



Analysis of Factors Influencing Compliance with the Implementation of the Surgical Safety Checklist in the Central Surgery Installation (CSI) at Imelda General Hospital for Indonesian Workers

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ABSTRACT

One indicator of the quality of service to patients is patient safety, where hospitals have an obligation to create a system that reduces or even prevents incidents that threaten patient safety. Surgical safety checklist or abbreviated as SSC is a patient safety procedure in the form of a checklist created by WHO as the basis for the actions carried out by the surgical team in the operating room. The aim of this research is to analyze the factors that influence nurses' compliance in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of RSU Imelda Workers Indonesia. This type of research is quantitative research that uses a correlational design. The method used in this research is a cross sectional approach. In this study, the population was 25 nursing staff who worked at the Central Surgical Installation (IBS) of RSU Imelda Workers Indonesia. Sampling in this research was carried out using a non-probability sampling technique with a total sampling approach, which refers to sampling by taking all members of the population as samples, namely 25 respondents. The data analysis used is univariate, bivariate and multivariate analysis. The research results show that there is an influence of knowledge, work stress and workload on compliance with the implementation of the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of the Indonesian Workers' Imelda Hospital. There is no effect of length of work on compliance with the implementation of the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of RSU Imelda Workers Indonesia. The independent variable in this study that has the most influence on compliance with the implementation of the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of RSU Imelda Workers Indonesia is the workload variable (X3).

Keywords: Knowledge, Length of work, Job stress, Work load, Central surgical installation, Surgical Safety Checklist, Nurse

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INTRODUCTION

Patient safety is an important indicator of the quality of hospital services. Hospitals are required to create a system that reduces and prevents incidents such as Adverse Events, Near Injury Events, and Potential Injury Events. This system aims to prevent errors or omissions that pose a risk to patients (Yuliati et al., 2019). According to Selano et al. (2019), patient safety includes risk assessment, incident reporting, and implementation of solutions to minimize the risk of injury.

Nurses play an important role in realizing patient safety in the operating room. One of the efforts implemented is the use of the Surgical Safety Checklist (SSC), a standard procedure developed by World Health Organization (WHO) to ensure surgical safety. SSC is carried out in three stages: sign in (verification before anesthesia), time out (verification before incision), and sign out (verification before the patient leaves the operating room) (Chrisnawati et al., 2023). These stages are inseparable and are the main guidelines for safety.

The effectiveness of SSC is influenced by the professional behavior of nurses and the surgical team. The use of SSC helps reduce patient safety incidents, such as incisions on the wrong side of surgery or foreign objects left in the patient's body (Yuliati et al., 2019). Factors that influence compliance with SSC implementation include knowledge, length of service, and workload. Nurses with high knowledge are more compliant in implementing SSC compared to nurses with less knowledge (Pinilih, 2024).

Researches showed that various factors influence compliance in the implementation of SSC. According to Risanti et al. (2021), age, education, and work motivation are some of the factors that influence nurse compliance. On the other side, Pinilih (2024) found that education and knowledge were more significant, while age and gender factors had less influence. At Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan, with an average of 220 operations per month, the implementation of SSC still needs to be improved, so it is important to conduct further research to examine the factors that influence nurse compliance there.

RESEARCH METHOD

Research Design

This study is a quantitative study with a correlational design. The researcher used a cross-sectional approach method, where the independent variables and dependent variables are assessed simultaneously at one time without follow-up on these variables. The purpose of this study was to analyze the factors that influence nurse compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan.

Research Location and Time

This research was conducted at the Central Surgical Installation of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan in October 2024.

Research Population

The population was the nursing staff working at the Central Surgical Installation (IBS) of the Imelda Buruh Indonesia Hospital, totaling 25 people.

Research Sample

Sampling in this study was carried out using a non-probability sampling technique with a total sampling approach, which refers to sampling by taking all members of the population as samples, namely 25 respondents.

Data Collecting and Analysis

This study uses primary data, namely data obtained directly from respondents. The data was collected through a questionnaire containing factors that influence respondent compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS). The data collected was analysed descriptively and inferentially to obtain research results.

RESULT AND DISCUSSION

Table 1 explains the results of the frequency distribution of respondent characteristics in this study which include age, gender, education and period of work. From the results it was found that respondents in this study aged 25-30 years were 4 respondents with a percentage of 16%, respondents aged 31-40 years were 7 respondents with a percentage of 28%, and respondents aged >40 years were 14 respondents with a percentage of 56%.

Respondents in this study were male, numbering 7 respondents with a percentage of 28% and female respondents were 18 respondents with a percentage of 72%. There were 20 respondents in this study whose last education was Diploma (D3) with a percentage of 80% and 5 respondents whose last education was Bachelor (S1) with a percentage of 20%. Respondents in this study whose work period <5 years were as many as 4 respondents with a percentage of 16% and respondents with a work period of >5 years were as many as 21 with a percentage of 84%.

Table 1
Frequency Distribution of Respondent Characteristics

Age	n	%
25-30 Years	4	16
31-40 Years	7	28
>40 Years	14	56
Total	25	100
Gender	n	%
Man	7	28
Woman	18	72
Total	25	100
Last education	n	%
D3	20	80
S1	5	20
Total	25	100
Period of Work	n	%
≤Year	4	16
>5 Years	21	84
Total	25	100

Univariate Analysis Results

1. Knowledge

Table 2
Knowledge on the Target of Patient Safety

Knowledge	n	%
Good	12	48
Enough	3	12
Not enough	10	40
Total	25	100

Table 2 shows the results of the study on respondents' knowledge about the target or purpose of implementing patient safety in the Central Surgical Installation. The results of the study showed that respondents who had good knowledge were 12 respondents with a percentage of 48%, respondents who had knowledge in the sufficient category were 3 respondents with a percentage of 12%, and respondents who did not have enough knowledge were 10 respondents with a percentage of 40%. From these results, it can be concluded that the majority of respondents' knowledge about the purpose of implementing patient safety in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) is good.

2. Work Stress

Table 3
Level of Work Stress

Wordk Stress	n	%
Mild Stress	11	44
Moderate Stress	3	12
Severe Stress	11	44
Total	25	100

Table 3 shows the results of the level of work stress experienced by respondents working in the Central Surgical Installation (IBS). The results of the study that have been conducted show that respondents who experienced mild stress were 11 respondents with a percentage of 44%, respondents who experienced moderate stress were 3 respondents with a percentage of 12% and respondents who experienced severe stress were 11 with a percentage of 44%. From these results it can be seen that the majority of respondents in this study experienced mild and severe stress while working in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

3. Workload

**Table 4
Workload**

Workload	n	%
Light Workload	7	28
Medium Workload	10	40
Heavy Workload	8	32
Total	25	100

Table 4 shows the results of the study on the workload experienced by respondents in this study. The results show that respondents who felt their workload was light were 7 respondents with a percentage of 28%, respondents who felt their workload was moderate were 10 respondents with a percentage of 40% and respondents who felt their workload was heavy were 8 respondents with a percentage of 32%. From these results, it can be seen that the majority of respondents felt their workload was in the moderate category.

4. Compliance on Implementing the Surgical Safety Checklist (SSC)

**Table 5
Compliance on Implementing the Surgical Safety Checklist (SSC)**

Compliance in Surgical Safety Checklist (SSC) Implementation	n	%
Not Compliant	11	44
Compliant	14	56
Total	25	100

Table 5 shows that respondents in this study who were not compliant in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) were 11 respondents with a percentage of 44% and respondents who were compliant in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) were 14 respondents with a percentage of 56%. From these results, it can be concluded that the majority of respondents in this study were compliant in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

Bivariate Analysis Results

1. The Influence of Knowledge on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

**Table 6
The Influence of Knowledge on Compliance in Implementing the Surgical Safety Checklist at the Central Surgical Installation**

Knowledge	Compliance in Surgical Safety Checklist (SSC) Implementation				Total	P-Value
	Compliant		Not Compliant			
	n	%	n	%	n	%
Good	11	44	1	4	12	48
Enough	2	8	1	4	3	12
Not enough	1	4	9	36	10	40
Total	14	56	11	44	25	100

Table 6 shows the influence of knowledge on compliance in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of RSU Imelda Buruh Indonesia. The cross-tabulation results show that respondents

in this study with good knowledge and also compliant are as many as 11 (44%) respondents and those who are not compliant are 1 (4%) respondent. Meanwhile, respondents in this study with enough knowledge who are 2 (8%) respondents and those who are not compliant are 1 (4%) respondent. Lastly, respondents in this study with less knowledge who comply are 1 (4%) respondent and those who are not compliant are 9 (36%) respondents.

From the results of the Fisher's Exact Test, it showed a significance value or P-value of $0.000 < 0.05$, which means that there is an influence of knowledge on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan. This result is consistent with a previous research conducted by Muara (2021) and also by Pauldi (2021), which also concluded that there is indeed a significant influence of knowledge on nurse compliance in implementing the Surgical Safety Checklist.

Knowledge is a predisposing factor that influences behavior. Predisposing factors are factors that form the basis or encourage individuals to take actions that support or inhibit someone from behaving in a certain way, for example knowledge, beliefs, values or attitudes, beliefs. According to research (Sudibyo, 2020), nurses who have a good level of knowledge tend to be better at implementing surgical safety checklists than nurses who are less knowledgeable. Thus it can be concluded that the better the nurse's knowledge on the target or purpose of patient safety, the more compliant the nurse will be in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS).

2. The Influence of Period of Work on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

Table 7
The Influence of Period of Work on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation

Period of Work	Compliance in Surgical Safety Checklist (SSC) Implementation				Total	P-Value
	Compliant		Not Compliant			
	n	%	n	%		
≤5 years	2	8	2	8	4	16
> 5 Years	12	48	9	36	21	84
Total	14	56	11	44	25	25

Table 7 shows the influence of work period on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). The cross-tabulation results show that respondents in this study with work period under 5 years who were compliant were 2 (8%) respondents and those who were not compliant were 2 (8%) respondents. Meanwhile, respondents in this study with working period over 5 years who were compliant were 12 (48%) respondents and those who were not compliant were 9 (36%) respondents.

The results of the Fisher's Exact Test shows a significance value or P-value of $0.604 > 0.05$, which means that there is no influence of working period on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of the Imelda Buruh Indonesia Hospital. This result is consistent with previous researches conducted by Selano (2019) and also by Very (2024), which stated that there is no significant influence of work period on nurse compliance in implementing Surgical Safety Checklist. Most nurses working in the Central Surgical Installation already have a habit of only implementing the checklist in parts where they think are the most important. Thus, when a new nurse come to work, they transfer and teach this habit, creating a culture or a corporate habit of implementing the surgical safety checklist according to what they are used to.

3. The Influence of Work Stress on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

Table 8
The Influence of Work Stress on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation

Work Stress	Compliance in Surgical Safety Checklist (SSC) Implementation						Total	P-Value
	Compliant			Not Compliant				
	n	%	n	%	n	%		
Mild Stress	11	44	0	0	11	44	0,000	
Moderate Stress	2	8	1	4	3	12		
Severe Stress	1	4	10	40	11	44		
Total	14	56	11	44	25	100		

Table 8 shows the influence of work stress on compliance in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). The cross-tabulation results show that respondents in this study with mild work stress who comply are 11 (44%) respondents and those who do not comply are 0 (0%) respondents. Meanwhile, respondents in this study with moderate work stress who comply are 2 (8%) respondents and those who do not comply are 1 (4%) respondents. Lastly, respondents in this study with severe work stress who comply are 1 (4%) respondents and those who do not comply are 10 (40%) respondents.

The results of the *Fisher's Exact Test* shows a significance value or P-value of 0.000 <0.05, which means that there is an influence of work stress on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). This result is consistent with the result found in a previous research conducted by Taufan et al. (2021), which explained that there is indeed a linear relationship between nurses' stress level and their compliance in implementing the Surgical Safety Checklist.

The nursing profession has a high risk of being exposed to stress due to the high duties and responsibilities in maintaining the safety of human life. Operating room nurses are responsible for the completeness of patient administration and documentation, overcoming patient anxiety, preparing surgical tools and materials, ensuring that surgical activities run smoothly, ensuring the completeness of surgical reports, patient safety checklists until patient recovery in the recovery room. Nurse work stress is a condition in which nurses have work responsibilities that exceed the nurse's ability. This can cause serious health problems such as physiological and psychological disorders, thus disrupting the nursing care provided to clients (Herqutanto et al., 2017). Therefore, it can be concluded that the lower the nurse's work stress, the more compliant the nurse will be in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

4. The Influence of Workload on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

Table 9
The Influence of Workload on Compliance in Implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation

Workload	Compliance in Surgical Safety Checklist (SSC) Implementation				Total	P-Value
	Compliant		Not Compliant			
	n	%	n	%		
Light Workload	7	28	0	0	7	28
Medium Workload	6	24	4	16	10	40
Heavy Workload	1	4	7	28	8	32
Total	14	56	11	44	25	100

Table 9 shows the influence of workload on compliance in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). The cross-tabulation results show that respondents in this study with light workloads who comply are 7 (28%) respondents and those who do not comply are 0 (0%). Meanwhile, respondents in this study with moderate workloads who comply are 6 (24%) respondents and those who do not comply are 4 (16%) respondents. Lastly, respondents in this study with heavy workloads who comply are 1 (4%) respondents and those who do not comply are 7 (28%) respondents.

The test results of the *Fisher's Exact Test* shows a significance value or P-value of 0.002 <0.05, which means that there is an influence of workload on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). This result is consistent with a research conducted previously by Fransisca (2023), which found that there is a significant influence of a nurse's workload on his or her compliance in implementing the Surgical Safety Checklist.

Workload is an action or deed that is done excessively that can cause tension in a person, causing stress. This can be caused by the level of expertise required being too high, the speed of work that is possibly too high, the volume of work that is too much and so on. In the health profession, workload that is not in accordance with standards will have impacts such as errors in reporting patient status, work fatigue, leaving unfinished work during the work shift, disruption of work flow to errors in administering medication (McPhee et al., 2017). Light, medium, and heavy workload experienced can result in physical fatigue and also loss of concentration and focus which can affect the process of completing the documentation that must be done in the operating room (Koesomowidjojo, 2017). From these results, it can be concluded that the lighter a nurse's workload, the more compliant the nurse will be in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI).

Multivariate Analysis Results

Table 10
Variable Selection for Multivariate Analysis

Variables	P-Value	Candidate
Knowledge (X1)	0,000	Yes
Length of Service (X2)	0.604	No
Work Stress (X3)	0,000	Yes
Workload (X4)	0.002	Yes

From Table 10, it can be seen that the independent variables in this study that have a p value <0.05 are the variables of knowledge, work stress and workload. From these results, the independent variables in the study that can be involved in the multivariate testing model in Table 11 are the variables of knowledge, work stress and workload.

Table 11
Multivariate Analysis Results

Variables	Sig
Knowledge (X1)	
Work Stress (X3)	0,000
Workload (X4)	

Table 11 shows the results of the multivariate analysis on the variables knowledge, work stress and workload on compliance in implementing the Surgical Safety Checklist at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI). It can be seen that the significance value is 0.000 <0.05, which means that the independent variables of knowledge, work stress and workload in this study together or simultaneously have an influence on compliance with the implementation of the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of the Imelda Buruh Indonesia Hospital.

Table 12
Independent Variables That Have the Most Influence on Dependent Variable

Variables	Odds Ratio
Knowledge (X1)	2,367
Work Stress (X3)	3,815
Workload (X4)	1,863

Table 12 shows the results regarding the independent variables that are most related to the dependent variable. From the research results, it can be seen that the highest odds ratio value is found in the work stress variable (X3), which is 3.815. From these results, it can be concluded that the factor that influences the compliance in implementing Surgical Safety Checklist in this study is work stress.

CONCLUSIONS AND SUGGESTIONS

1. There is an influence of knowledge on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan.
2. There is no influence of period of work on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan.
3. There is an influence of work stress on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan.
4. There is an influence of workload on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) Medan.
5. The independent variable in this study that has the most influence on compliance in implementing the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS) of Rumah Sakit Umum Imelda Pekerja Indonesia (RSU IPI) is work stress.

SUGGESTIONS

1. For RSU IPI: It is suggested for RSU IPI to consistently evaluate the implementation of the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS), to provide training for nurses on implementing the Surgical Safety Checklist (SSC), and also to further assess the workload distribution in the Central Surgical Installation (IBS), so that the work stress is balanced, to ensure nurses in becoming more compliant in implementing the Surgical Safety Checklist (SSC).
2. For Nurses: It is recommended that in the future they can better control the workload and regulate work stress in carrying out their duties at the Central Surgical Installation (IBS). This aims to make it easier for nurses to implement the Surgical Safety Checklist (SSC) at the Central Surgical Installation (IBS).
3. For Future Researchers: For future researchers who intend to conduct the same research as this research, it is suggested that they can increase the number of samples in the research, conduct research in other hospitals and also add other variables that are not included in this research so that in the future more will be known about what factors can influence the implementation of the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS).

REFERENCES

- Abdollahi, T., Pedram Razi, S., Pahlevan, D., Yekaninejad, M.S., Amaniyan, S., Leibold Sieloff, C., & Vaismoradi, M. (2020). Effect of an ergonomics educational program on musculoskeletal disorders in nursing staff working in the operating room: A quasi-randomized controlled clinical trial. *International Journal of Environmental Research and Public Health*, 17(19), 7333.
- Arif, T. (2021). RELATIONSHIP BETWEEN NURSES' WORK STRESS LEVELS AND THE IMPLEMENTATION OF SURGICAL SAFETY CHECKLIST IN THE OPERATING ROOM. *Media Husada Scientific Journal of Health*, 10(2), 132–141.
- Chotimah, S., & Wijaya, L. (2022). Relationship between Length of Nurses' Work Experience and Nurse Compliance in Completing the Surgical Safety Checklist. *Journal of Health and Development*, 12(23), 108–116.
- Chrisnawati, DI, Sinaga, S., & Saragih, B. (2023). Implementation of the Surgical Safety Checklist in the Central Surgical Unit of Santo Antonius Hospital Pontianak. *Formosan Journal of Science and Technology*, 2(10), 2705–2724.
- Dewi, SK, & Tyas, MDC (2022). The Relationship Between Application Of Surgical Safety Checklist (SSC) With Operation's Patient Safety: A Literature Review. *Journal of Applied Nursing*, 8(1), 47–57.
- Fuada, N., Wahyuni, I., & Kurniawan, B. (2017). Factors Related to Work Stress in Surgical Room Nurses at the Central Surgical Installation of KRMT Wongsonegoro Hospital, Semarang. *Public Health Journal (e-Journal)*, 5(5), 255–263
- Fransisca, MDD et al. 2023. Nurses' Workload and Compliance with the Implementation of Surgical Safety Checklist in Hospitals. *Suara Forikes Health Research Journal Volume 14 Special Number, April 2023 p-ISSN 2086-3098 e-ISSN 2502-7778*
- Gong, J., Ma, Y., An, Y., Yuan, Q., Li, Y., & Hu, J. (2021). The surgical safety checklist: a quantitative study on attitudes and barriers among gynecological surgical teams. *BMC Health Services Research*, 21, 1–9.
- Herqutanto, Harsono, H., Damayanti, M., & Setiawati, EP (2017). Work Stress in Nurses in Hospitals and Primary Health Care Facilities. *Indonesian Medical EJournal*, 5(1), 12–17. <https://doi.org/10.23886/ejki.5.7444.12-7>
- Indrayadi, I., Oktavia, NA, & Agustini, M. (2022). Nurses and Patient Safety: A Literature Review Study. *Journal of Nursing Leadership and Management*, 5(1), 62–75.
- KARNIAWAN, W. (2020). Analysis of Compliance in the Implementation of Surgical Safety Checklist Based on the Theory of Planned Behavior in Surgical Patients at Andi Makkasau Hospital, Parepare City.
- Koesomowidjojo, SR (2017). *Practical Guide to Compiling Workload Analysis* (1st ed). Jakarta: Penebar Suadaya.
- Krismanto, J., & Jenie, IM (2021). Evaluation of the Use of Surgical Safety Checklist on Patient Death After Emergency Laparotomy in the Operating Room. *Journal of Telenursing (JOTING)*, 3(2), 390–400.
- Levett-Jones, T., Andersen, P., Bogossian, F., Cooper, S., Guinea, S., Hopmans, R., McKenna, L., Pich, J., Reid-Searl, K., & Seaton, P. (2020). A cross-sectional survey of nursing students' patient safety knowledge. *Nurse Education Today*, 88, 104372.
- McPhee, M., Dahinten, V.S. and Havei, F. (2017). The Impact of Heavy Perceived Workload on Patient and Nurse Outcome. *Administrative Science*, 7(7), 1-17.
- Muara, SJ and Yulistiani, M. (2021) 'Knowledge and Motivation of Surgical Room Team with Compliance in Completing Surgical Safety Checklist', 7(1), pp. 21–26.
- Mukhlisiddin, MA, Isnawati, IA, & Sriyono, GH (2023). The Relationship between Compliance of Surgical Room Nurses in the Implementation of Surgical Safety Checklist (SSC) SOPs and Surgical Patient Safety in the Central Surgical Installation of Waluyo Jati Kraksaan Regional Hospital. *An-Najat*, 1(4), 156–166.

- Nuari, NA, & Susanto, S. (2020). Implementation of surgical patient safety by nurses in hospital. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 59, 2960–2968.
- Pakpahan, M. Siregar, D., Susilawaty, A., Mustar, T., Ramdany, R., Manurung, EI, et al. (2021). *Health Promotion and Health Behavior*. Medan: Kita Menulis Foundation.
- Pauldi, H. (2021) 'Factors Related to Compliance with the Implementation of the Surgical Safety Checklist in Operating Rooms of Hospitals in Rengat, Indragiri Hulu Regency', *Stikes Al Insyirah*
- Rachmawati, AL, Herawati, T., & Ciptaningtyas, MD (2019). Relationship Between Nurse Work Stress and Nurse Compliance in The Implementation of Surgical Safety Checklist (SSC). *Journal of Applied Nursing*, 5(1), 29.
- Risanti, RD, Purwanti, E., & Novyriyana, E. (2021). Nurse Compliance Factors in the Implementation of Surgical Safety Checklist in Central Surgical Installation. *Journal of Nursing Science News*, 14(2), 80–91.
- Safirah, PF (2021). Level of Knowledge and Attitude of Mothers of USU Medical Faculty Students Class of 2018 Towards Contraceptive Devices in Family Planning Programs. 1–109
- Sa'di Rasyid, ME, Menap, M., & Supinganto, A. (2023). Determinant Factors of Surgical Team Compliance in the Implementation of Surgical Safety Checklists in Surgical Patients at the Central Surgical Installation. *Journal of Nursing*, 15(4), 539–552.
- Salawati, L. (2020). Implementation of hospital patient safety. *Averrous: Malikussaleh Journal of Medicine and Health*, 6(1), 98–107.
- Saputra, C., Purwanti, N., Guna, SD, Azhar, B., Malfasari, E., & Pratiwi, PI (2022). Factors in the Implementation of Surgical Safety Checklist in the Operating Room. *Journal of Nursing*, 14(1), 291–300.
- Sari, DPR (2022). THESIS THE RELATIONSHIP BETWEEN PATIENT SAFETY KNOWLEDGE LEVEL AND COMPLIANCE IN THE IMPLEMENTATION OF SSC (SURGICAL SAFETY CHECKLIST) IN THE OPERATING ROOM OF PERMATA BUNDA HOSPITAL MALANG: DWI PRAMIA RACHMA SARI NIM: 1810. 1420. 1621.
- Scholz, R., Hönning, A., Seifert, J., Spranger, N., & Stengel, D. (2019). Effectiveness of architectural separation of septic and aseptic operating theaters for improving process quality and patient outcomes: A systematic review. *Systematic Reviews*, 8(1). <https://doi.org/10.1186/s13643-018-0937-9>
- Selano, MK, Kurniawan, YH, & Sambodo, P. (2019). Relationship between Length of Work of Nurses and Compliance in Completing Surgical Safety Checklist in Central Surgical Installation. *Journal of Nursing Leadership and Management*, 2(1), 16–22.
- Sriningsih, NN, & Marlina, E. (2020). Knowledge of Patient Safety Implementation in Health Workers. *Health Journal*, 9(1), 1–13.
- Sudarsana, S., Swarjana, IK, Darmini, Y., & Dharmapatni, NWK (2023). Implementation of Surgical Safety Checklist: Literature Review. *Pasak Bumi Kalimantan Health Journal*, 6(2), 291–302.
- Taufan, A. et al. 201. Relationship between Nurses' Work Stress Levels and the Implementation of Surgical Safety Checklists in the Operating Room. *Media Husada Scientific Journal*. 10(2), pages (132-141). <https://ojs.widyagamahusada.ac.id>
- Yuliati, E., Malini, H., & Muharni, S. (2019). Analysis of Factors Related to the Implementation of Surgical Safety Checklist in the Operating Room of Batam City Hospital. *Endurance Journal: Scientific Study of Health Problems*, 4(3), 456–463.
- Ministry of Health of the Republic of Indonesia. (2017). Regulation of the Minister of Health of the Republic of Indonesia Number 11 of 2017 concerning Patient Safety.
- Hospital Accreditation Commission [KARS]. (2018). National Hospital Accreditation Standards Survey Instrument. In Ministry of Health of the Republic of Indonesia (Vol. 1, Issue 1, pp. 1 – 697)
- Very, WP 2024. Analysis of Factors Affecting Compliance with the Implementation of Surgical Safety Checklist in the Central Surgical Installation at RSUP dr. Soeradji Tirtonegoro. *HEALTH JOURNAL 2024 RSUP DR SOERADJI TIRTONEGORO KLATEN* Web: <https://rsupsoeradji.id>
- Winarsih, BD, & F. (2021). Empowering Family Support in Increasing Understanding of Covid19 Knowledge in the Demak Regency Community. *Journal of Health Service*, 4, 1–11
- World Health Organization [WHO]. (2009). *Implementation Manual: WHO Surgical Safety Checklist 2009*. France: World Health Organization

