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Compliance with the implementation of pre-anesthesia assessment toward the prevention of adverse events in the operating room

Cumplimiento de la implementación de la evaluación preanestésica hacia la prevención de eventos adversos en el quirófano

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SUMMARY

Introduction*: Compliance with the implementation of pre-anesthesia assessment is an essential component of healthcare service quality aimed at preventing and minimizing adverse effects on patients related to anesthesia services and is a key aspect for identifying potential adverse events during and after surgery.* **Objective:** *This study aims to determine the relationship between compliance with the implementation of pre-anesthesia assessment and the prevention of adverse events.* **Method***: This study used a quantitative method and analytic design with a cross-sectional approach. The samples were 11 anesthesiologists in the Central Surgical Installation room selected by purposive sampling with work sampling techniques and 82 activities on patients. The instrument used for pre-anesthesia assessment was a checklist observation sheet, which is used following standard hospital operational procedures with Number RM.10.4.1/III/01/2019, and for the prevention of adverse events using a checklist observation sheet based on Standard Operating Procedures Number RM.10.2/1/04/2017 in force at the hospital. Data analysis was performed with a Chi-Square test. This study obtained ethical approval with Number 031/09. KEPK/UBK/III/2024.* **Results***: The results showed that 55 patients (67 %) were compliant, 14 patients (17.1 %) were less compliant and 13 patients (15.9 %) were non-compliant. Prevention of adverse events was carried out by 60 patients (73.2 %) and not carried out by 22 patients (26.8 %). The Chi-Square test indicates a relationship between compliance with the implementation of anesthesia assessment and the prevention of adverse events (p<0,001).* **Conclusion***: Implementing pre-anesthesia assessment is a patient safety behavior that must be carried out to ensure the safety of patients undergoing the surgical process and minimize adverse events during pre-, intra-, and post-anesthesia.*

Keywords*: Adverse event, pre-anesthesia assessment, compliance, patient safety, work sampling.*

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RESUMEN

Introducción: *El cumplimiento de la aplicación de la evaluación preanestésica es un componente esencial de la calidad de los servicios sanitarios dirigido a prevenir y minimizar los efectos adversos en los pacientes relacionados con los servicios de anestesia y es un aspecto clave para identificar posibles eventos adversos durante y después de la cirugía.* **Objetivo:** *Este estudio pretende determinar la relación entre el cumplimiento de la implementación de la evaluación preanestésica y la prevención de eventos adversos.* **Método:** *Este estudio utilizó un método cuantitativo, diseño analítico con un enfoque transversal. Las muestras fueron 11 anestesiólogos que se encontraban en la sala de la Instalación Quirúrgica Central usando muestreo intencional con técnicas de muestreo de trabajo hasta 82 actividades en pacientes. El instrumento para la evaluación preanestésica fue una hoja de observación de lista de verificación que se utiliza de acuerdo con los procedimientos operativos estándar del hospital con Número RM.10.4.1/ III/01/2019 y para la prevención de eventos adversos se empleó una hoja de observación de lista de verificación basada en los Procedimientos Operativos Estándar Número RM.10.2/1/04/2017 vigentes en el hospital. El análisis de los datos se realizó mediante la prueba de Chi-Cuadrado. Este estudio obtuvo la aprobación ética con el Número 031/09.KEPK/UBK/ III/2024.* **Resultados:** *Los resultados mostraron que 55 pacientes (67 %) cumplieron con el tratamiento, 14 pacientes (17,1 %) cumplieron menos y 13 pacientes (15,9 %) no cumplieron con el tratamiento. Sesenta pacientes (73,2 %) realizaron prevención de eventos adversos y 22 pacientes (26,8 %) no la realizaron. La prueba de Chi-cuadrado indica una relación entre el cumplimiento de la implementación de la evaluación anestésica y la prevención de eventos adversos ($p<0,001$).* **Conclusiones:** *La realización de la valoración preanestésica es una conducta de seguridad del paciente que debe llevarse a cabo para garantizar la seguridad de los pacientes sometidos al proceso quirúrgico y minimizar la aparición de eventos adversos durante la pre, intra y post anestesia.*

Palabras clave: *Evento adverso, evaluación preanestésica, cumplimiento, seguridad del paciente, muestreo de trabajo.*

INTRODUCTION

The quality of anesthesia services can reflect in some way the quality of a hospital. The current practice of anesthesia is characterized by advanced age and increased co-morbidity in high-risk patients for an ever-growing spectrum of surgical interventions. Thus, clinical anesthesia practice has become much broader and more complex than just providing intraoperative anesthesia, now encompassing perioperative medicine. Anesthesia techniques have developed with preoperative admission screening, modern anesthetic agents and regional anesthesia procedures, postoperative pain, and fast-track recovery management. Anesthesiology is a profession that combines efficient management of routine planned care and the need to recognize and manage quickly changing and sometimes complex clinical situations. Anesthesiologists are experiencing unprecedented levels of workplace stress and staffing shortages, which can affect the quality of working life. Poor quality of work life can affect the quality of anesthesia care services provided to patients (1). Anesthesia services are high-risk actions, so they must be carefully planned and carried out by competent personnel by legislation (2).

The perianesthesia room is a combination of three phases of anesthesia, namely pre-anesthesia, intra-anesthesia, and post-anesthesia, which has environmental characteristics, a working hour system, and a high risk of work accidents due to sharp objects during surgery, exposure to anesthetic gases, drugs, and radiation (3).

Preanesthesia service is the first step in a series of anesthesia actions performed on patients planning to undergo operative action. This pre-anesthesia assessment aims to determine the physical status of preoperative patients, analyze the type of surgery, choose the type and technique of anesthesia, predict complications that may occur, and prepare anesthetic drugs and devices.

Intra-anesthesia management always prioritizes patient safety so that before the induction of anesthesia is assessed, the patient's condition or status must have been carried out. The results of this pre-anesthesia assessment will determine the outline factors for consideration of the choice of anesthetic technique, such as patient conditions that are taken into consideration, namely comorbidities, aspiration risk, age, cooperative ability, ease of airway management, coagulation status, history of previous anesthetic response and patient request. Procedural factors that can

be considered include surgical site, operative technique, patient position during surgery, and estimated duration of surgery. Logistical factors that influence the choice of anesthesia technique are postoperative disposition, postoperative analgesic plan, and equipment availability (4).

Postoperative anesthesia management is discontinuing anesthetic drugs and stabilizing the patient. Upper airway patency and the effectiveness of the patient's respiratory effort should be monitored when transferring the patient from the operating room to the Post Anesthesia Care Unit (PACU). In anesthesiology, monitoring is vital for patient safety and must be done continuously. This monitoring is emphasized particularly in terms of respiratory and cardiac function. Another important monitoring is body temperature monitoring because hypothermia often occurs during anesthesia and surgery (5).

The risk of complications of anesthesia and surgical services in hospitals, such as direct perioperative mortality due to surgery, is estimated at 0.40 %-0.80 %, and the rate of major complications is estimated at around 3.00 %-17.00 %, including complications of wrong procedure, wrong patient surgery, anesthesia equipment problems, lack of availability of necessary equipment, unexpected blood loss, unsterile equipment, and surgical items left inside the patient (6).

Worldwide, almost every year, surgical complications are 3 %-16 %, and postoperative mortality is 0.4 %-0.8 %. It can be interpreted that 7 million patients experience disability and 1 million experience death (7). Preanesthesia assessment has a significant impact on the patient's condition during intra and post-operatively (8).

There have been 33.5 % of adverse events related to anesthesia; adverse events were more common, according to the ASA Physical Status Classification System, in patients with ASA I-II 78.9 %, and adverse events in surgical procedures 95.8 %. The most significant incidence of adverse events occurred in plastic surgery at 29.6 %, and the incidence of patient mortality at 43.7 % of events, with the highest proportion being caused by failure to record the patient's clinical history. Compliance in carrying out pre-anesthesia assessment has a major impact on patient safety and is a key aspect for the identification of potential adverse events during and after surgery (9) identification, analysis and reduction of adverse events (AEs).

Compliance with the implementation of pre-anesthesia assessment is an important component of the quality of health services that aim to prevent and minimize the occurrence of errors and adverse effects on patients related to anesthesia services to improve patient safety. Given that, the completeness of pre-anesthesia documents, including the pre-anesthesia assessment form, should be considered (10).

Although there is a Standard Operating Procedure (SOP) for pre-surgical services in the hospital, including the requirements for anesthesia visits, compliance with the SOP is still low. Pre-anesthesia assessment is often only carried out by 19.5 % of anesthesiologists, and the documentation results are not written directly after the action is taken on the patient's medical record documentation sheet. This occurs due to the limited time of the staff in the visit time to review the number of patients who will be operated on, while 80.5 % of anesthesiologists write the results of the pre-anesthesia assessment documentation in the patient's medical record shortly after the operation takes place, this happens because the staff must be on time to provide further action to the patient and pursue the patient's next surgery time (11).

METHODS

This is a quantitative study with an analytic design with a cross-sectional approach. It was conducted at West Java Hospital in Indonesia. The research sample was 11 anesthesiologists who worked in the Central Surgical Installation. The study population consisted of 474 patients undergoing general and spinal anesthesia. The sampling technique used was purposive sampling with a minimum sample size of 82 patients. Data analysis used Chi-Square for categorical data using software applications; data is presented as tabulation and frequency distribution. This research obtained permission from the Regency Regional Government with

Number ST.02.01.07/441/RSUD/V/2024 and research ethics approval with Number 031/09. KEPK/UBK/III/2024. The study was conducted from December 2023 to April 2024 at the Central Surgical Installation of Regional Hospital.

Instrument

Data on anesthesia stylist activities was collected through two direct observation sheets. The research instrument used to measure compliance with the implementation of pre-anesthesia assessment using a checklist observation sheet based on the Hospital Standard Operating Procedure Number RM.10.4.1/ III/01/2019 includes 35 checklist items from 6 categories, namely documenting patient identity, patient's pre-surgical condition, patient's vital signs, patient's medical history, physical examination, results of supporting examinations and informed consent. This observation uses a Guttman scale where there is a direct observation of anesthesiologists in the implementation of pre-anesthesia assessment in patients with answer scores Yes (1) or No (0), with 3 categories of results measuring the value of compliance with pre-anesthesia assessment, among others: Compliant, if the score value is 71 %-100 %, Less compliant if the score value is 50 %-70 % and Non-compliant if the score value is <50 %.

The observation instrument for adverse event prevention uses an observation sheet with 3 checklist categories: 1) Pre-anesthesia, consisting of 7 observation items; 2) intra-anesthesia, consisting of 10 observation items; and 3) Post-anesthesia, consisting of 4 observation items. The observation sheet used is based on Standard Operating Procedure Number RM.10.2/1/04/2017, which applies in the hospital. This observation uses a Guttman scale where researchers make direct observations of adverse event prevention measures taken by anesthesiologists in pre-, intra- and post-anesthesia services with answer scores: Yes (1) or No (0), with the interpretation of measurement results Implemented = 100 % and Not Implemented = <100 %.

Procedures

First, a preliminary study was conducted to look for phenomena that occur in the field. The research problem was formulated from the preliminary analysis results, and the research purpose was determined. Then, research instruments were prepared using observation sheets following standard hospital operational procedures. The ethical and research permits were processed, and the data was collected after obtaining permission. Informed consent was obtained after the required number of research samples had been met. It was informed the participants about the research objectives and methodology. The willingness of participants to sign the consent form was asked to be willing to become the object or respondent of the study. The inclusion criteria were patients with general anesthesia and spinal anesthesia techniques and elective patients with ASA categories I and II.

Data processing

The first stage in the data processing was checking the data that had been collected by checking again after collecting observation data. Codes were placed on variables that included respondent characteristics. The processing involved entering data into tables and combining them using computer software. Scoring was done by assigning values based on the observation answers. After that, the data was checked for errors, tabulated to group the data for analysis, and presented in the form of percentages using SPSS 25.

Statistical analysis

This study involved two types of analysis: univariate and bivariate. Univariate analysis was conducted to assess the frequency distribution of compliance with the implementation of pre-anesthesia assessment and adverse event prevention. Meanwhile, bivariate analysis was used to identify the relationship between compliance with the implementation of pre-anesthesia assessment and the prevention of adverse events. The data obtained were analyzed, and the statistical test used was Chi-Square because the data were ordinal and non-parametric categorical, so it did not require the assumption of data normality.

RESULTS

Table 1 shows the characteristics of respondents. Of 11 respondents, the majority were female (54.5 %), had a D3 Anesthesia education level (72.7 %), and were under 40 years old (63.6 %). Most respondents had more than 5 years of service (90.9 %) and non-civil servant status (63.6 %). Regarding work shifts, most respondents worked in the morning shift (54.5 %). The interpretation of this table provides a clear picture of the respondents' profile, which can be the basis for further analysis related to compliance with the implementation of pre-anesthesia assessment and prevention of adverse events.

Table 1. Characteristics Respondents Research (N=11)

Variable	Frequency	Percentage
Gender		
Man	5	45.5
Woman	6	54.5
Level of education		
D3 Anesthesia	8	72.7
D3 Nursing + Training	1	9.1
Bachelor's Degree in Nursing + Training	2	18.2
Age		
< 40 years	7	63.6
>40 years	4	36.4
Years of service		
<5 years	1	9.1
>5 years	10	90.9
Employment status		
Civil servants	4	36.4
Non-PNS	7	63.6
Shift work		
Morning	6	54.5
Afternoon	3	27.3
Evening	2	18.2

The univariate results of the patient demographics (Table 2) show that of the 82 patients who underwent pre-anesthesia assessment in the Central Surgical Installation Room, almost half were adults, as many as 40 people (48.8 %). The type of anesthesia was mostly general anesthesia, with as many as 48 patients (57.3 %), and almost all of the patients were in the ASA II classification category, as many as 64 patients (78.0 %).

Table 2. Demographics patients (N=82 patients)

Demographics	Frequency	Percentage (%)
Age Patient		
Children (0-9 years)	15	18.3
Teenagers (10-18 years old)	21	25.6
Adult (19-60 years)	40	48.8
Elderly (>60 years)	6	7.3
Types of Anesthesia		
Combine (VIMA+TIVA)	48	57.3
Spinal	34	42.7
ASA		
ASA I	18	22.0
ASA II	64	78.0

Table 3. Frequency Distribution Regarding Compliance with Pre-Anesthesia Assessment

Category (%)	Frequency	Percentage
Compliant (71-100 %)	55	67
Less Compliant (50-70 %)	14	17.1
Non- Compliant (<50)	13	15.9
Total	82	100.0

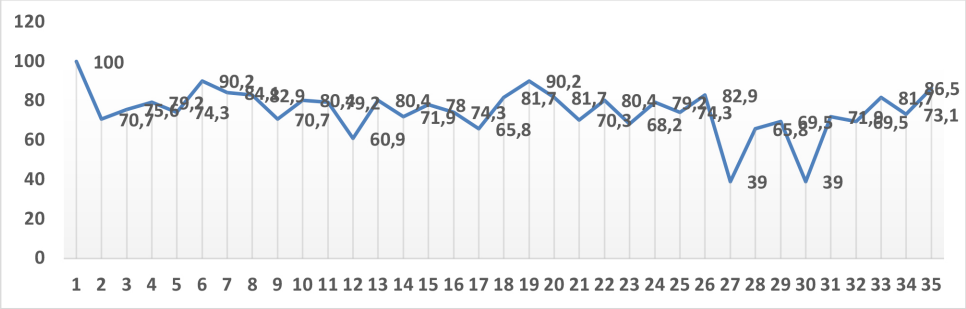

Figure 1. Frequency Chart of Pre-anesthesia Assessment Observation.

The results of the descriptive analysis shown in Table 3 regarding compliance with the implementation of pre-anesthesia assessment with general anesthesia and spinal anesthesia indicate that most of the proportion of pre-anesthesia assessment activities carried out by anesthesiologists are in the compliant category, as many as 55 patients (67 %), while very few of the respondents who were not compliant in carrying out the implementation of pre-anesthesia assessment were 13 patients (15.9 %). The Frequency Chart of Pre-anesthesia Assessment Observation is shown in Figure 1.

Table 4. Distribution Frequency of Adverse Event Prevention (n=82)

Category	Frequency	Percentage (%)
Implemented (100 %)	60	73.2
Not Implemented (<100 %)	22	26.8
Total	82	100.0

The results of the descriptive analysis regarding the prevention of adverse events in patients with pre-anesthesia assessment showed that most of the prevention of adverse events was in the implemented category, as many as 60 patients (73.2 %), and a small proportion of adverse event prevention was not implemented as many as 22 patients (26.8 %) (Table 4 and Figure 2).

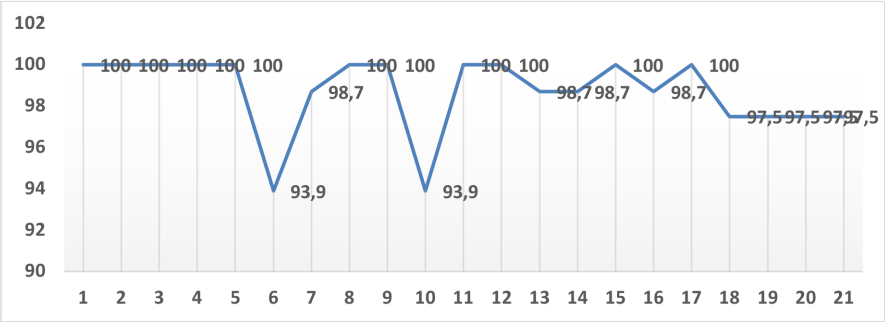

Figure 2. Frequency Chart of Adverse Event Observations.

Table 5. Cross Tabulation and Correlation Test between Compliance with Pre-Anesthesia Assessment and Adverse Event Prevention (N=82)

Obedience	Prevention		Total	CC	p-value
	Done	Not Implemented			
Obedient	47 (57.3)	8 (9.8)	55 (67)	0.373	0.001
Lack of Compliance	6 (7.3)	8 (9.8)	14 (17.1)		
Not obey	7 (8.5)	6 (7.3)	13 (15.9)		
Total	60 (73.2)	22 (26.8)	82 (100.0)		

As shown in Table 5, the cross-tabulation between the compliance of the implementation of pre-anesthesia assessment with the prevention of adverse events in the Central Surgical Installation room, it was found that from the actions taken by anesthesiologists to 82 patients, most of them were at the level of compliance in the compliant category as many as 55 patients (67 %), consisting of the implementation of adverse event prevention as many as 47 patients (57.3 %) and not implementing adverse event prevention as many as eight patients (9.8 %). The smallest number was at the level of compliance in the non-compliant category of 13 patients (15.9 %), consisting of the implementation of adverse event prevention in as many as seven patients (8.5 %) and not implementing adverse event prevention in as many as six people (7.3 %).

The relationship test obtained a Pearson Chi-Square contingency coefficient (cc) of 0.373, which indicates that the level of relationship is at a low level of relationship with a p-value of 0.001 ($p < 0.05$), then Ho is rejected and Ha is accepted, so it can be stated that there is a relationship between compliance with the implementation of pre-anesthesia assessment with the prevention of adverse events in the West Java Hospital Central Surgical Installation room.

DISCUSSION

Compliance Level Application with the Implementation of Pre-Assessment Anesthesia

Our present results indicate compliance in implementing pre-anesthesia assessment by direct observation is in the complaint category. Regarding timeliness compliance, anesthesiologists are already compliant in filling and completing the assessment form on time, where the form should be filled out following the flow of service to the patient. This illustrates that most of the filling of the pre-anesthesia assessment

document has been compliant in carrying out pre-anesthesia assessment because there are procedures that are used as a reference in carrying out pre-anesthesia actions, and it is a moral burden borne by each member because it involves the patient's life and most anesthesiologists have at least been given training on anesthesia so that in its implementation they better understand the contents of the pre-anesthesia assessment.

Compliance is the level of a person's behavior in obeying all plans according to the recommended therapeutic and health procedures (12). Some took action to fill in the pre-anesthesia assessment obediently, as many as 236 pre-anesthesia assessments (64.84 %), and those who were not obedient were 128 pre-anesthesia assessments (35.16 %). The importance of pre-operative testing in anesthesia clinics for diagnosing concomitant asymptomatic disease is argued, and comprehensive pre-anesthetic testing is not only a routine step before surgery but an integral part of essential patient care. This has a significant impact on perioperative outcomes (13). This is not in line with a previous study, in which most anesthesiologists were included in the non-compliant category since 37.7 % of anesthesiologists complied with the pre-anesthesia assessment, and 62.3 % did not fulfill their obligations (11).

The results show that anesthesiologists who are compliant with pre-anesthesia assessment have an anesthesia nursing education background, have attended anesthesia training, and have had >5 years of work experience. This indicates that education and work experience are very influential in carrying out the implementation of pre-anesthesia assessment. The higher the level of education and the longer the work experience that the anesthesiologist has carried out, the more compliant the anesthesiologist is in carrying out his obligations in filling out the pre-anesthesia assessment document (14).

Education does not directly affect compliance with the implementation of pre-anesthesia assessment, in this case, filling out documents, but it affects the mindset of anesthesiologists. The way of thinking of the anesthesiologist in question is an anesthesiologist who can understand the risks of not completing the pre-anesthesia assessment thoroughly. With the development of a good way of thinking, it is hoped that the implementation of pre-anesthesia assessment compliance can be carried out properly (15).

Based on the distribution of compliance with 35 pre-anesthesia assessment observation items, it can be seen that the component of documenting patient identity was carried out by all anesthesiologists in the compliant category 82 patients (100 %). The use of identity barcodes implemented for each patient allows the identification of documentation carried out by anesthesiologists for patients to be faster and more accurate. By implementing an identity barcode system, health facilities can improve patient safety, operational efficiency, and regulatory compliance while providing better and more professional care for patients (16,17). Patient identity that is filled in completely and correctly is needed to ensure who the form sheet belongs to so that it can be a tool for specific patient identification. Age is one of the items that can help officers identify patients. Writing age in detail on the medical record form will greatly affect patient health services, especially in the pharmaceutical field, because age can determine the dose of drugs; in this study, the right anesthetic drug to be given to patients (18,19).

Meanwhile, in documenting physical examinations containing confirmation of the use of accessories and verifying the physical status of ASA, most items were not filled in by 32 patients (39.0 %) by anesthesiologists. This was due to time considerations in surgery and the patient's ASA status. In addition, some items in the assessment sheet were not implemented because they had considered the risks that would occur. The person in charge of the anesthesiologist revealed that every morning meeting always reminds them to fill out documentation by applicable SOPs and medical records and always prioritizes the quality of anesthesia services well. Suppose the filling of the pre-anesthesia assessment is still non-compliant. In that case, it will impact the value of hospital accreditation or decrease the quality of anesthesia services that were previously considered good (20).

This shows that anesthesiologists still need to implement specific items in the pre-anesthesia assessment. All items listed in the pre-anesthesia assessment filling document are Standard

Operating Procedures used at the Regional Hospital, so training and supervision are necessary. Therefore, it is necessary to minimize errors in the pre-anesthesia assessment.

The problem of compliance cannot be denied; negligence can occur either as a lack of caution, indifference, or ignoring standard operating procedures that often cause legal issues. Therefore, what really needs to be done to minimize negligence, especially in the scope of surgery, is careful preparation and implementation before surgery (21,22).

Application Prevention Adverse Event

Adverse event prevention has not been implemented 100 %. Based on the distribution of adverse event prevention on 21 observation items, it can be seen that 11 items of adverse event prevention have been implemented 100 % in 82 patients. This includes confirming the patient's identity, confirming the SIA & SIO, establishing the type of surgery and anesthesia procedure, conducting pre-anesthesia assessment, confirming fasting, checking the completeness of the anesthesia machine, preparing emergency drugs, monitoring vital signs, positioning the patient appropriately and ensuring the patient is properly secured on the operating table, labeling drugs and confirming them repeatedly. Monitoring sheets are always filled in completely (23,24).

Hospital management has provided full facilities in the form of peri-anesthesia implementation guidelines, which include pre-, intra-, and post-anesthesia and other support to avoid unexpected events and to facilitate the realization of surgical patient safety following Permenkes regulations on hospital patient safety, especially on patient safety goals. Surgical safety behavior applied by anesthesiologists, in this case, the prevention of adverse events, that behavior as an action, attitude, towards action is related to its impact, the value associated with action proves the truth of this definition, that anesthesiologists who understand the meaning of surgical safety and apply it in their work the impact obtained is surgical safety, so that adverse events potential injury events, near misses adverse events and sentinel events do not occur (25).

Most of the prevention of adverse events has been implemented because anesthesiologists have been given training on health services, especially in surgery, prioritizing patient safety programs, which reduce patient safety incidents. A patient safety incident is an event or situation that can result or potentially result in injury that should not occur. Minister of Health Regulation number 1691/Menkes/per/VIII/2011 explains that a hospital must use a clear and understandable sign to identify the location of the surgery and involve patients in the marking process, use a checklist or other process to verify preoperatively that the right location, correct procedure and right patient and all necessary documents and equipment are available, appropriate and functional. Minimal patient safety incidents and even striving for zero incidents (100 % accomplished) is the hope of all hospitals, guaranteeing patients safe health services (26-28).

Meanwhile, the adverse event prevention item, which contains confirmation of using dentures and preparing STATICS in full, has not been implemented in 5 patients (6.1 %) by anesthesiologists because STATICS equipment is not yet fully available in each operating room. The facilities provided affect incomplete equipment, such as a lack of stethoscopes and laryngoscopes, which can interfere with operational efficiency and slow the operation process.

The behavior of anesthesiologists regarding preventing adverse events in the operating room is determined by the attitudes, knowledge, beliefs, traditions, and so on of the person or community concerned. In addition, the availability of facilities and the attitudes and behaviors of health workers support and reinforce behavior formation. Hospitals must collaboratively develop policies and procedures that effectively eliminate adverse events.

A health worker does not want to implement patient safety because the person does not know the benefits of the adverse event prevention program and patient safety (predisposing factors). The facilities provided were also affected, such as incomplete equipment (enabling factors) (27).

Connection Obedience Application Implementation of Pre-Assessment Anesthesia To Prevention Adverse Events

Based on the results, it can be established that there is a relationship between compliance with the implementation of pre-anesthesia assessment and the prevention of adverse events. The relationship obtained from the Pearson Chi-Square analysis of a contingency coefficient (cc) of 0.373 indicates that the level of relationship is at a low level of relationship.

Pre-anesthesia assessment activities are a continuous series of activities carried out from the treatment room before the patient is sent to the operating room; which does not directly play a key role as well as the implementation of the Surgical Safety Checklist (SSC), which has six components that provide maximum protection to patients, namely by correctly identifying patients, ensuring the correct location, correct procedures, correct patient operations, reducing the risk of healthcare-associated infections, improving effective communication, improving the safety of drugs that must be watched out for and reducing the risk of patient injury due to falls which are components in improving patient safety and reducing the incidence of adverse events which directly proves that the role of medical and health personnel greatly determines the outcome of the number of adverse events.

The results of interviews with the person in charge of anesthesia showed that not only are anesthesiologists health workers but also the behavior of medical personnel, who are the dominant personnel in surgical services in a hospital, has a major influence on preventing adverse events. It takes a joint commitment to ensuring patient safety with facilities by the hospital to ensure patient safety in the operating room, which has a high potential for adverse events due to patients under anesthesia.

Although there is already a standard operating procedure regarding pre-surgical, including the requirements for pre-anesthesia visits, practice compliance with the SOP is not good enough. The evidence indicates one of the factors affecting compliance with SOPs is socialization (29). In addition to increasing understanding, in this case, socialization can also function as a medium to equalize perceptions between hospital management and implementers in the field. SOP must be implemented with monitoring and evaluation. Apart from increasing compliance, monitoring and evaluation also aims to find out the problems that hinder the implementation of the SOP (30). The support of senior anesthesiologists to junior anesthesiologists who are less skilled in communication and lack knowledge of the benefits of patient safety in carrying out pre-anesthesia assessment and prevention of adverse events greatly helps the successful implementation of activities by standard operating procedures. The implementation of adverse event prevention is not only the responsibility of the anesthesiologist but also the responsibility of the surgical team so that comprehensive patient safety is implemented in the operating room (31).

Limitations

There are several possible limitations to the study's results. First, the use of sheet observations by researchers to observe obedience pre-anesthesia assessment and prevention of adverse events by the stylist anesthesia can influence the behavior of respondents because the researcher is in a position near them, which makes it possible to act more behaviorally. Second, limitations are the absence of specifications about the operation and the type of operations performed, such as general surgery, digestive surgery, ob-gyn, and others, which can influence the study results.

CONCLUSION

Based on the results, it was found that most (67 %) of the implementation of pre-anesthesia assessment compliance in the Central Surgical Installation of West Java Hospital was in the complaint category. Prevention of adverse events in the same room has mostly been implemented (73.2 %). Analysis showed a relationship between pre-anesthesia assessment compliance and adverse event prevention in the same room. The Chi-Square analysis showed a significant result ($p < 0.001$), rejecting Ho and indicating Ha's acceptance.

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Conflict of Interests

The authors have no declared conflicts of interest.

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