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Determinants of Surgical Instrument Counting Compliance in The Central Surgical Installation

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ABSTRACT.

This study aims to To determine factors influencing compliance in surgical instrument counting, specifically knowledge, attitude, workload, and leadership leadership in the Central Surgical Unit of Dr. Moewardi Regional General Hospital. This research method used cross-sectional study was conducted at the Central Surgical Installation of Dr. Moewardi Regional Hospital from July to August 2025. The study population included all surgical nurses, with a sample of 90 selected using a total sampling technique. The dependent variable was the level of compliance in surgical instrument counting. The independent variables were knowledge, attitude, workload, and leadership. Data were collected through a questionnaire. Data analysis was performed using univariate tests, bivariate tests (Spearman Rank), and multivariate analysis (multiple linear regression) to examine the simultaneous and partial effects of independent variables on compliance. The Results Multivariate analysis showed that knowledge and attitude significantly influenced compliance in surgical instrument counting. Meanwhile, workload and leadership did not show a significant effect. The regression model explained 40.45% of the variation in compliance. Conclusion: Increasing knowledge and developing positive attitudes are crucial for improving nurse compliance in surgical instrument counting. Workload and formal leadership did not have a significant effect in the context of this study. It is recommended that institutions prioritize ongoing training and fostering a culture of patient safety to support compliance.

Keywords: compliance, knowledge, attitudes, workload, leadership, nurses.

INTRODUCTION

Surgery is a procedure performed to alter the structure of the human body by making incisions or destroying tissue. Furthermore, surgery is the treatment of a disease condition that results in changes in living human tissue (American College of Surgeons, 2021).

Surgery is a medical procedure aimed at saving lives and preventing disability and complications. Errors during surgery include incorrect incisions in the surgical site, errors in labeling pathology specimens, transfusion errors, medication errors, and errors in retaining surgical instruments or gauze.(retained surgical item, or RSI)so that patients are very vulnerable to the dangers caused by these errors during surgery.

A 2019 World Health Organization (WHO) report showed that every year, millions of patients worldwide suffer losses due to unsafe healthcare. As many as 2.6 million deaths occur in low- and middle-income countries (World Health Organization, 2019).

According to Daud's (2020) report, the number of patient safety incidents in Indonesia in 2019 was 7,465, consisting of 171 deaths, 80 serious injuries, 372 moderate injuries, 1,183 minor injuries, and 5,659 uninjured patients. The UK's National Patient Safety Incident Reports (NaPSIR) from April to June 2022 reported 652,246 incidents (National Health Service, 2022).

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One type of patient safety incident that frequently occurs in hospitals is surgical errors, which can be found in the Central Surgical Installation. Based on the Provisional Publication of Never Events Reported as Occurring between April 1, 2023, and March 31, 2024, the number of never events that occurred was 370 incidents, of which 179 were wrong-site surgery incidents, 81 incidents of retained foreign objects after surgical procedures, namely 23 cases of retained guidewires, 1 case of retained mouth props, 15 cases of retained surgical instruments or parts of surgical instruments, 4 cases of retained surgical needles, 15 cases of retained surgical swabs, 3 cases of retained throat packs, and 20 cases of retained vaginal swabs (National Health Service, 2024).

Surgical procedures at IBS Dr. Moewardi Regional Hospital from January to March 2024 amounted to 4,094 patients with the categories of minor surgery 321 patients, moderate surgery 784 patients, major surgery 1,778 patients, special surgery 931 patients and advanced surgery 280 patients.

Data obtained from a random survey of instrument counts in May 2024 before morning shift operations revealed 16 sets of instruments that did not match the number on the instrument control card in June 2024. Non-compliance with staff in counting surgical instruments can result in losses for patients and the hospital. Missing instruments in the laundry can cause damage to the laundry machine and the instrument itself, thus hampering service.

Compliance is defined as an attitudeDiscipline or behavior that involves conscious obedience to established commands or rules. Compliance, as a positive behavior, is considered a choice (Marzuki et al., 2021).Based on researchSari et al. (2023)shows that there is a simultaneous influence between knowledge, compliance and hospital participation. The knowledge factor is the dominant factor in influencing compliance according to research.Rasyid et al. (2023)

Workload is a collection or number of activities that must be completed by an organizational unit or position holder within a certain time period (Hutabarat, 2017). Thus, workload is a task or job that must be carried out by an individual or group within a certain time period.According to Suprati's research*et al.*(2022) shows that there issignificant influence between workload and compliance.Therefore, according to Affandi (2018), workload is one aspect that every company must pay attention to, because workload influences employees in increasing productivity and feeling comfortable at work.

Attitude is a crucial aspect of daily life. Every individual has a unique attitude, whether toward themselves, others, or their surroundings. A person's attitude can influence how they think, act, and respond to situations.SAttitude is defined as an evaluation of a person, object, or idea (Aronson et al., 2013). According to research by Rinaldzi et al. (2024)attitude influences compliance. Meanwhile, according to Laguni et al. (2020) good attitudes lead to compliance.

Seeing the importance of compliance in calculating surgical instruments before and after surgery, the author is interested in conducting research on factors that influence compliance in calculating surgical instruments at the Central Surgical Installation of Dr. Moewardi Regional Hospital.

RESEARCH METHODS

This type of research is quantitative research using a cross-sectional observational research design.This research was conducted at Dr. Moewardi Regional Hospital, Surakarta from July to August. The population of this study was 90 surgical nurses at

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the Central Surgical Installation of Dr. Moewardi Regional Hospital.The number of samples in this calculation was 90 people with the sampling technique used being total sampling.In this study, the data collection techniques used included observation, questionnaires, documentation, and literature review. After the data was collected, analysis was conducted using multiple linear regression analysis tools using SPSS 25 software.

RESULTS AND DISCUSSION

Table 1 Linear regression test results

Variables	Reg coefficient (b)	CI 95%		p
		Lower limit	Upper limit	
Knowledge (X1)	0.36	0.16	0.56	0.001
Attitude (X2)	0.25	0.06	0.44	0.012
Workload (X3)	-0.09	-0.23	0.04	0.180
Leadership (X4)	0.05	-0.01	0.11	0.077
Constant = 1.36				
N observations = 90				
Adjusted R-squared = 40.45%				

Based on Table 1 above, it can be seen that the linear regression equation formed is:

Y = 1.36 + 0.36 X1 + 0.25 X2 + -0.09 X3 + 0.05 X4

Model interpretation:

1) Constant(1.36)
   If all independent variables have a value of zero, then the value of the dependent variable (Y) is predicted to be 1.36 units.
2) Knowledge (X1)
   A coefficient of 0.36 with p = 0.001 (< 0.05) indicates that every one-unit increase in knowledge score will increase compliance (Y) by 0.36 units, assuming other variables remain constant. This effect is statistically significant.
3) Attitude (X2)
   A coefficient of 0.25 with p = 0.012 (<0.05) means that every one-unit increase in the attitude score will increase compliance (Y) by 0.25 units. This effect is statistically significant.
4) Workload (X3)
   A coefficient of -0.09 with p = 0.180 (> 0.05) means that increasing workload tends to decrease compliance (Y) by 0.09 units. However, this effect is not statistically significant.
5) Leadership (X4)
   A coefficient of 0.05 with p = 0.077 (> 0.05) means that every 1 unit increase in the leadership score is followed by a 0.05 unit increase in the compliance score. This effect is not statistically significant.

Simultaneous Test (F)

Table 2 Model Feasibility Test

Hypothesis	F count	Ftable	p	Standard	Information
Linear regression	16.12	2.48	<0.001	0.05	Suitable model

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The results of the data analysis that have been obtained, it can be seen that the F count value is 16.12, because F count > F table (16.12 > 2.48), and significance <0.001 < 0.05 then Ho is rejected. It can be concluded that Ha is accepted, meaning there is a simultaneous and significant relationship between knowledge and attitudes towards compliance with surgical instrument calculations in the Central Surgical Installation at Moewardi Regional Hospital. Meanwhile, the workload and leadership variables show a p value > 0.05 so that Ho is accepted meaning, there is no relationship between workload and leadership towards compliance with surgical instrument calculations in the Central Surgical Installation at Moewardi Regional Hospital.

Hypothesis Testing

Table 2 t-Test Results

Model	thitung	table	p	Standard	Information
H1	3,584	1,988	0.001	0.05	Accepted
H2	2,572	1,988	0.012	0.05	Accepted
H3	-1,352	1,988	0.180	0.05	Rejected
H4	1,793	1,988	0.077	0.05	Rejected

1. The calculated t value > t table (16.12 > 1.988), and the significance <0.001 < 0.05, then Ho is rejected, and Ha is accepted, meaning that there is a positive and significant influence between knowledge and compliance with surgical instrument counting at the Central Surgical Installation at Moewardi Regional Hospital.
2. The calculated t value > t table (16.12 > 1.988), and the significance <0.001 < 0.05, then Ho is rejected, and Ha is accepted, meaning that there is a positive and significant influence between attitudes towards compliance with surgical instrument counting at the Central Surgical Installation at Moewardi Regional Hospital.

1. The calculated t value < t table (-1,352<1.988), and the p value is not significant (0.180 > 0.05) then Ho is accepted, meaning there is no influence between workload and compliance with surgical instrument counting at the Central Surgical Installation at Moewardi Regional Hospital.
2. The calculated t value < t table (1,793<1.988), and the p value is not significant (0.077 > 0.05) then Ho is accepted, meaning there is no influence between leadership and compliance with surgical instrument counting at the Central Surgical Installation at Moewardi Regional Hospital.

Coefficient of Determination (R2)

Table 3 Results of the Coefficient of Determination (R2)

Model	Adjusted R Squared
Linear regression (1)	40.45%

Table 3 shows the Adjusted R-squared value = 40.45%. This means that approximately 40.5% of the variation in nurse compliance can be explained by the four independent variables (knowledge, attitude, workload, and leadership), while the remaining 59.55% is explained by other factors outside the model. approximately 40.5% of the variation in nurse compliance can be explained by the four independent

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variables (knowledge, attitude, workload, and leadership), while the remaining 59.55% is explained by other factors outside the model.

DISCUSSION

1. The Influence of Knowledge on Compliance with Surgical Instrument Counting

This study shows that knowledge has a strong and significant positive relationship with compliance ($r = 0.59$; $p < 0.001$) and remains significant in multivariate analysis ($b = 0.36$; $p = 0.001$). This means that increased knowledge is followed by increased compliance in calculating surgical instruments. Good knowledge makes it easier for nurses to understand the importance of this procedure in an effort to prevent the occurrence of retained surgical items (RSI). These results are supported by Yuliati et al. (2019), the results of statistical tests showed a significant relationship between knowledge and the implementation of the Surgical Safety Checklist (SSC).

The results of this analysis are consistent with Lawrence Green's theory of predispositional factors, which states that knowledge is a key factor influencing a person's compliance behavior. Rogers' theory of behavioral adoption also explains that the process of shaping a person's behavior begins with conscious knowledge of a stimulus (Awareness), which will arouse interest and fascination (Interest). Then, the person begins to weigh the pros and cons (Evaluation) of the behavior and begins to try (trial) the action or behavior, in this case, the behavior of mask compliance. The person will ultimately consciously adopt behavior based on their knowledge of the stimulus they received.

In line with Notoatmodjo's (2020) opinion, good knowledge will form the basis for someone to respond to stimuli, so that the behavior that emerges tends to be long-lasting. In the context of this study, nurses' knowledge of the importance of safety procedures encourages consistent compliance with instrument implementation, thereby minimizing the risk of RSI. Therefore, it can be said that the results of this study are not only consistent with previous findings but also strengthen the theory that knowledge is a fundamental factor in shaping and maintaining compliance behavior.

Muara and Yulistiani's (2021) study also found a p-value of 0.039, indicating a relationship between knowledge level and compliance with SSC implementation. Pauldi's (2021) study also found a relationship between nurses' knowledge and compliance with SSC implementation at Indrasari Regional Hospital and Kasih Ibu Regional Hospital in Rengat.

A cross-sectional study of 25 surgical nurses at the Central Surgical Installation of Imelda Buruh Indonesia General Hospital, Medan, showed that nurse knowledge significantly contributed to SSC compliance, although workload was the dominant variable (Lumbantobing et al., 2024). A cross-sectional study of 57 nurses aimed to identify factors influencing nurse compliance in implementing the surgical safety checklist in the IBS of Dr. Soeradji Tirtonegoro General Hospital, Klaten, showed that factors associated with compliance were education ($p=0.037$) and knowledge ($p=0.002$). Multivariate analysis confirmed that education ($p=0.013$; $OR=0.433$) and knowledge ($p=0.010$; $OR=0.210$) had an effect, with education being the most dominant factor (Daryani et al., 2023).

Knowledge is a predisposing factor that influences behavior. Predisposing factors are factors that form the basis or encourage individuals to take actions that

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support or inhibit someone from behaving in a certain way, for example, knowledge, beliefs, values or attitudes, beliefs. According to research (Sudibyo, 2020), nurses with a good level of knowledge tend to be better at implementing surgical safety checklists than nurses with less knowledge. Therefore, it can be concluded that the better a nurse's knowledge of patient safety goals or objectives, the more compliant they will be in implementing the Surgical Safety Checklist (SSC) in the Central Surgical Installation (IBS).

Research that is not in line with the cross-sectional design conducted by Ramdahan et al. (2018) was conducted on nurses at the Central Surgical Installation of Abdul Wahab Sjahranie Regional Hospital, Samarinda with a sample of 95 respondents, showing that the majority of respondents had received knowledge socialization about patient safety so that there was no significant relationship between the level of knowledge and compliance with the implementation of the surgical safety checklist in relation to patient safety.

2. The influence of attitudes on compliance with surgical instrument counting

This study found that nurses' attitudes were significantly positively related to compliance ($r = 0.56$; $p < 0.001$) and were a significant predictor in multivariate analysis ($b = 0.25$; $p = 0.012$). The researchers assumed that this result aligns with the average nurse attitude score, which was in the high category. A positive attitude toward safety procedures encourages nurses to be more thorough and consistent in calculating the instrument.

In theory, these findings align with the stages of behavioral change, starting with knowledge, then forming an attitude, and finally manifesting in actual practice. Internal and external factors play a role in shaping behavior (Manuntung, 2019). According to Ajzen (2019), the factors influencing human behavioral intentions are formed by three types of components: first, attitude, which is the evaluation of a behavior as favorable or unfavorable. Second, subjective norms, which are the pressure felt to perform or not perform a behavior. And third, perceived behavioral control, which is how easy or difficult it is to perform a behavior (Kurniawan, 2020).

Behavior is the foundation of compliance and serves as a reference for work units' tasks. Compliance provides a clear legal basis for carrying out tasks and responsibilities within their field of work (IBI, 2018). Compliance is the foundation for a person's behavior, especially those closely related to patient safety. Changes in individual attitudes and behavior begin with the process of compliance (Alhamda, 2024). Research by Haynes et al. (2023) shows that positive attitudes toward SSCs in various hospitals are associated with increased consistency in procedure implementation.

This demonstrates that attitude is not merely a predisposition but also a crucial predictor in ensuring effective patient safety implementation. Therefore, it can be concluded that the results of this study strengthen empirical evidence and theory that attitudes are a key factor mediating knowledge into actual behavior in the form of compliance, thus playing a crucial role in improving patient safety.

A cross-sectional study by Predi (2021) on nurses in the implementation of patient safety in the adult inpatient ward of the UPTD RSUA study in Jampangkulon, West Java Province showed a relationship between nurses' attitudes and patient safety compliance in the adult inpatient ward of the UPTD Jampangkulon General Hospital, West Java Province (p-value = 0.003). Another

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similar study conducted by Thirayo et al. (2021) showed that nurses with low knowledge were five times more likely to have poor hand hygiene compliance in the hospital (PR = 5.00; 95% CI = 1.94 to 15.05; p = 0.002).

Another research in line with this was conducted by Azhari et al. (2025) at the Faculty of Nursing, Muhammadiyah University of East Kalimantan, onA survey of 121 seventh-semester nursing students showed that the majority of respondents exhibited positive attitudes (52.1%) and compliance with patient safety practices (53.7%). Bivariate analysis revealed a significant relationship between attitudes and patient safety practices (r = 0.289; p = 0.001). This relationship was positive with moderate strength, with more positive attitudes tending to increase students' compliance with patient safety practices.

These results support research conducted by Pardede et al. (2020), which found a significant relationship between nurses' attitudes and their actions in complying with patient safety protocols. This study showed that the more positive a person's attitude, the better their actions in protecting patients. Efendi and Milkhatun (2020) also expressed a similar opinion, stating that nurses' attitudes are related to their compliance, which contributed to a decrease in the number of patient falls in a regional general hospital. A study by Bergs et al. (2021) also confirmed that the perceived usefulness and relevance of procedures are key factors in the successful implementation of safety protocols. This means that compliance improvement programs should not only focus on technical aspects but also build nurses' commitment and belief in the benefits of the procedures.

However, this study disagrees with Hernawati's (2021) study, which found that compliance with patient safety protocols was generally low. One of the identified causes was a lack of a culture of recording and reporting injury incidents, as individuals often do not perceive these injuries as a significant risk to patients or themselves. Research by Ristania et al., 2024, also supports this finding, stating that a lack of concern for patient safety can be caused by a lack of compliance and a sense of responsibility among individuals.

Another finding that contradicts this is Fatonah et al. (2023), who found no relationship between nurses' attitudes and their compliance with Standard Operating Procedures (SOPs) for fall risk prevention. However, this study found that other variables, such as education level and length of service, contribute to an individual's compliance. This suggests that an individual's compliance can occur regardless of their attitude. Similarly, Lismayanti and Septiani (2021) argue that compliance with patient safety practices is influenced by several variables, including knowledge, motivation, education, work experience, age, and ability. Furthermore, external variables such as organizational characteristics, work groups, job roles, and work environments are other sources of support for individuals' compliance with patient safety practices.

3. The effect of workload on compliance with surgical instrument counting

Bivariate analysis showed a significant positive relationship (r = 0.34; p = 0.001), but multivariate analysis showed an insignificant effect (b = –0.09; p = 0.180). This likely occurred due to the presence of confounding variables controlled in the multivariate model, thus reducing or even changing the influence of the main independent variable on the dependent variable (Murti, 2018).

These results align with the Job Demand Resource (JD-R) theory, which divides work conditions into two categories: job demands (physical, cognitive,

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emotional, and time demands) and job resources (supervisor/team support, autonomy, training, tools/technology). The impact of demands on fatigue and performance is highly dependent on resource availability. Adequate resources can buffer the effects of demands, weakening or even rendering the relationship between demands and outcomes insignificant. In the context of surgical settings, team coordination, standard procedures, and technology (e.g., scheduling systems, instrument tracking) can serve as resources that neutralize the measurable effects of workload on nurse outcomes (Demerouti et al., 2001).

Research by van der Vliet et al. (2024) in the Netherlands found that high workloads, interruptions, and a large number of instruments were the main factors causing calculation errors. Research by Sitompul et al. (2024) in Indonesia also found workload to be a dominant factor influencing SSC compliance. These results indicate that effective workload management, through optimal staffing and workflow, can maintain compliance despite high workloads.

According to WHO theory in Santoso (2013), workload is all activities or activities carried out by a nurse while serving in a nursing service unit. Factors that influence workload are external factors including loads originating from outside the worker's body such as physical tasks, spatial layout, workplace, tools and work facilities, working conditions, and psychological tasks, such as job complexity, level of difficulty, job responsibilities. Internal factors include somatic factors (gender, age, body size, nutritional status, and condition. Workload can be distinguished as light, moderate and heavy workload. Another definition according to Tokan (2018), workload is a number of tasks completed in a certain time. In nursing staff, workload is influenced by its function to carry out nursing care and its capacity to perform that function.

The results of a study conducted by Ilyas and Imbiri (2020) showed a relationship between workload and nurse compliance in implementing the surgical safety checklist at Awal Bros Hospital, Makassar. Another inconsistent study conducted by Apriana (2018), on the relationship between workload and compliance in completing the Surgical Safety Checklist (SSC) among nurses in the central surgical installation room of ST. Elisabeth Hospital, Semarang, stated that nurse workload significantly influences compliance in completing the surgical safety checklist. A light workload was found (41.9%), while a heavy workload had a proportion (29.0%). The results showed a significant relationship, as evidenced by the results of statistical tests showing a p-value of $0.001 < \alpha = 0.05$.

This research is in line with Widodo's research (2024) where the workload factor does not affect nurses' compliance in implementing patient safety procedures.

Researchers assume that nurse performance depends on the extent of their workload. Incomplete compliance with calculations is caused by excessive workload. Although the heavy workload in the Central Surgical Installation of Dr. Moewardi Regional Hospital does not interfere with work performance, nurses remain compliant in calculating surgical instruments in accordance with regulations.

Workload is the number of tasks that must be completed within a specific timeframe. For nursing staff, workload is influenced by their function in providing nursing care and their capacity to perform that function (Tokan, 2018). A nurse's workload can be calculated from the effective time spent completing the assigned tasks. A nurse's workload in the operating room involves assisting the doctor in

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completing the surgical procedure and ensuring its smooth running. Therefore, the calculation of surgical instrument usage does not depend on workload, as this is the responsibility of the nurse and the surgical team.

4. The influence of leadership on compliance with surgical instrument counting

This study found that leadership had no significant effect on compliance in either bivariate ($r = 0.38$; $p < 0.001$, weak strength) or multivariate ($b = 0.05$; $p = 0.077$) analyses. However, international literature confirms the important role of leadership in creating a culture of safety. These results align with Kelman's (2018) theory, which states that compliance can arise through three mechanisms: compliance (compliance due to external pressure), identification (due to a desire to fit in with a group), and internalization (due to acceptance of the values underlying the rules). In surgical settings, nurse compliance is often based on internalization of patient safety values and professional standards. If internalization factors are dominant, leadership no longer has a statistically significant effect on compliance, as compliance has become a professional norm.

However, Transformational Leadership theory explains that inspirational leaders are able to motivate staff to transcend personal interests for organizational goals, thus hopefully improving nurse compliance with procedures (Bass and Riggio, 2019). Furthermore, Transactional Leadership emphasizes reward-and-punishment-based reinforcement, which should also be related to compliance levels (Northouse, 2021). However, the results of this study indicate no significant relationship between leadership and nurse compliance in surgical settings.

Research by Taba et al. (2022) revealed that leaders who actively provide direction, supervision, and role models can improve the consistency of SSC implementation. Gillespie et al. (2020) also found that effective leadership can improve team coordination, leading to increased procedural compliance. The insignificance in this study may be due to the homogeneity of respondents' perceptions or to leadership indicators that only assess formal aspects, thus not capturing day-to-day leadership behaviors in the operating room.

Team factors are closely related to the relationships, communication, and cooperation among surgical team members in collectively calculating surgical instruments. Based on this statement, it can be seen that team factors can be triggered by individual factors. Research by Bains et al. (2020) at the North Indian Tertiary Care Hospital showed that the lack of a coordinator or leadership role in the implementation of SSC resulted in poor compliance by surgical staff with SSC implementation. Furthermore, research by Munthali et al. (2022) showed that the surgical department did not have a person in charge of SSC implementation. This situation demonstrates the importance of having a leader who can drive the SSC implementation process with responsibility and continuous supervision. Furthermore, considering the individual factor, it is explained that no individual has yet taken the initiative to implement SSC in the operating room. In fact, this creates a 'grey' situation because there is no clarity about who should be responsible for leading the SSC (Manamela et al., 2022). Therefore, this factor is a challenge that must be addressed immediately because appointing an SSC coordinator is difficult due to the issue of accountability (Bhiri et al., 2023).

Furthermore, surgical teams highly value hierarchy. If SSC implementation is led by lower-ranking surgical staff, such as junior nurses, they may be

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intimidated or ignored, perceived as hindering efficient surgical procedures. This is because these junior staff lack significant power in their positions (Bains et al., 2020; Munthali et al., 2022). Ultimately, this hierarchical structure leads to worsened team dynamics and collaboration among surgical team members. This hinders coordination and verbal information exchange. Surgical team members may even hesitate to challenge someone who provides an incorrect answer during SSC implementation (Bhiri et al., 2023). Poor collaboration within the surgical team can also be caused by differing perceptions regarding surgical instrument counting.

Furthermore, non-compliance by surgical staff with surgical instrument counting can also be triggered by a lack of support among surgical team members, particularly surgeons. Surgeons are role models for surgical staff and therefore play a key role in determining staff compliance with surgical instrument counting.

CONCLUSION AND SUGGESTIONS

Knowledge and Attitude significantly influence surgical nurses' compliance in calculating surgical instruments in the Central Surgical Installation at Dr. Moewardi Regional Hospital. However, Workload and Leadership do not significantly influence surgical nurses' compliance in calculating surgical instruments in the Central Surgical Installation at Dr. Moewardi Regional Hospital.approximately 40.5% of the variation in nurse compliance can be explained by the four independent variables (knowledge, attitude, workload, and leadership), while the remaining 59.55% is explained by other factors outside the model.

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