. (H.C) Ir. Soekarno Hospital, Babel Province, it was found that the total operation data in 2020 was 1440 people with 120 Craniotomy patients (8.3%). In 2021 the total number of operations was 1680 people with 135 Craniotomy patients (8.0%). Meanwhile, the results obtained directly show that the surgical safety checklist at IBS is available but its use is not routine. Based on the results of data obtained from the surgical room, patients undergoing surgery at Depati Hamzah Regional General Hospital, Pangkalpinang City in 2021 were 1250 people, of which general surgery was 426 people (34%), obstetric surgery was 510 people (41%), oral surgery was 130 people (10.4%), cataract surgery was 43 people (3.4%), orthopedic surgery was 80 people (6.4%), general surgery with local anesthesia was 61 people (4.9%) from the data obtained, the implementation of SSC was still not 100% implemented as many as 184 people (14, 72%), in 2022 a total of 1560 people, 643 SC patients were obtained (41.2%), 520 obstetric surgeries (33.3%), 250 oral surgeries (16%), 50 cataract surgeries (3.2%), 102 orthopedic surgeries (7%), general surgery with local anesthesia as many as 35 people (2.2%) and 90 people (6%) were obtained so that there was a decrease from 2021 to 2022 but it was not complete and did not routinely fill out the surgical safety checklist sheet in the Surgical Room.

Based on data in the Surgical Room of Depati Hamzah Hospital, Pangkalpinang City in 2018, patients who will undergo surgery have been equipped with the WHO Surgical Safety Checklist form, but it has not been running properly. From the existing data compared to previous journals about SSC filling in improving safe surgery compliance, it must be filled in, in fact at Depati Hamzah Hospital, Pangkalpinang City, it is not complete in filling out the SSC sheet so that there are problems that must be researched. Researchers will take data on surgery or general surgery with general anesthesia and physical status ASA I and ASA II.

Based on the explanation above, the researcher is interested in examining the title of the relationship between the use of the WHO surgical safety checklist and the implementation of patient safety operations at the Depati Hamzah Regional General Hospital, Pangkalpinang City.

**METHOD**

The type of research that will use the type of observational quantitative method research with a cross sectional design, namely the type of research that emphasizes the time of measurement or observation of data on independent and dependent variables only once, at a time when measurements are taken at the same time and on a representative sample to determine the relationship between the use of a surgical safety checklist who is with the implementation of patient safety surgery. The population in this study were anesthesiologists and surgical nurses at Depati Hamzah Hospital, Pangkalpinang City on March 1 to March 30, 2023. The sample was determined by total sampling technique of 30 respondents and willing to be respondents.

This study uses an instrument in the form of a surgical safety checklist sheet to collect respondent data in filling out the SSC sheet and patient safety sheet. In this study, researchers used total sampling, namely a sampling method where the number of samples was the same as the population and data analysis using the Chi Square test in the use of surgical safety checklists who were completely filled in as many as 25 respondents (83.3%), causing the implementation of patient safety in the safety category of 25 respondents (83.3%). Chi-Square Tests obtained p-value = 0.004 <0.05 so that Ho is rejected, meaning that there is a significant relationship between the use of WHO Surgical Safety Checklist and the Implementation of Surgical Patient Safety at Depati Hamzah Hospital, Pangkalpinang City. Research ethical feasibility test at KEPK Poltekkes Kemenkes Yogyakarta with ethical feasibility letter No. DP.04.03 e-KEPK.1/190/2023.

**RESULTS**

Table 1.  
Frequency distribution of respondent characteristics of anesthesiologists and surgical nurses (n=30)

Characteristics	f	%
<b>Age</b>		
20-30 years	7	23,3
31-40 years old	13	43,3
41-50 years old	8	27
51-60 years old	2	7
<b>Gender</b>		
Male	17	57
Female	13	43
<b>Education</b>		
DIII	20	67
Bachelor (DIV/S1)	10	33
<b>Length of Service</b>		
1-10 years	15	50
11-20 years	13	43,3
>21 years	2	7
<b>Role</b>		
Anesthesiologist	6	20
Surgical Nurse	24	80

Table 1. shows the age of the respondents who mostly followed the research process until it was completed aged 32-40 as many as 13 respondents (43.3%). The respondents who participated in this study were mostly male respondents as shown in table 2. as many as 17 respondents (57%). The level of education owned by respondents is more at the D3 education level as many as 20 respondents (67%). The level of length of work owned by respondents is in the range of 1-10 years as many as 15 respondents (50%), while the most roles in this study are surgical nurses as many as 24 respondents (80%). The most role respondents in this study were surgical nurses as many as 24 respondents (80%).

Tabel 2.  
The use of surgical safety checklist who (n=30)

SSC Usage	f	%
Complete	25	83,3
InComplete	5	17

Table 2 observations of the use of WHO Surgical Safety Checklist sheets by anesthesiologists and surgical nurses, most of the SSC sheets were completed by 25 respondents (83.3%)

Tabel 3.  
Implementation of Operation Patient Safety (n=30)

Implementation Patient Safety	f	%
Safety	25	83,3
No Safety	5	17

Table 3 based on the results of the observation of the operating patient safety sheet, the level of patient safety in the safety category was 25 observation sheets with a presentation of 83.3%.

Tabel 4.  
Relationship between the Use of WHO Surgical Safety Checklist and the Implementation of Patient Safety (n=30)

WHO Surgical Safety Checklist	Patient Safety Implementation						Cont Coeffecient	P value
	safety		No safety		Total			
	f	%	f	%	f	%		
Complete	23	76,6	2	6,6	25	83,3	0,461	0,004
In Complete	2	6,6	3	10	5	16,7		

Table 4 based on the results of cross data tabulation between variables, it is known that respondents in the use of the WHO surgical safety checklist were completely filled in as many as 25 respondents (83.3%), causing the implementation of the safety of operating patients in the safety category as many as 25 respondents (83.3%). Data analysis of this study used Chi-Square Tests to determine the Relationship between the Use of WHO Surgical Safety Checklist (SSC) with the Implementation of Safety Patient Operations at Depati Hamzah Hospital, Pangkalpinang City, data decision making is seen from the level of significance ( $\alpha$ ) less than 0.05. Based on Table 5, it is known that the Chi-Square Tests obtained p-value = 0.004 < 0.05 so that Ho is rejected, meaning that there is a significant relationship between the use of WHO Surgical Safety Checklist and the Implementation of Safety of Operating Patients at Depati Hamzah Hospital, Pangkalpinang City. Knowing the relationship between the use of the surgical safety checklist who with the implementation of patient safety using the contingency coefficient test shows a value of 0.461, meaning that the level of relationship is moderate, namely the range of 0.40 - 0.599.

## **DISCUSSION**

This study aims to determine the relationship between the use of surgical safety checklist who with the implementation of patient safety surgery at Depati Hamzah Hospital, Pangkalpinang City.

### **Use of the WHO Surgical Safety Checklist**

Based on Table 3, the results of observations of the use of the WHO Surgical Safety Checklist sheet by anesthesiologists and surgical nurses showed that most of the complete SSC sheet filling was 25 respondents (83.3%), while a small proportion of incomplete SSC sheet filling was 5 respondents (17%). Of the 5 respondents, the majority of surgical nurses who were more dominant did not complete the SSC sheet. In its implementation, the SSC sheet is completed using a checklist and is divided into sections based on the sign-in, time-out, and sign-out stages. It is multidisciplinary and is completed by surgical nurses and anesthesiologists, each of whom is responsible for completing a portion of the checklist. A system that uses checklists to monitor patient safety is called the Surgical Safety Checklist. This system is a very important tool in implementing patient safety in the operating room. Paper checklists are one option because they can be made quickly and cheaply, can be resized and shaped as needed, and do not require much technological knowledge to fill out.(5).

Therefore, it was deemed necessary to re-socialize the SSC to surgical nurses and anesthesiologists by providing explanations for each section of the checklist. This would help them better understand their respective roles and responsibilities. It turned out that realizing the plan was not easy as there were still parts that were often delayed. This research is in line with that conducted by (Eko Heri Prajoko, 2018) which shows that the implementation of SSC is good and optimal according to the SOP, the sign in phase except for the examination of breathing difficulties (16.28%), the time out phase except for the implementation of X-rays, MRI (14%) and the sign out phase except for the label / specimen confirmation indicator (81.4%) in the application of the surgical safety checklist will reduce the risk of errors in work. To ensure maximum patient safety, it is necessary to evaluate the implementation of SSC regularly and continuously.(7). According to (Susi Nurhayati, 2019) explained The results of this study and nurses' compliance with the surgical safety checklist for patient safety were discussed. There were 28 respondents who followed the surgical safety checklist (93.3%), and only 2 respondents or (6.7%) who did not (8).

The importance of implementing the use of SSC as a pragmatic and convenient specialized tool in ensuring patient well-being at preoperative, intraoperative and postoperative stages and reducing entanglement and mortality due to medical procedures (9). The Surgical Safety Checklist has three stages: before anesthesia (sign in), before starting the incision (time out), and before the patient leaves the operating room (sign out). Each stage is used according to its stage. The SSC is likely to strengthen safety practice and support better correspondence and cooperation between clinical disciplines (10). In the use of the SSC sheet, which consists of 24 parameters, it is still not filled in completely. Seeing the importance of agreeing to all actions based on the standard system of work (SPO) and the negligible results, did not make anesthesiologists and careful medical nurses finally agree with the existing SPOs.

### **Patient Safety Implementation**

Based on Table 4. The results of the observation of the operation patient safety sheet showed the level of patient safety in the safety category as many as 25 observation sheets with a presentation of 83.3%, while a small portion of the non-safety category of unexpected events as many as 5 observation sheets (17%). The most important indicator of the health care

system is patient safety, which is expected to be a benchmark for providing the best service to patients and reducing incidents (11). The framework includes risk assessment, risk-recognizable evidence, executive episodes, disclosure or examination of events, and execution of implementation and follow-up to reduce risk events. This framework is planned to be an effective method to prevent patient harm or incidents. The importance of patient safety knowledge at every stage of the category both in anesthesiologists and surgical nurses in the operating room can improve attitudes, behavior and application of the use of SSC so as to support correct nursing actions according to standard operating procedures (SOPs) given to patients (12). Patient well-being should be implemented in every medical care office. The foundation of the assistance framework referring to the patient welfare norm, the seven stages towards patient safety, and the patient safety goals all add to the implementation of patient welfare.(5).

### **Relationship between the Use of WHO Surgical Safety Checklist and the Implementation of Patient Safety Operations**

Based on the results of the Chi-Square test analysis, the value of  $p=0.0004 < 0.05$  so that  $H_0$  is rejected, meaning that there is a relationship between the use of a surgical safety checklist who is with the implementation of patient safety operations at Depati Hamzah Hospital, Pangkalpinang City. The results of the cross tabulation prove that respondents in the use of the surgical safety checklist sheet filled in completely as many as 25 respondents (83.3%) and incomplete as many as 5 respondents (7%) and patient safety observation sheets as many as 25 sheets of safety category, and 5 sheets of non-safety category. This means that the surgical safety checklist can improve patient safety in the operating room. The data obtained by most team members (anesthesiologists and surgical nurses) agreed that surgical safety checklists increase the prevention of surgical errors that affect patients. The use of SSC also results in cost savings and improves the quality of care in the hospital. The results of this study support research conducted by (Sabrina, Kumala Dewi, Joko Pitoyo, 2022) explaining that it is necessary to evaluate the implementation of SSC periodically and continuously to ensure maximum patient safety. Surgical Safety Checklist (SSC) is applied in the operating room both in surgery and anesthesia to improve service quality and reduce complications and deaths (7).

According to a study (Muhammad Saefulloh, Ridho Kunto Prabowo, 2020), six of the ten articles he reviewed had a significant impact on the implementation of SSC, and four of them had an impact on the safety goals of vulnerable patients between 2015 and 2020. To prevent the occurrence of KTDs, efforts to improve performance that is still not good are a shared responsibility. Because patient accidents can occur as a result of the slightest carelessness on the part of the surgical team (13).

### **CONCLUSION**

Research on the Relationship between the Use of WHO Surgical Safety Checklist and the Implementation of Patient Safety Operations at Depati Hamzah Hospital, Pangkalpinang City, concluded that, There is a relationship between the use of the WHO surgical safety checklist and the implementation of patient safety operations at Depati Hamzah Hospital, Pangkalpinang City. The characteristics of respondents are mostly 31-40 years old, male gender, have D3 education level, have work experience between 1-10 years. The level of use of the WHO Surgical Safety Checklist (SSC) the majority of the complete category The level of implementation of patient safety (patient safety) is mostly in the safety category 4. The level of closeness of the use of the WHO surgical safety checklist with the implementation of patient safety operations at Depati Hamzah Hospital, Pangkalpinang City

is using the contingency coefficient test, which shows a value of 0.461, meaning that the level of closeness of the relationship is moderate, namely the range of 0.40 - 0.599.

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