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Original Research

THE MODERATION ROLE OF SAFETY LEADERSHIP IN INFLUENCING A CULTURE OF PATIENT SAFETY

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Abstract

Background

This research is motivated by several problems related to patient safety in central surgical installations from 2020 to 2022. The aim of this research is to empirically reveal the influence of interprofessional collaboration and the implementation of the surgical safety checklist on patient safety culture with safety leadership as a moderating variable.

Methods

This research is motivated by several problems related to patient safety in central surgical installations from 2020 to 2022. The aim of this research is to empirically reveal the influence of interprofessional collaboration and the implementation of the surgical safety checklist on patient safety culture with safety leadership as a moderating variable.

Results

The results of the three-box method analysis concluded that interprofessional collaboration, implementation of the surgical safety checklist and patient safety culture were at the medium index, and safety leadership was at the high index. Hypothesis testing proves that simultaneously interprofessional collaboration, implementation of the surgical safety checklist and safety leadership have an effect on patient safety culture with a p value of 0.000. Partially, interprofessional collaboration has an effect on patient safety culture with a t-value of 4.900, implementation of the surgical safety checklist with a t-value of 4.444, safety leadership with a t-value of 4.740.

Conclusion

The moderation test concluded that safety leadership did not moderate the influence of interprofessional collaboration on patient safety culture with a t-value of 1.175, but moderated the influence of the implementation of the surgical safety checklist on patient safety culture with a t-value of 2.739.

Keywords: Interprofessional collaboration; implementation of surgical safety checklist; safety leadership; patient safety culture

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INTRODUCTION

The concept of occupational health and safety is explicitly aimed not only at the occupational health and safety of members of the organization, but also at other people who are recipients of services, if the organization is service-based. The occupational health and safety program seeks to create a conducive work environment where occupational health and safety can be realized, In the health care industry, the effectiveness of occupational health and safety programs is proven by the establishment of health workers' compliance with the patient safety culture system and a culture of patient safety can be achieved through a work system based on interprofessional collaboration and specifically in surgical services, the surgical safety checklist is an interprofessional communication tool as a main part of patient safety culture, Furthermore the role of a leader who focuses on occupational health and safety programs, plays his leadership function to direct his members to realize a culture of patient safety (Shiri et al., 2023; Wagner et al., 2020; Amarneh & Al Nobani, 2022; Mejia & Fernandes, 2022; Wei & Kuo, 2023).

Patient safety culture is a health service governance system that seeks to minimize the risk of patient injury due to poor quality service processes, patient safety culture is a work guide for health workers to provide services safely with the main focus being patient safety, patient safety culture forms a disciplined work attitude for health workers, the culture of patient safety depends on a leader who directs members to work together even though they have different scientific backgrounds and the leader directs his members to use the surgical safety checklist as a communication tool, so that surgery can be carried out safely and patient safety culture consists of aspects of a culture of openness, a culture of justice, a culture of reporting, a culture of learning and a culture of information (Donaldson et al., 2020; Azyabi et al., 2022; Ilaria et al., 2022 ;Schmidt et al., 2021; Abbott et al., 2018; Khoshakhlagh et al., 2019).

Interprofessional collaboration is a system of cooperation between work units with different scientific backgrounds and skills (Slusser et al., 2018). This system avoids overlapping nursing tasks carried out by only one work unit (Schot et al., 2020). Nursing tasks will be distributed to each section with linear knowledge and working together so that nursing tasks run effectively (Geese & Schmitt, 2023). The effectiveness of interprofessional collaboration is proven through the active role of its members, and can be realized if led by a leader who focuses on the concept of occupational health and safety (Ho et al., 2023). So that interprofessional collaboration can form health workers who adhere to a culture of patient

safety (Schmidt et al., 2021). So that patient safety can be realized if the interprofessional collaboration system is implemented effectively because interprofessional collaboration is formed through aspects of cooperative partnerships, coordination and joint decision making (Dinius et al., 2020; McLaney et al., 2022).

One way management can prevent patient safety incidents in surgical services is by implementing a surgical safety checklist as an interprofessional inspection and communication tool (Harris et al., 2022). The surgical safety checklist consists of sign in, time out and sign out phases which will form health workers' understanding of their function and purpose (Gul et al., 2022). Basically, effective implementation of the surgical safety checklist requires a leader who focuses on occupational health and safety (Röhsig et al., 2020), so that the implementation of the surgical safety checklist will direct health workers to be disciplined in the principles of patient safety culture which will prevent patients from the risk of injury and even death on the operating table and the implementation of the surgical safety checklist is shaped by aspects of communication, resources, disposition and bureaucracy (Haugen et al., 2020; Rodella et al., 2018; Dinesh et al., 2018).

Leadership is a process of understanding and directing its members to achieve the goals expected by the organization (Yukl, 2013). The role of a leader is very important in directing the work behavior of its members (Tao et al., 2020). Leaders with a safety concept encourage their members to work together effectively even with different scientific backgrounds and leaders who focus on safety will try to form the discipline of their members to maximize the surgical safety checklist so that surgical procedures are carried out safely to avoid patient safety incidents in the operating room (Folkman et al., 2019; Munthali et al., 2022). Leadership seeks to encourage the success of its members in achieving organizational goals because basically leadership seeks to encourage the success of its members in achieving organizational goals and safety leadership effectively shapes the work behavior of health workers who adhere to a culture of patient safety because safety leadership is formed by aspects of planning, organizing, directing and controlling (Cakir & Adiguzel, 2020; Buttigieg et al., 2023; Tao et al., 2020).

The phenomenon underlying this research is the occurrence of several patient safety incidents in operating rooms at regional hospitals in Bekasi Regency. Based on information obtained from the head of the hospital quality department in January 2023, several unexpected incidents occurred, namely 6 cases of bracelets not being installed. patient identity, 12 cases of

postponement of surgery and 15 cases of not marking the operating side in 2022, and unexpected events in the operating room are forms of weak discipline of health workers towards the patient safety culture system (Nwosu et al., 2022). Not having an identity bracelet on will result in surgical procedures that are not in accordance with the patient's medical data and records, and this reflects an ineffective interprofessional collaboration system and leads to patient safety incidents (Arad et al., 2022). Marking the operating side is the most important part before carrying out surgical procedures, if this is not done, it reflects the non-compliance of the doctor responsible for implementing the surgical safety checklist which impacts the risk of patient injury (Hou et al., 2021). Delays in operating time cause patients to experience psychological disorders and delays in medical treatment, and this shows a weak supervisory system from the leadership (Maine et al., 2019).

Based on the description above, it can be seen that research on interprofessional collaboration, implementation of surgical safety checklists and safety leadership on patient safety culture has been carried out a lot, but no one has specifically combined these four variables into one complete study, and no one has used an unboxing approach. as an analytical tool to describe each research variable, so this research has a novelty that combines interprofessional collaboration, implementation of the surgical safety checklist, safety leadership and patient safety culture in one complete research, and uses three box method analysis to describe research variables. Based on the phenomenon of cases in central surgical installations spanning the year 2022, this research aims to empirically prove the influence of interprofessional collaboration, implementation of surgical safety checklists and safety leadership on patient safety culture.

RESEARCH METHODS

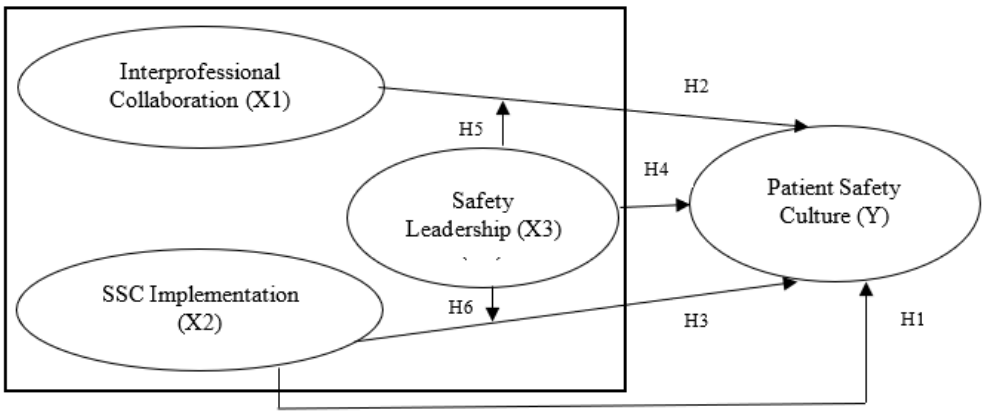

Figure 1. Research Constellation

Interprofessional collaboration is cooperation between health professionals from different backgrounds and patients and their families so that health services can be delivered safely and with quality (Vickers, 1998). The aim of implementing the surgical safety checklist is to reduce morbidity and mortality and improve communication and teamwork during surgical procedures so as to provide safe and quality surgical services and ensure patient safety during surgical procedures by the surgical and anesthesia team in the operating room (Thomas et al., 2016) and safety leadership is a leader's way of encouraging safety in the workplace (Olawoyin & Hill, 2018). In leading an organization, leaders must be able to implement an appropriate management system (Fayol, 2013). Patient safety culture is a governance system that makes patient care in hospitals safer. This system prevents injuries from occurring due to errors in providing health services through action or inaction (Donaldson et al., 2020).

Based on the description of the opinion above, it can be concluded that interprofessional collaboration is a form of collaboration between health service teams with different competency backgrounds, and this collaboration is carried out to create a service that is safe for patients and avoids the risk of injury to patients, in this collaboration. In surgical services, interprofessionals maximize the use of the surgical safety checklist as a communication tool so that surgery can be carried out safely and patients avoid the risk of injury or even death, and leaders play an important role in determining the right strategy so that operations run safely and avoid risks to patient safety. These three things are a form of service system that makes patient safety culture the basis for quality service.

Several relevant studies conclude that effective interprofessional collaboration will shape the discipline of health workers to adhere to a culture of patient safety (Amarneh & Al Nobani, 2022). An effective interprofessional collaboration system can prevent patient safety incidents from occurring when a medical procedure is performed (Dinius et al., 2020). An effective interprofessional collaboration system will minimize the risk to patient safety in medical procedures (Goolsarran et al., 2018).

The implementation of the surgical safety checklist is intended as a checklist to provide safe and quality surgery for patients (Abbott et al., 2018). The surgical safety checklist is implemented as a form of patient safety culture to avoid the risk of injury to patients (Ferorelli et al., 2018). The implementation of the surgical safety checklist is aimed at protecting patients from surgical process errors that result in patient safety incidents (Gul et al., 2022). The safety leadership pattern directs health workers to adhere firmly to patient safety culture as their work

guideline so that patient safety incidents will be avoided (Xie et al., 2021) because the safety leadership style will direct health workers to focus on patient safety (Chioma et al., 2021), and leadership that focuses on safety will establish an appropriate system of planning, organizing, directing and controlling so that surgical procedures can be carried out safely on patients (Harton & Skemp, 2022). So that the research hypothesis can be assumed:

H1: Interprofessional collaboration in implementing the surgical safety checklist and safety leadership influences patient safety culture.

H2: Interprofessional collaboration influences patient safety culture in central surgical installations.

H3: The implementation of the surgical safety checklist influences patient safety culture in central surgical installations.

H4: Safety leadership influences patient safety culture in central surgical installations.

Leadership is a process of understanding and directing its members to achieve the goals expected by the organization (Yukl, 2013). The role of a leader is very important in directing the work behavior of its members (Tao et al., 2020) leaders with a safety concept encourage their members to work together effectively even with different scientific backgrounds (Folkman et al., 2019), and leaders who focus on safety will try to form the discipline of their members to maximize the surgical safety checklist so that surgical procedures are carried out safely to avoid patient safety incidents in the operating room (Munthali et al., 2022), because basically leadership seeks to encourage the success of its members in achieving organizational goals (Cakir & Adiguzel, 2020).

This description explains that in principle the leadership function is carried out to direct each member to achieve organizational goals through the effectiveness of their work. The work effectiveness referred to is the creation of effective interprofessional collaboration and the use of the surgical safety checklist as a checklist with the aim of preventing patient safety incidents, and when it runs effectively, the concept of safety leadership will strengthen the effectiveness of interprofessional collaboration and the implementation of the surgical safety checklist in realizing the correct work principles. Adhere to patient safety culture. Several relevant studies conclude that the role of a leader who focuses on occupational health and safety programs, plays his leadership function to direct his members to realize a culture of patient safety (Wei & Kuo, 2023). The effectiveness of interprofessional collaboration is proven through the active

role of its members, and can be realized if led by a leader who focuses on the concept of occupational health and safety (Ho et al., 2023) and the effectiveness of implementing the surgical safety checklist requires a leader who focuses on occupational health and safety (Röhsig et al., 2020), so that the implementation of the surgical safety checklist will direct health workers to be disciplined in the principles of patient safety culture (Haugen et al., 2020). The research hypothesis can be assumed:

H5: Safety leadership moderates the relationship of interprofessional collaboration to patient safety culture in central surgical settings.

H6: Safety leadership moderates the relationship between surgical safety checklist implementation and patient safety culture in central surgical installations.

Research Design

This research is a quantitative type with a cross-sectional study design which aims to analyze temporary issues through data collection, and a descriptive approach is used to describe the actual situation of each variable studied.

Population and Sample

The population was 77 health workers from one of the regional hospitals in Bekasi Regency, consisting of 20 surgeons, 5 anesthetists, 25 central surgical installation nurses and 18 maternal nurses and 9 anesthetists. The sampling technique used a saturated sample so that all 77 health workers were used as respondents using the purposive sampling method. The inclusion criteria must be: (1) Health workers with Civil Servant status. (2) Serves in the central surgical installation. Exclusion criteria: (1) Have moved to another installation. (2) Carrying out duties.

Measurement and Data Collection

The data source was obtained from primary data by collecting data using a survey method through a self-developed questionnaire based on dimensions adopted from previous research on each variable, using a 4 -1 point Likert scale consisting of a score of 4 strongly agree (SA). Score 3 agree (A), score 2 disagree (DA). The middle score is not used to avoid answers that reflect the respondent's hesitation in answering, so a score of 4 – 1 is used.

Interprofessional collaboration (X1) acts as an independent variable which aims to measure the perception of health workers regarding the effectiveness of the interprofessional collaboration they carry out in the central surgical work environment, consisting of the

dimensions of collaborative partnership, coordination and joint decision-making aspects (McLaney et al., 2022) with a total of 8 indicators. The implementation of the surgical safety checklist (X2) acts as an independent variable which aims to measure the level of compliance of health workers to maximize the use of the surgical safety checklist as a checklist so that surgery can be carried out safely and with quality for central surgery patients, consisting of the dimensions of communication, resources, disposition and bureaucracy (Dinesh et al., 2018) with a total of 8 indicators. Safety leadership (X3) acts as a moderating variable which aims to measure the level of perception of health workers regarding the effectiveness of leaders in directing health workers to comply with the patient safety culture system in central surgical services, consisting of the dimensions of planning, organizing, directing and controlling (Tao et al., 2020) with a total of 8 indicators. Patient safety culture (Y) acts as a dependent variable which aims to measure the level of compliance of health workers with a safe nursing service system for patients in central surgical installations, consisting of the dimensions of a culture of openness, a culture of justice, a culture of reporting, a culture of learning and a culture of information with a total of 10 indicators (Khoshakhlagh et al., 2019).

Data Analysis

Data quality testing was carried out using a validity test using the product moment correlation approach with an error level of 5%, and reliability using the Cronbach's alpha technique with the assumption that if Cronbach's alpha is > 70 then it is declared reliable (Hair et al., 2019). Descriptive statistical analysis with a 3 box approach that refers to opinions (Ferdinand, 2014), which divides the score into 3 parts, namely low, medium high with reference to the results of calculating frequency values from the SPSS program output, with quality values of 19.25 – 38.5 low (L), 38.6 – 57.75 (M) and 57, 76 – 77 high (H). Hypothesis test using PLS-SEM with the help of the Smart-PLS program which consists of (1) Outer model test (a) Assessing the load factor with the assumption that if the load factor value is > 0.70 it is declared valid (Hair et al., 2019)(b) Construct validity which refers to the VE value if it is > 0.50 then it is declared valid (Hair et al., 2019). (c) The construct reliability test refers to the Cronbach's alpha and CR values if >0.70 is declared reliable (Hair et al., 2019). (d) The structural model fit test refers to the SMRM value if <0.1 then the model is declared fit (Hair et al., 2019). (2) Inner model test consisting of (a) Assessing the coefficient of determination referring to the R2 value with the assumption that the R2 value is 0.67 (strong influence), 0.33 (moderate influence) and 0.19 (weak influence), (2) Analysis of direct and interaction

coefficients. (c) Test the hypothesis with a significance level of 5% so that if the t value is > 1.96 the hypothesis is accepted (Hair et al., 2019).

RESULTS AND DISCUSSION

Based on the 77 respondents surveyed, it was concluded that among respondents based on gender, the highest was male at 60% and the lowest was female at 40%. For respondents based on age, the highest was in the age range > 35 years at 44% and the lowest was in the age range < 25 years at 1%. For respondents based on their last education, the highest was 60% with a Bachelor's degree and the lowest was a Doctoral degree at 1%. For respondents based on length of service, the highest range was >5 - 10 years at 57% and the lowest range was >10 - 15 years at 6%.

Analysis of Research Variable Descriptions

Table 1. Research Instrument Analysis Matrix

Variable	Index			Behavior
	L	M	H	
Interprofessional collaboration		*		Partnership
Implementation of the Surgical Safety Checklist		*		Compliance
Safety Leadership			*	Encouraged
Patient Safety Culture		*		Fair

Source: (Processed by researchers, 2023)

Interprofessional collaboration is at a moderate level, which shows the behavior of health workers who are actively involved in establishing partnerships (Ho et al., 2023) in collaborating with departments to create a culture of patient safety in central surgical installations. The implementation of the surgical safety checklist is at a moderate level, this situation shows the compliant behavior of health workers (Gul et al., 2022) carry out the implementation of the surgical safety checklist to create a culture of patient safety in central surgical installations. Safety leadership is at a high level, this situation shows the motivated behavior of health

workers (Folkman et al., 2019) apply occupational safety and health concepts to create a culture of patient safety in central surgical installations. Patient safety culture is at a moderate level, this situation shows the fair behavior of health workers (Ilaria et al., 2022) in preventing patient safety incidents in the handling of patients in central surgical installations.

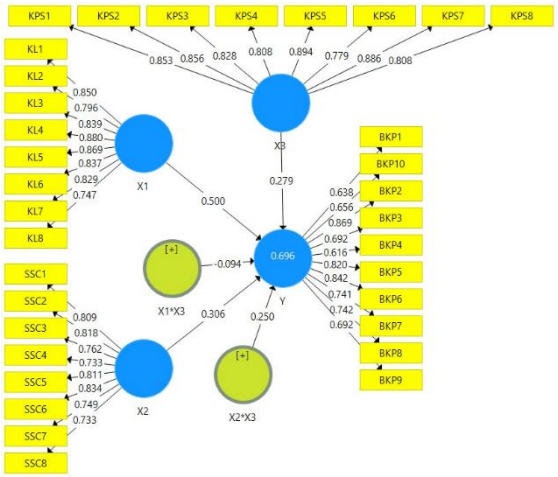

Figure 2. Results of Loading Factor Analysis

Source: (Smart-PLS Output, 2023)

Loading Factor Analysis

Based on this figure, it can be seen that the indicators BKP1, 3, 4, 9 and 10 have a loading factor of <0.70, so these four indicators were not included in further analysis, because they could not describe the relationship between the indicators and the latent variable construct. Henceforth, these four indicators were not included in the inner model test.

Construct Validity and Reliability Test

Table 2. Construct Validity and Reliability Test

Variabel	***Cronbach's Alpha***	**CR**	**AVE**
X1	0.936	0.947	0.692
X2	0.909	0.926	0.611
X3	0.940	0.950	0.705
Y	0.904	0.921	0.541

Source: SmartPLS Output, 2023

Based on the table above, it can be seen that all AVE values are > 0.50, in accordance with decision making assumptions, so all indicators in each variable are homogeneous from

each research variable (Hair et al., 2019). The Cronbach's Alpha value and CR value are > 0.70, so it is concluded that all research variables are reliable and the indicators of all research variables used are good constructs in forming a latent variable (Hair et al., 2019).

Model Fit Test

Table 3. Model Fit Test Results

	Saturated Model	Estimation Model
SRMR	0.078	0.078

Source: SmartPLS Output, 2023

Based on the table above, the SRMR value shows a value of <0.1 so these results explain that the research model can be said to be fit for measuring the relationship between latent variables and observed variables (Hair et al., 2019).

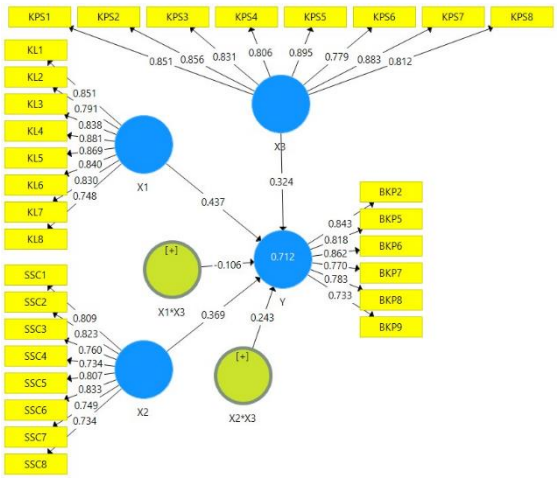

Figure 3. Coefficient Model Line Diagram

Source: (Smart-PLS Output, 2023)

Inner Model Analysis

The Rsquare value shown in the image is 0.712, which means that interprofessional collaboration, implementation of the surgical safety checklist and safety leadership contribute 71.2% in influencing a patient safety culture. The effect of interprofessional collaboration on patient safety culture shows a coefficient of 0.437. These results explain that when interprofessional collaboration is increased by 1 unit, patient safety culture will increase by 43.7%. The effect of the implementation of the surgical safety checklist on patient safety culture shows a coefficient of 0.369. These results explain that when the implementation of the surgical safety checklist is increased by 1 unit, the patient safety culture will increase by 36.9%.

The influence of safety leadership on patient safety culture shows a coefficient of 0.324. These results explain that when the implementation of safety leadership is increased by 1 unit, patient safety culture will increase by 32.4%. The influence of interprofessional collaboration on patient safety culture which is moderated by safety leadership shows a coefficient of -0.106, these results explain that safety leadership weakens the influence of interprofessional collaboration on patient safety culture. The influence of the implementation of the surgical safety checklist on patient safety culture which is moderated by safety leadership shows a coefficient of 0.243. These results explain that safety leadership strengthens the influence of interprofessional collaboration on patient safety culture.

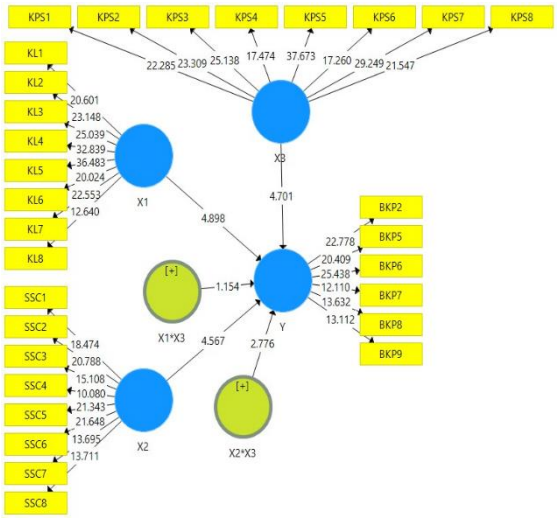

Figure 4. Line diagram of significance test model

Source: (*Output Smart-PLS,* 20)

Table 4. Summary of Hypothesis Testing

Simultaneous Effect	***R square***	**Conclusion**
Interprofessional collaboration, SSC implementation and safety leadership -> Patient safety culture	0.712	H1 Accepted
Partial Effect	**T_{Value}**	**Summary**
Interprofessional collaboration -> Patient safety culture	4.900	H2 Accepted
SSC Implementation -> Patient safety culture	4.444	H3 Accepted
Safety leadership -> Patient safety culture	4.740	H4 Accepted
Safety leadership interactions over interprofessional collaboration -> patient safety culture	1.175	H5 Rejected

Safety leadership interactions over SSC implementation -> patient safety culture	2.739	H6 Accepted

The simultaneous influence of interprofessional collaboration, implementation of the surgical safety checklist and safety leadership on patient safety culture shows an Rsquare value of 0.712, which means that interprofessional collaboration, implementation of the surgical safety checklist and safety leadership have a strong influence on patient safety culture (Hair et al., 2019). The influence of interprofessional collaboration on patient safety culture shows a comparison of TV value 4,900 > 1.96, which means that interprofessional collaboration has a significant effect on patient safety culture, so it is included in the H1 acceptance category. The influence of the implementation of the surgical safety checklist on patient safety culture shows a comparison of the TV value of 4.444 > 1.96, which means that the implementation of the surgical safety checklist has a significant effect on patient safety culture, so it is included in the H2 acceptance category. The influence of safety leadership on patient safety culture shows a comparison of the TV value of 4.740 > 1.96, which means that safety leadership has a significant influence on patient safety culture, so it is included in the H4 acceptance category. The moderating role of safety leadership on the influence of interprofessional collaboration on patient safety culture shows a TV value comparison of 1.175 < 1.96, which means that safety leadership does not moderate the influence of interprofessional collaboration on patient safety culture, so it falls into the H5 rejection category. The moderating role of safety leadership on the influence of surgical safety checklist implementation on patient safety culture shows a comparison of TV values of 2.739 > 1.96, which means that safety leadership moderates the influence of surgical safety checklist implementation on patient safety culture, so it is included in the acceptance category H6.

Interprofessional collaboration, implementation of the surgical safety checklist and safety leadership have a strong contribution in shaping the discipline of health workers towards a culture of patient safety in carrying out their duties in central surgical installations, which is demonstrated by a fairly disciplined attitude, especially in adhering to a culture of justice that always strives to ensure the readiness of the operating room. before surgery and preparing patient logistics before surgery. To realize the discipline of health workers in upholding a culture of patient safety, interprofessional collaboration must be carried out actively and interactively through partnerships, cooperation and effective coordination, so that a join decision can be formed about a safe way to carry out surgery on patients, so that

interprofessional collaboration can form health workers who adhere to a culture of patient safety (Dinesh et al., 2018; Schmidt et al., 2021). So, the patient safety can be realized if the interprofessional collaboration system is implemented effectively and a culture of patient safety can be achieved through a work system based on interprofessional collaboration (Dinius et al., 2020; Amarneh & Al Nobani, 2022).

Surgical safety checklist implemented by hospital management as a communication tool for health workers in carrying out surgical services, it is enough for health workers to understand that this is a management effort so that surgical services can be carried out safely for patients, especially health workers understand its function as a bureaucratic system which aims to produce safe services and forming interprofessional working professionals, so that these things dominate the culture of justice that health workers adhere to so that surgical services can be delivered safely, because basically one way that management does to prevent patient safety incidents in surgical services is to implement surgical safety checklist as an interprofessional inspection and communication tool (Harris et al., 2022). Implementation of the surgical safety checklist will direct health workers to be disciplined in the principles of patient safety culture which will prevent patients from the risk of injury and even death on the operating table (Haugen et al., 2020; Rodella et al., 2018).

Safety leadership applied in the central surgical unit, is perceived by health workers as a function of instruction and delegation, thereby forming the principle of health workers to pay attention to occupational safety and health, so that they are encouraged to realize a culture of patient safety in the central surgical room, especially the leadership aspect that most dominates health workers. related to the planning carried out by the leadership to always ensure the completeness of equipment and patient logistics before surgery and carry out planning in assembling an experienced surgical team before surgery, thereby forming a habit to always adhere to a culture of justice in ensuring the readiness of the operating room before surgery and preparing patient logistics before operations are carried out, because basically leadership seeks to encourage the success of its members in achieving organizational goals and safety leadership effectively shapes the work behavior of health workers who adhere to a culture of patient safety (Buttigieg et al., 2023). Surgical procedures can be performed safely on patients (Harton & Skemp, 2022).

The safety leadership felt by health workers is able to interact with the influence of the implementation of the surgical safety checklist on patient safety culture, so that safety

leadership strengthens the contribution of the implementation of the surgical safety checklist in improving patient safety culture in central surgical installations, the ability of safety leadership to interact positively with the implementation of the surgical safety checklist because basically Effective implementation of the surgical safety checklist requires a leader who focuses on occupational health and safety so that the implementation of the surgical safety checklist will direct health workers to be disciplined in the principles of patient safety culture which will prevent patients from the risk of injury and even death on the operating table (Röhsig et al., 2020; Haugen et al., 2020; Rodella et al., 2018). The behavior shown by health workers shows that they are encouraged by leadership that directs them to care about occupational safety and health because leaders who focus on safety will try to shape the discipline of their members to maximize the surgical safety checklist so that surgical procedures are carried out safely to avoid patient safety incidents in the room operation, because basically leadership seeks to encourage the success of its members in achieving organizational goals, and safety leadership effectively shapes the work behavior of health workers who adhere to a culture of patient safety (Munthali et al., 2022; Cakir & Adiguzel, 2020; Buttigieg et al., 2023). So that the use of the surgical safety checklist can be maximized as a checklist to provide safe and quality surgery to patients, with the aim of preventing patients from the risk of injury and even death on the operating table (Debas, 2015; Rodella et al., 2018).

Conclusions, Implications and Recommendations

Interprofessional collaboration, implementation of the surgical safety checklist and safety leadership are able to improve the patient safety culture of health workers in the central surgical installation of the Bekasi District Hospital. Leadership is not able to moderate interprofessional collaboration on patient safety culture, but is able to moderate the implementation of the surgical safety checklist so that with the interaction of safety leadership, the implementation of the surgical safety checklist can be strengthened in improving patient safety culture. Some of the problems that must be improved by management are coordination patterns, especially in terms of validating the correct operation area and reminding each other of the operation schedule, communication patterns must be improved through the surgical safety checklist writing format which will make it easier for health workers to validate the correctness of patient data and as a patient checklist. before surgery. The organizational system needs to be improved through the concept of coaching so that health workers are encouraged to carry out task delegation and carry out tasks according to the competence of each health

worker. The learning culture needs to be improved through a risk management system, by conveying the results of clinical audits about patient safety incidents that occur, so that health workers can study patient medical record data before surgery and learn about the risks that patients may experience before surgery. This research has the limitation of only assessing the interprofessional collaboration system, implementation of the physical safety checklist without assessing the competency of each health worker based on each profession so that for further research it is hoped that it will include the competency of health workers as one of the variables studied, so that it can assess and distinguish between weaknesses and strengths. health workers have in delivering safe services in central surgical installations.

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CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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