

# The Development and Implementation of the Surgical Safety Checklist on Knowledge and Compliance of Nurses at the Central Surgical Installation of Bethesda Hospital Yogyakarta 2020

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ARTICLE INFO	ABSTRACT
Published Online: 26 March 2021	<p><b>Background:</b> One of the services provided by the hospital is surgery in the operating room carried out by a team of doctors and nurses. The application of the Surgical Safety Checklist adopted from the World Health Organization (WHO) is used in the operating room to increase the safety of operations and reduce errors in surgical procedures.</p> <p><b>Goals:</b> To find out the development and implementation of the Surgical Safety Checklist on Nurse compliance at the Central Surgical Installation of Bethesda Hospital Yogyakarta.</p> <p><b>Research Methods:</b> This research is a mixed method. The sample in this study were all nurses who served in the operating room at the Central Surgical Installation of Bethesda Hospital Yogyakarta, consisting of 40 respondents as instrument nurses, circular nurses and anesthesia nurses. The data that had been collected were then analyzed using the Fisher exact test statistical test.</p> <p><b>Research Result:</b> There is a significant relationship between work tenure and knowledge <math>p = 0.048</math> (<math>p &lt; 0.05</math>). There is a significant relationship between age and work tenure on compliance with the application of the Surgical Safety Checklist (<math>p &lt; 0.05</math>). There is a significant relationship between knowledge and compliance <math>p = 0.0001</math> (<math>p &lt; 0.05</math>).</p> <p><b>Conclusion:</b> The development and application of the Surgical Safety Checklist on the level of knowledge and compliance of nurses at Bethesda Hospital Yogyakarta, the majority in the good category and the implementation of the Surgical Safety Checklist has been running optimally. Bethesda Hospital is developing electronic medical records, on process medical and nursing assessment, Integrated Patient Progress Record (CPPT), and nursing care, response from the implementation of the new version of SSC is quite good.</p>
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<b>KEYWORDS:</b> Surgical Safety Checklist; Knowledge; Nurse compliance; Bethesda Hospital.	

## INTRODUCTION

Hospital as a health service facility which consists of various types of service units depending on the type and class of hospital. The operating room is a part of the service unit at the hospital. The operating room is one of the most crucial parts, where one of the specialties is carrying out surgery on the patient. The surgical procedure is a form of treatment by making an incision in the patient's skin and making repairs to the surgical area, and then covering the wound/skin. This procedure is a complicated procedure and has a very high risk, both for the patient and the team carrying out the surgery. It was this complicated procedure that led to incidents in the operating room. Most of the incidents that occur in the operating room are related to

patient safety. Several countries report patient safety incidents that occur in operating rooms (Ministry of Health the Republic of Indonesia, 2008)

The number of surgeries in the world is very large, the results of research in 56 countries in 2004 estimated the number of surgeries around 234 million per year, almost double the number of births per year. Studies in industrialized countries, the surgical complication rate is estimated to be 3-16% with mortality from 0.4 to 0.8%. In eight retrospective studies of adverse events (Unexpected events) in hospitals, incidence that occurred in hospitals was 9.2% and almost half of which could be prevented (43.5%). Most of the adverse events occurred when the patient was in the hospital (80.8%) and during surgery 58.4% of all

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adverse events in the hospital. Unexpected events at the hospital, the majority (41%) occurred in the operating room (de Vries et al., 2010).

Complications of surgical wound infection are the second common complications after urinary tract infections, resulting in additional costs for hospitalization. Based on a hospital study on 715 patients in the United Kingdom, it was found that 80 patients had post-cesarean surgical wound infection (Johnson et al., 2006). WHO predicts that the impact of surgical interventions on the public health system will continue to grow. For this reason, WHO has initiated surgical safety measures. An agency for patient safety began work in January 2007 and WHO identified three phases of surgery, namely before induction of anesthesia (sign in), before skin incision (time out) and before the patient leaves the operating room (sign out). (Caovukian A, nd)

Patient safety has become a hot topic of conversation in all circles of society, especially in the field of health care. Injuries caused by incidents can be prevented by having a well established and implemented system known as Patient Safety (Safitri, 2019). The history of patient safety in the world began in 2000 in the USA with the publication of a report on the results of research conducted at Hospitals in Utah, Colorado and New York, which made the world public astonished, where the results of the report said "To Err Is Human, Building a Safer Health System.", Where patient safety is a priority issue in health care (Cahyono, S, 2012). This underlies the World Health Organization to publish a guide to be a solution in improving patient safety on May 2, 2007 "Nine life saving patient safety solution".

In Indonesia, the history of the development of patient safety began in 2005, to be precise on the June 1, 2005, the Hospital Patient Safety Committee (KKP-RS) was inaugurated by PERSI. Furthermore, the Minister of Health of the Republic of Indonesia inaugurated the Hospital Patient Safety Movement to be precise on August 21, 2005. This action was based on several reports that there had been malpractice committed by health workers and hospitals that caused adverse events and near miss in patients. After the Hospital Patient Safety Committee (KKP-RS) was formed, there were 877 patient safety incidents reported, the data of which were taken from 2006 to 2011 (KKPRS, nd). The purpose of this study was to determine the Development and Application of a Surgical Safety Checklist on Nurse

Compliance at the Central Surgical Installation of Bethesda Hospital Yogyakarta.

### RESEARCH METHODS

The method in this research is used the mixed method by combining quantitative and qualitative methods. The population in this study was a team of surgical room nurses consisting of instrument nurses (scrub nurses), circular nurses (circulating nurses), anesthetic nurses, who were involved in implementing the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta. The sample in this study was a team of surgical room nurses consisting of instrument nurses (scrub nurses), circular nurses (circulating nurses), anesthetic nurses, who were involved in implementing the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta, totaling 40 people. Determination of sampling in qualitative analysis using non-probability sampling with a purposive sampling approach, namely subjects who meet the criteria for the sample to be selected. The data that has been collected is then analyzed using statistical tests *Fisher exact test*.

### RESULTS AND DISCUSSION

#### 1. Characteristics of research subjects

This research is about the Development and Application of the Surgical Safety Checklist on Nurse Compliance at the Central Surgical Installation of Bethesda Hospital, Yogyakarta which was held in 01 to 15 November 2020 by taking a sample of the instrument development checklist form, data checklist form Patient Safety Checklist was done retrospectively in 2019 and 2018, Anesthetic Readiness form and CSSD and Laundry data related to the finding of missing tools / instruments, Patient Safety Incident Reports January and February 2019. Researchers want to see compliance of nurses in carrying out the Surgical Safety Checklist at the Central Surgical Installation at Bethesda Hospital Yogyakarta. The entire surgical room team nurses were 42 nurses, because one was a researcher, the other one was due to health conditions and when the research was carried out it had been rotated to another work unit, so the number of responses involved in this study amounted to 40 respondents.

#### 2. Univariate Analysis

##### a. Respondent Demographic Frequency Distribution

**Table 4.1 Distribution of Respondents Frequency Based on Demographics**

In the Central Surgical Installation of Bethesda Hospital Yogyakarta

Demographics	Category	Amount	Percentage
Age	30-39 Years	12	30%
	40-49 Years	16	40%
	50-59 Years	12	30%
Gender	Man	25	62.5%

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	Women	15	37.5%
Education	D3	34	85%
	S1	6	15%
Position	Surgical Nurse	30	75%
	Nurse Anesthesiologist	10	25%
Years of service	5-10 years	29	72.5%
	11-20 years	10	25.0%
	> 20 years	1	2.5%

Source: data processed in 2021

Based on table 4.1, it is known that the respondents at Bethesda Hospital Yogyakarta who are in the 30-39 year age range are 12 respondents (30%), aged 40-49 years are 16 respondents (40%). The last order in the age range of 50-59 years is 12 respondents (30%). Most respondents were male, namely 25 respondents (62.5%) compared to women 15 (37.5%). The education level of the respondents, namely D3

education was 34 respondents (85%), S1 was 6 respondents (15%). The positions as surgical nurses were 30 respondents (75%) and anesthesia nurses were 10 respondents (25%). Has worked as a nurse > 20 years as many as 1 respondents (2.5%), a range of 11-20 years as many as 10 respondents (25%), and a range of 5-10 years as many as 29 respondents (72.5%).

**b.** Distribution of the level of knowledge and compliance of nurses

**Table 4.2.** Distribution of Nurses' Knowledge and Compliance Levels in the Central Surgical Installation of Bethesda Hospital Yogyakarta

	Score	Level	Amount	Percentage
Knowledge	82.0 ± 12.4	Good	29	72.5%
		Enough	10	25.0%
		Less	1	2.5%
Obedience	93.4 ± 2.6	Good	36	90%
		Enough	4	10%
		Less	0	0%

Source: data processed in 2021

Based on table 4.2, it is known that the mean score of knowledge is 82%, which shows that in the good category, it can be seen that the majority of respondents' knowledge level at Bethesda Hospital Yogyakarta has a good knowledge of 29 respondents (72.5%), enough as many as 10 respondents (25.0%), and less than 1 respondent (2.5%). The mean score of the application of the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta was obtained by 93.4%, this can be seen that the majority of respondents have a good level of compliance as many as 36 respondents (90%), the level of

compliance is sufficient as many as 4 respondents (10%) and no respondents those who enter the compliance level criteria are less.

**3. Bivariate analysis**

The relationship characteristics including age, gender, education, and years of service to knowledge and to nurse compliance were analyzed with fisher exact test for 2x2 table (because there are empty cells) and Spearman correlation apart from 2x2 table with ordinal scale.

**Table 4.3.** Characteristics Relationship with Knowledge and Compliance with the Application of Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta

	Knowledge						p	Compliance						
	Good		Enough		Less			Good		Enough		p		
	n	%	n	%	n	%		n	%	n	%			
Age							0.076 #							0.006 #
30-39 years	7	58.3%	4	33.3%	1	8.3%		8	66.7%	4	33.3%			
40-49 years	12	75.0%	4	25.0%	0	0.0%		16	100.0%	0	0.0%			
50-59 years	10	83.3%	2	16.7%	0	0.0%		12	100.0%	0	0.0%			

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Gender	0.215 \$						1,000 \$			
Man	20	80.0%	4	16.0%	1	4.0%	22	88.0%	3	12.0%
Women	9	60.0%	6	40.0%	0	0.0%	14	93.3%	1	6.7%
Education	0.108 \$						1,000 \$			
D3	23	67.6%	10	29.4%	1	2.9%	30	88.2%	4	11.8%
S1	6	100.0%	0	0.0%	0	0.0%	6	100.0%	0	0.0%
Work Periode	0.048 #						0.001 #			
5-10 years	1	25.0%	2	50.0%	1	25.0%	1	25.0%	3	75.0%
11-20 years	12	75.0%	4	25.0%	0	0.0%	15	93.8%	1	6.3%
> 20 years	16	80.0%	4	20.0%	0	0.0%	20	100.0%	0	0.0%

\$) Fisher exact test, #) Spearman correlation

Based on the results of the bivariate test, it showed that there was a significant relationship between work period and knowledge  $p = 0.048$  ( $p < 0.05$ ). Respondents with a work period of 5-10 years have good knowledge (25.0%), a working period of 11-20 years (75.0%), and > 20 years (80.0%). Meanwhile, age, gender and education were not statistically significant ( $p > 0.05$ ). There is a significant relationship between age and work period on compliance

with the application of the Surgical Safety Checklist ( $p < 0.05$ ). Respondents aged 30-39 years who have good compliance with 8 respondents (66.7%) less than those aged 40-49 years (100.0%) and 50-59 years (100.0%) with  $p$  value = 0.006. All nurses who had a work period of > 20 years were obedient, followed by 15 (93.8%) 11-20 years old and 1 (25%) 5-10 years old with  $p = 0.001$ .

**Table 4.4** Relationship between Knowledge and Compliance with the Implementation of the Surgical Safety Checklist at the Central Surgical Installation at Bethesda Hospital Yogyakarta

		Compliance				p
		Good		Enough		
		n	%	n	%	
Knowledge	Good	29	100.0%	0	0.0%	0.0001 *
	Enough	7	70.0%	3	30.0%	
	Less	0	0.0%	1	100.0%	

Source: data processed in 2021

There is a significant relationship between knowledge and compliance  $p = 0.0001$  ( $p < 0.05$ ). Respondents with good knowledge (100.0%), respondents with sufficient knowledge are 7 (70.0%) and there was no lack of knowledge.

#### 4. Discussion

##### a. Knowledge and Compliance with the application of the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta

The average knowledge score is 82% which indicates that it is in a good category, it can be seen that the majority of respondents' knowledge level at Bethesda Hospital Yogyakarta has a good knowledge of 29 respondents (72.5%), enough as many as 10 respondents (25.0%), and less than 1 respondent ( 2.5%). This shows that nurses have good knowledge in implementing the surgical safety checklist at the Central Surgery Installation at Bethesda Hospital Yogyakarta. Application *Surgical Safety checklist* has a positive impact on patient safety, teamwork and communication between the surgical team (doctors, anesthetists and surgical nurses) (Dabholkar et al., 2018). (Dabholkar et al., 2018).

The mean score of the application of the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta was obtained by 93.4%, this can be seen that the majority of respondents have a good level of compliance as many as 36 respondents (90%), the level of compliance is sufficient as many as 4 respondents (10%) and no respondents those who enter the compliance level criteria are less. This shows that nurses have a good level of compliance in implementing the surgical safety checklist at the Central Surgical Installation of Bethesda Hospital Yogyakarta. The results of this study are in accordance (Muslihin n.d) (Muslihin, nd)found that there is an effect of the knowledge factor on compliance with the application of surgical patient safety safe time out. In another study, it was found that the use of surgical safety showed an increase in obedient. (Giles et al., 2017). Other research data found that the use of and compliance to a surgical safety checklist resulted in a 0.49% reduction in mortality and 0.32% reduction in morbidity after surgery (Abbott et al., 2018).

##### b. Relationship between Characteristics and Knowledge and Compliance with the Application of the Surgical Safety Checklist



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Based on the results of the bivariate test, it showed that there was a significant relationship between work period and knowledge  $p = 0.048$  ( $p < 0.05$ ). Respondents with work period of 5-10 years have good knowledge (25.0%), work period of 11-20 years (75.0%), and > 20 years (80.0%) the higher the period better the level of knowledge. This shows that the work period of nurses affects to level of knowledge of the application of the Surgical Safety Checklist. The learning process can provide skills, if these skills are practiced the higher the skill level will be, this is influenced by the work of someone who works in an institution. Nurses who have long worked in the hospital have a better ability to provide safe nursing care for patients (Biffl et al., 2015). Research Biffl (Saifullah, 2015) found that the longer a person works, more skills and experience increases, length of service and experience. Meanwhile, age, gender and education were not statistically significant ( $p > 0.05$ ).

There is a significant relationship between age and compliance with the application of the Surgical Safety Checklist ( $p < 0.05$ ). Respondents aged 30-39 years who have good compliance with 8 respondents (66.7%) less than those aged 40-49 years (100.0%) and 50-59 years (100.0%) with  $p$  value = 0.006. It means that it is getting older, the compliance in implementing the Surgical Safety Checklist in the Surgical Installation will increase. Compliance is a person's obey to a predetermined goal, is also a major problem of discipline in hospital care services (Hartati, 2017). Age affects a person's compliance and mindset. Generally, a person's age is an indicator in making decisions that refer to each of his experiences, with the more age he receives instructions and in carrying out a procedure the more responsible and experienced he becomes. The more mature a person is in thinking and acting (Saragih & Rumapea, 2012). The higher the age of a person, the more knowledge they have (Notoatmodjo Soekidjo, 2010).

There is a significant relationship between work period and compliance with the application of the Surgical Safety Checklist ( $p < 0.05$ ). All nurses who had a service period of > 20 years were obedient, then 15 staff (93.8%) 11-20 years old and 1 staff (25%) 5-10 years old with  $p = 0.001$ . It means that the longer the nurse's work period, the compliance in implementing the Surgical Safety Checklist in the Surgical Installation will increase. This shows that the length of work is a very important factor in patient safety in the hospital. The length of this work period is the time when nurses start working as permanent employees at the hospital up to now. The longer a person works, the higher the level of achievement will be, high achievement can be obtained from good behavior (Ni Luh Putu, 2015). Meanwhile, for gender and education there was no significant relationship ( $p > 0.05$ ).

The relationship between knowledge and compliance with the application of the Surgical Safety Checklist was

obtained by respondents with all good knowledge (100.0%), respondents with sufficient knowledge are 7 (70.0%) and there is no lack of knowledge with  $p = 0.0001$ . This means that the higher the knowledge of the nurse, the compliance in application *Surgical Safety Checklist* in the Surgical Installation will increase. Someone who has a good level of knowledge in implementing a surgical safety checklist is compared to nurses who have less knowledge. Knowledge is included in a predisposing factor, someone's knowledge will have an impact on obedience in doing something. Knowledge and skills about safety have a strong relationship with compliance (Haynes et al., 2009).

c. Nurses' compliance with the correct application of the Surgical Safety Checklist in the Sign In, Time Out and Sign Out phases.

The operating room is a unit that provides surgical services that carry many risks. The incidence of accidents in the operating room is very high, if in practice it does not pay attention to patients, patient readiness, action procedures, and application of the Surgical Safety Checklist (Haugen et al., 2013)(Haugen et al., 2013). The Surgical Safety Checklist in the operating room is used in 3 stages, according to the timeline, namely before induction of anesthesia (Sign In), before skin incision (Time Out) and before removing the patient from the operating room (Sign Out) (Haynes et al., 2009). Surgical safety checklists are being implemented in several hospitals (Russ, 2015). Compliance with carrying out the surgical safety checklist procedure in an orderly manner will affect teamwork, and reduce the impact of complications and deaths. Compliance with the correct application of the Surgical Safety Checklist in the Sign In, Time Out and Sign Out phases increases significant improvements in communication reflecting the suitability of procedures (Santana et al., 2016).

Based on the results of the Checklist on 120 operations at the Central Surgical Installation of Bethesda Hospital, regarding completeness of filling in surgical safety, it is known that nurses' compliance in implementing the surgical safety checklist in the Sign In, Time Out and Sign Out phases correctly at the Central Surgical Installation of Bethesda Hospital Yogyakarta, is carried out by Each respondent was observed by performing 3 operations, so that a total of 120 actions were observed by the researcher. Completeness of filling in the Surgical Safety Checklist which consists of 45 checklist items in the implementation of 120 operations performed by 40 respondents at the Central Surgical Installation of Bethesda Hospital Yogyakarta.

The Sign In phase plays a very important role in preventing the occurrence of medical errors in patients, such as wrong patients, wrong side of surgery, wrong procedures, and making preparations to anticipate airway difficulties, allergies and anticipate blood loss > 500 ml, so the Surgical Safety Checklist at The Sign In phase must be carried out

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routinely in every operation. Nurses' compliance with the application of the Surgical Safety Checklist in the Sign In phase obtained a high level of compliance of 96.25% and a non-compliance rate of 3.75%. In the Sign In phase, all respondents performed very well in the items of patient identity, name of operator, anesthetist, confirmed patient's identity, location, action plan and informed consent, marking of surgery location, check anesthetic machine and drugs, saturation measurement and allergy history. Meanwhile, the lowest level of compliance was found in the checklist item for verification hours, only 75.83%. This shows that the role of the anesthetist at the time of verification (signature and name of the nurse is circular). The absence of an anesthetist at the time of sign-in led to low compliance with carrying out the Surgical Safety checklist (Sendlhofer G, 2016). Research (Blanco et al., 2009) found several factors that influenced the operation error and/or the wrong side lies in the sign-in stage, such as not confirming the patient's identity, not doing the marking of the operative side that had an impact on the wrong operation of the patient and the wrong side surgery, so this sign phase must be consistently carried out.

Nurse compliance in implementing the Surgical Safety Checklist in the Time Out phase obtained a high level of compliance of 96.91% and a non-compliance rate of 3.09%. Most of the checklist items in the Time Out phase were well done by all respondents. Various studies have shown the benefits of doing time out and one of them is avoiding sentinel events (Papadakis et al., 2019). Non-adherence was found in the checklist items: whether there are special problems in the patient that need attention, instrument sterility confirmed, instruments fully prepared as needed, prophylactic antibiotics within 60 minutes before incision, hours of verification. This shows that the checklist not always carried out properly as it should. (Rydenfalt et al., 2013) found that a component that should facilitate communication is often overlooked, namely that Time-Out is often not done as a team effort. Communication problems such as verbal and non-verbal communication failures, miscommunication with others staff, between shifts, communication that is not well documented, are things that can cause errors (Giles et al., 2017).

The Sign Out phase is the phase before removing the patient from the operating room, where several points in the Surgical Safety Checklist are carried out to facilitate the transfer of information related to patient care after surgery. Sign Out is a surgical safety procedure performed by operating room officers before wound closure, coordinated by a member of the operating room staff (doctor or nurse) (Surgery & Lives, 2008). Nurses' compliance in implementing the Surgical Safety Checklist in the Sign Out phase, the level of compliance was lower than the Sign in and Time Out phases. In the Sign Out phase, the level of compliance was only 84.58% and the non-compliance rate

was 15.42%. This is because almost all checklist items in the Sign Out phase are not completely filled in. The lowest level of adherence to the item Anesthesiologist is only 55%. Then followed by the Operator at 56.67% and the Nurse item at 75.83%. Three stages of nurse compliance in implementing the Surgical Safety Checklist, the Sign Out phase had the lowest level of compliance when compared to the other two phases. This suggests that less awareness of postoperative evaluations is considered important. Even though it has passed a critical period in patient safety, the surgeon, anesthetist and nurse operators should review the main issues that should be considered for further patient healing and management. (Wangoo et al., 2016). Research (Vogts et al., 2011) finding Sign Out domains is almost always overlooked, increasing the risk of neglect in postoperative care.

d. Unexpected incidents at the Central Surgical Installation, CSSD Unit and Laundry Unit were related to surgery.

The surgical procedure is a form of treatment by making an incision in the patient's skin and making repairs to the surgical area, and then covering the wound/skin. This procedure is a complicated and has a very high risk, both for the patient and the team carrying out the surgery. As the results of interviews by researchers with 3 staff of surgical assistant nurses and 3 assistant anesthesia staff related to unexpected events in the Central Surgical Installation, CSSD Unit and Laundry Unit related to the operation of an anesthetic assistant nurse, namely:

*"The results of SSC are compliant (good results), there should be no more missing / incomplete instruments (Interview on 16 November 2020)*

This opinion was corroborated by 3 staff from the instrumentary nurse, such below :

*"The compliance of the surgical team in implementing SSC has been running optimally, only better communication is still needed to match and more intensive socialization to further improve team compliance so that SSC implementation can run better and correctly, as part of efforts to reduce incidents in the Central Surgical Installation, CSSD Unit and Laundry Unit related to surgery " (Interview on 16 November 2020)*

While the opinion of 3 circulation nurse staff also said,

*"All stages are read out and explained whether there is a connection with the loss / mismatch of instruments and consumable during the time before the operation is carried out until the time the operation is completed. At the time out stage, it was found that during the completeness phase only answered yes completely. Not done by reading / matching the instruments and consumables used in the only way shown / mentioned " (Interview on 16 November 2020).*

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This opinion was corroborated by Bethesda Hospital's Central Surgical Installation Services Coordinating Staff, namely:

*"found during the Sign Out phase, matching of instruments and consumables should also be carried out. It was realized by all staff who attended the zoom meeting, that it should not only be sufficient to answer yes and incompletely, but must match them one by one. And what was done at that time, all staff realized that during the time out and time out phases there must be communication to match "* (Interview on 16 November 2020).

e. *Surgical Safety Checklist* Newest version

Bethesda Hospital Yogyakarta also implements a Surgical Safety Checklist (SSC) in the implementation of operational actions that refer to the SSC checklist established by WHO (2009) (World Health Organization (Geneva) & World Alliance for Patient Safety, 2009) to ensure safe surgery. In its implementation, the Surgical Safety Checklist at the Central Surgical Installation of Bethesda Hospital is always monitored and used as a Unit Quality Target Report. Patient Safety Quality Committee (KMKP). Bethesda Hospital is currently developing electronic Medical Records.

Based on the results of interviews with Bethesda Hospital in Central Surgical Installation Services Coordinator staff, namely:

*"currently being developed electronic Medical Records (e-RM), new in assessment medical and nursing, Integrated Patient Progress Record CPPT, and nursing care. In the future, all Central Surgical Installation forms will also refer to electronic Medical Records (e-RM), if the instrument and consumables conformity form is e-RM, so that whatever instrument is used, it will be made there and just check electronically. There is a difference with the original WHO version in asking the patient's name, the name of the same operation which was operated on, whether one hour before taking antibiotics or not"* (Interview on 22 November 2020).

Interviews by researchers with 3 staffs of surgical assistant nurses related to the response to the application of the new version of SSC, namely:

*"SSC was created to be universally adaptable and has proven useful. The new checklist of instrument and consumables suitability is believed to be very helpful and make it easier to match instruments and consumables"* (Interview on 20 November 2020).

This opinion was corroborated by 3 staffs from the instrumentary nurse, namely:

*"It makes it easier if the instrument and consumables conformity form is e-RM, so that whatever instrument is used, it will be made there and just check electronically"* (Interview on 22 November 2020).

## CONCLUSIONS AND SUGGESTIONS

### Conclusion

1. Surgical Safety Checklist towards the level of knowledge and compliance of nurses at Bethesda Hospital Yogyakarta the majority are in good category.
2. There is a significant relationship between nurses' work period and knowledge of nurses. There is a significant relationship between work period and age with nurse compliance. There was no significant relationship found between age, education and gender with the knowledge of nurses. There was no significant relationship between gender and age and nurse compliance. There is a relationship between knowledge and compliance with the application of the Surgical Safety Checklist.
3. Nurses' compliance in carrying out the Surgical Safety Checklist in the Sign In Phase obtained a high level of compliance. In the Time Out phase, a high level of compliance is obtained. While the Sign Out Phase has the lowest level of compliance.
4. The compliance of the surgical team in implementing SSC has been running optimally, only communication is still needed to match and more intensive socialization to further improve team compliance so that SSC implementation can run better and correctly, as part of efforts to reduce incidents in the Central Surgical Installation, CSSD Unit and Laundry Unit related to surgery
5. Bethesda Hospital is developing e-RM, new in medical and nursing assessment, Integrated Patient Progress Record (CPPT), and nursing care, with the response from the implementation of the new version of SSC is quite good, very helpful and easier when matching.

### Suggestion

1. For the Hospital  
This research is expected to provide benefits to the hospital as a research location in the form of input, information about the Development and Application of a Surgical Safety Checklist on Nurse Knowledge and Compliance at the Central Surgical Installation of Bethesda Hospital Yogyakarta.
2. For Researchers  
This research is expected to provide benefits for future researchers in the form of knowledge, insight into the Development and Application of the Surgical Safety Checklist on Knowledge and Compliance of Nurses at the Central Surgical Installation of Bethesda Hospital Yogyakarta.

### THANK YOU NOTE

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