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Analysis Of The Implementation Of Facility and Safety Management (MFK) Using The PDSA Approach at The Kepahiang Regional General Hospital In Kepahiang District In 2024

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Abstract

Hospitals have an important role in providing quality and safe health services, one of which is through the implementation of Facility and Safety Management (MFK) according to accreditation standards. At Kepahiang Regional General Hospital, the implementation of MFK has not been running optimally, as evidenced by the continued occurrence of facility incidents, low compliance with safety facility management and weak supervision. This study aims to analyze the implementation of MFK using the PDSA (Plan-Do-Study-Act) approach at Kepahiang Regional General Hospital to identify obstacles, regulatory compliance, and continuous improvement efforts in increasing safety and service quality. This research is a qualitative study with a holistic single case study design using an exploratory approach and the PDSA cycle to analyze the implementation of MFK at Kepahiang Regional Hospital. Data collection was conducted through document review, observation, Focus Group Discussion (FGD), and in-depth interviews with eight informants selected purposively . Data analysis was carried out inductively through the processes of reduction, display, and drawing conclusions until reaching the point of saturation. The results of the study indicate that the implementation of Facility and Safety Management (FMS) at Kepahiang Regional Hospital is still not optimal. In terms of planning, the hospital has a risk register , policies, guidelines, SOPs, and work programs that meet accreditation requirements, but most FMS implementers lack competency or educational background in occupational safety and health. During the implementation stage, inventories of utility systems and medical equipment have been conducted, but are not updated regularly, and routine maintenance and calibration of medical equipment are also inconsistent. Supervision and

evaluation tend to be passive and are only carried out prior to accreditation, and recording and reporting of FMS activities have not been carried out continuously. The implementation of MFK at Kepahiang Regional Hospital has not met standards due to constraints such as low human resource competency, weak management commitment, budget constraints, inadequate oversight, and minimal coordination between units. These conditions have the potential to increase the risk of incidents and reduce the quality of hospital safety services.

Keywords

Hospital Accreditation, Facility and Safety Management, PDSA (Plan, Do, Study, Act)

Introduction

A hospital is a healthcare facility that provides comprehensive individual healthcare services through promotive, preventive, curative, rehabilitative, and/or palliative care, providing inpatient, outpatient, and emergency care. (Ministry of Health, 2024) Hospitals as institutions providing health services have a very strategic role in realizing the highest level of health (Law of the Republic of Indonesia No. 44 of 2009). As stated in the Decree of the Minister of Health No. 129 of 2008, hospitals are required to provide quality services in accordance with established standards and can reach all levels of society. This standard is stipulated in the Decree of the Minister of Health Number HK.01.07 / MENKES / 1596/2024 concerning Hospital accreditation standards, one of which discusses facility and safety management (MFK). (Fitriyatun & Putriningtyas, 2021) Facility and safety management (FSMS) is a planned and structured process for managing and maintaining facilities and equipment. hospital, as well as to ensure the safety of patients, staff, and visitors. Facility and safety management (FSM) encompasses various aspects, from facility planning and design, maintenance and repair, to risk and incident management. Therefore, facility and safety management is an essential element of a series of hospital management standards. (Anggraini & Prasastin, 2024) Referring to the indicators used by the Ministry of Health, hospitals need to implement sustainable service quality management to maintain the quality of health services provided to the public. One way to do this is by using the PDSA (Plan-Do-Study-Act) approach. The PDSA cycle is widely used in quality management across various fields, including health services in hospitals, and is a highly effective method. (Zahroti, 2018) Based on data from the Ministry of Health as of April 15, 2024, the Ministry of Health recorded 3,178 registered hospitals. Of these, 2,925, or 92%, have been accredited, while 253, or 8%, have not. Because facility and safety management (FSM) is included in hospital accreditation, this data can also be used to determine the success of FSM implementation in Indonesia. (Ministry of Health, 2024) The impact of failing to implement facility and safety management in hospitals is devastating, including increased risk of injury or death, decreased quality of hospital services, decreased patient satisfaction, and even damaged the hospital's reputation. From January to November 2023 in Indonesia, the number of workplace accidents reached 360,635, with the majority of these occurring in healthcare providers, including hospitals. (Hamurwani & Denny, 2021) In the initial survey, the researcher conducted interviews with the head of the Hospital Occupational Safety and Health (K3) Committee and the person in charge of the Hospital Infrastructure Maintenance Installation (IPSRS) of the Kepahiang Regional General Hospital in January 2025, which showed that after the assessment and determination of the

accreditation graduation, the facility and safety management (MFK) program did not run sustainably, so that this caused several incidents and cases to occur throughout 2024, including; 2 incidents of 6 m3 oxygen (O2) cylinders falling onto the feet of the Hospital Infrastructure Maintenance Installation (IPSRS) officers on duty occurred because the oxygen cylinders were not secured. 3 incidents of power outages occurred that lasted for more than 5 seconds or even up to 5 minutes during the service, which was fatal when surgery was being carried out in the Central Surgical Installation (IBS) room and the use of ventilators by patients in the Intensive Care Unit (ICU) room due to irregular generator maintenance, Lack of officer compliance resulted in the management of toxic and hazardous materials (B3) and waste not being in accordance with the established standards, one example of which was seen by officers not using complete personal protective equipment (PPE), the active fire protection system (Sprinkler) was damaged and the unavailability of hydrants was a recommendation from the accreditation surveyor to be provided, this has been reported and proposed to the relevant management but there has been no follow-up to its fulfillment, maintenance of medical equipment has not been carried out periodically, it is stated that the calibration of medical equipment has not been recalibrated for more than 1 year. Pre-construction and building renovation risk assessments have not been implemented according to standards because the Occupational Health and Safety Committee was not involved before and during construction and renovation activities. The lack of training related to facility management and safety has prevented the implementation of facility management and safety standards within the Kepahiang Regional General Hospital. Furthermore, there is a lack of consistency among policymakers at the hospital in efforts to improve the quality of healthcare services. Kepahiang Regional Public House is the only government-owned hospital that has an important role in health services in Kepahiang Regency which provides health facilities and medical services with a large number of workers and services. Data obtained from the Occupational Safety and Health (K3) Committee of Kepahiang Regional Public Hospital, in 2023 Kepahiang Regional Public Hospital has passed accreditation with plenary level status by the accreditation organizing institution Hospital Accreditation Commission (KARS) with accreditation standards in the management group, especially Facility and Safety Management (MFK) achieving a score of 83% of the target recommended by the Ministry of Health, namely 80%. The shortcomings of this figure give rise to several recommendations that must be implemented and improved. Some recommendations related to this assessment are safety and security programs, management of hazardous and toxic materials and waste (B3), fire protection, medical equipment maintenance, utility system management, emergency and disaster management, construction-renovation assessment and training. The phenomenon that occurred at Kepahiang Regional General Hospital shows that the Facility Safety Management (MFK) has not been running sustainably in accordance with the Decree of the Minister of Health Number HK.01.07/MENKES/1596/2024 . With the suboptimal implementation of facility and safety management (MFK), the hospital is vulnerable to facility risks such as the incidents experienced throughout 2024 which occurred repeatedly and had a major impact on the management of Hospital services. Therefore, researchers conducted a study on "Analysis of the Implementation of Facility and Safety Management (MFK) Using the PDSA Approach at Kepahiang Regional General Hospital in 2024" to find out more deeply how the implementation of Facility and Safety Management (MFK) at Kepahiang Regional General Hospital and why Facility and Safety Management (MFK) at Kepahiang Regional General Hospital is not implemented according to the standards of the Regulation of the Minister of Health of the Republic of Indonesia which includes regulations, inhibiting factors and good risk

management in the implementation of Facility and Safety Management (MFK).

Literature Review

Hospital

A hospital is a health service institution that provides comprehensive individual health services, providing inpatient, outpatient, and emergency services (Government Regulation of the Republic of Indonesia, 2021) According to (Kharisma & Lailiyah, 2024) a hospital is a health facility where various medical therapies are provided to patients, working together to provide the best possible treatment for illnesses so that the illness can be cured quickly.

Facility Management and Safety

Management is the process of planning, organizing, leading, and controlling the efforts of organizational members, as well as the use of existing resources to achieve predetermined goals. Furthermore, management is the effectiveness and efficiency of achieving organizational goals through planning, organizing, leading, and controlling organizational resources. (Kharisma & Lailiyah, 2024)

According to (Setiawan et al., 2020) in the K3RS journal written by Dewi Kurniati, the aim of occupational safety is to protect workers' right to safety in carrying out work to improve the welfare of life and increase national production and productivity, as well as guarantee and maintain safety and security at work.

Implementation of Facility and Safety Management

The Indonesian Ministry of Health's Regulation establishes occupational safety and health standards as part of the hospital accreditation process. One supporting regulation is the Hospital Accreditation Standards (STARKES), issued by the Indonesian Ministry of Health in 2022. These standards, specifically within the Hospital Management Standards group, include a chapter addressing Facility and Safety Management (MFK), which plays a role in ensuring the hospital environment meets occupational safety and health aspects for patients, families, staff, and visitors.

Hospital facilities and environments must be safe, functional, and provide a safe care environment for patients, families, staff, and visitors. To achieve this goal, physical facilities, buildings, infrastructure, healthcare equipment, and other resources must be managed effectively to reduce and control hazards and risks, and prevent accidents, injuries, and occupational diseases. In managing facilities and environments and monitoring safety, hospitals develop facilities and environmental management programs and risk management programs for safety monitoring throughout the hospital environment. Effective management includes multidisciplinary planning, education, and monitoring. Leaders plan the space, equipment, and resources needed to support the safe and effective provision of clinical services. All staff are educated about the facilities, how to reduce risks, how to monitor and report risky situations, and conduct comprehensive facility-wide risk assessments that are developed and regularly monitored. If a hospital has non-hospital entities or tenants (such as restaurants, canteens, cafes, and souvenir shops), the hospital is required to ensure that these tenants comply with the facility management and safety program, namely the safety and security program, the hazardous and toxic materials management program, the disaster and emergency management program, and fire

protection. (Tristantia, 2018)

Methods

Data analysis is the process of systematically searching for and compiling data obtained from interviews, field notes and documentation by organizing the data into categories, then breaking it down into units, synthesizing it, arranging it into patterns, selecting...

which ones are important and which will be studied and make conclusions so that they are easily understood by researchers themselves and others.

The steps for processing and analyzing qualitative data are:

1. Creating data transcripts

   The activity of transcribing information or transferring data from recorded oral conversations and field notes into written form. Each piece of information is assigned a source code so that it can be further traced if the data is missing.

2. Data reduction

   Data reduction is a key step in qualitative data analysis. Data reduction involves simplifying, classifying, and removing unnecessary data so that it yields meaningful information and facilitates drawing conclusions. Due to the large volume and complexity of data, data reduction analysis is necessary. This reduction stage determines whether the data is relevant to the final objective.

3. Data display

   Data display or data presentation is also a stage of qualitative data analysis techniques. Data presentation is the activity of arranging a set of data in a systematic and understandable manner, thus allowing conclusions to be drawn. Qualitative data presentations can be in the form of narrative text (field notes), matrices, graphs, networks, or charts. Through presentations,

   the data, then the data will be organized and arranged in a relationship pattern, so that it will be easier to understand.

4. Conclusions and interpreting data

   Drawing conclusions and interpreting data, then identifying patterns and relationships, and making general findings. Conclusions are drawn by comparing the correspondence between the research subjects' statements and the meaning of the underlying concepts.

Results and Discussions

In The following are the interview results from the stages of implementing MFK at Kepahiang Regional Hospital:

Policy Determination

The facility management and safety (FSM) policy has been well-developed and is in written form, issued by the hospital director. This policy exists in various forms, such as guidelines, decrees, and Standard Operating Procedures (SOPs). The development of these guidelines,

policies, and SOPs is aligned with hospital accreditation standards. The following was stated by an informant: "...regulations in the form of a Decree stipulated by the director, there are Guidelines or Guidelines and also SOPs" (A.1) "…there are guidelines, manuals, decrees, standard operating procedures (SOPs) and there are also work programs determined by the hospital director..." (A.2) "...in the form of guidelines and SOPs…" (A.3) "...in addition to the guidelines mentioned above, the committee also created the MFK Program, which includes standards for leadership and planning, safety, security, hazardous and hazardous waste, fire protection, medical equipment, utility systems, emergencies and disasters, construction and renovation..." (A.3) Based on the results of interviews with informants A.1, A.2, and A.3, it can be concluded that Kepahiang Regional Hospital has complete regulations related to facility and safety management (MFK). These regulations consist of a Decree (SK) issued by the director, guidelines or guides, and Standard Operating Procedures (A.1, A.2, A.3). In addition, an MFK work program has been prepared that covers various important aspects such as leadership and planning standards, safety, security, B3 and waste management, fire protection, medical equipment, utility systems, emergencies and disasters, and construction and renovation (A.3). This demonstrates the hospital management's commitment to providing a regulatory basis and work program that supports the implementation of MFK at Kepahiang Regional Hospital.

Planning (Plan)

The planning referred to in this study is the planning of human resource (HR) needs and risk assessment in work units. Human resources are people who can be empowered in implementing facility and safety management in hospitals. The human resources of the Kepahiang Regional General Hospital for the Hospital Occupational Safety and Health Committee (K3RS) or MFK Team have not met the standards according to the Regulation of the Minister of Health of the Republic of Indonesia Number 66 of 2016 concerning Hospital Occupational Safety and Health, as expressed by the following informant: "…The K3RS/MFK committee chair has been appointed, has attended training and has a K3RS certificate…" (A.1) "...the hospital has 1 (one) MFK officer who has a K3RS certificate" (A.2) "...I am an emergency doctor but I have attended K3 training, I have a K3 certificate" (A.3) From the interviews with informants A.1, A.2 and A.3, it was shown that the current K3RS human resources or MFK team do not have an educational background in Occupational Safety and Health (K3), there is only 1 (one) person who has a K3RS expert competency certificate, the existing K3RS human resources do not yet meet the requirements to support the work. The risk assessment is compiled into a risk register , created jointly by the MFK team and the heads of each hospital unit. The MFK team invited each head of room/unit to complete their respective risk registers . The risk register was compiled in 2023, as reported by the following informant: "...the committee once compiled a risk list including risks to medical equipment and utility systems in 2023, we involved all units

in the hospital, the units created a risk list in their respective units then we held a meeting with management to compile a risk ranking…" (A.3) "...I was once involved by the K3RS Committee in the evaluation of the MFK implementation and in a meeting to compile a risk list. I was invited to attend the meeting, but it happened quite a while ago, perhaps around the preparation period or after accreditation. However, since then, I have never been invited back or directly involved in the MFK evaluation." (A.5) "...previously, during the accreditation process, I was involved in the K3RS Committee's activities. There were meetings to compile unit risks, but never evaluations. As of now, as the Head of the Room, I am no longer invited or included in any of the K3RS's routine meetings or evaluation activities. So, to date, there has been no direct communication or involvement regarding the evaluation of the implementation of MFK in our room." (A.7) From the interviews with informants A.3, A.5 and A.7, it was shown that the preparation of the risk register was carried out by the K3RS Committee in 2023 by involving the head of the room or unit, each unit was asked to identify risks in its work area, then the results were discussed with management to determine risk priorities, but the head of the room was only involved during the initial preparation, especially before or after accreditation, after that, there was no more direct involvement in further evaluation or updating of the risk register . This shows that the implementation of risk management has not been carried out sustainably and has not actively involved the unit.

Utility System

The utility system is also called a support system or ancillary system, the utility system in this study includes electricity, water and medical gas. Based on the results of the researcher's interviews with informants, it was found that so far the management of the utility system has not been implemented according to standards as in hospital accreditation standards, utility system maintenance must be carried out periodically, the following are the results of the interview: "...In 2022 and 2023, all medical equipment, both in good condition and damaged, was inventoried. Utility systems, including generators, electrical panels, clean water reservoirs, and water machines, were also inventoried." (A.3) "We don't have the data, but we did collect data on medical equipment and utility systems with the K3RS committee, but it was a long time ago. The medical equipment inventory was also compiled by the hospital's assets department." (A.4) Based on the interview results, it was discovered that the utility system inventory had been conducted in 2022 and 2023 by the K3RS Committee in collaboration with the IPSRS and the hospital assets department. The inventory included generators, electrical panels, water machines, and clean water reservoirs, but to date the inventory data has not been updated, this can be an obstacle in optimal planning for maintenance and replacement of facilities. The utility system management was as conveyed by the following informant : "…The management of the utility system is also not optimal, frequent power outages cause errors in several medical devices, while

the generator cannot be automatically repaired to date…" (A.3) "…Daily inspections for maintenance of current facilities are no longer carried out routinely…" (A.3) "...utility system inspections that should be carried out periodically are sometimes missed. Recording and reporting of maintenance results are not yet fully documented…" (A.3) "...the head of the room or installation who informs us if there is medical equipment, water machines, water networks, generators that are damaged or error equipment and immediately comes to the scene... we go to the location and check it, if we can fix it, we fix it immediately... if we need replacement equipment or spare parts, we report it to our superior directly... if it is for replacement or repairs that require large funds, usually there is still a process first, so the repair takes a long time" (A.4) "...I used to check regularly when approaching the acre assessment once a month…" (A.4) "...you can see from the equipment maintenance checklist that if it's routine, the checklist card will definitely be filled in. It used to be routine during accreditation" (A.5) "...the hospital does have a maintenance system carried out by IPSRS staff, but it doesn't seem to be implemented routinely. For example, the equipment in the CSSD room has never been regularly monitored. Maintenance is more reactive, meaning it's only carried out after a report of damage…" (A.6) "It's not routine either, no IPSRS officers or K3 committee come to check the equipment except when the equipment is damaged" (A.7) Interviews revealed that the hospital's utility and facility maintenance systems were not optimally managed. Frequent power outages resulted in damage to medical equipment, while backup systems, such as generators, were not fully functional. Inspections and maintenance activities were irregular and reactive, conducted only when damage occurred. Documentation, such as maintenance checklists, was not consistently completed, and periodic monitoring was generally only conducted prior to accreditation.

Medical Equipment

To ensure that medical equipment can be used and is fit for use, hospitals need to manage medical equipment properly and in accordance with applicable standards and laws and regulations. The medical equipment management process in this study includes: Inventory of all medical equipment owned by the hospital and medical equipment under operational cooperation (KSO) owned by third parties, Periodic inspection of medical equipment in accordance with usage and factory regulations. Testing is carried out on medical equipment to ensure there are no hazards caused by the use of the equipment, The hospital carries out preventive maintenance and calibration, and the entire process is documented. The following was conveyed by the research informant:

"It has happened before, but the data has not been updated. In 2022, an inventory was carried out of all medical equipment, both those that were in good condition and those that were damaged..." (A.3) "…I once worked with the K3RS committee to collect data for medical equipment inventory and utility systems, but it was a long time ago…" (A.4) Based on the

interview results, it was discovered that the medical equipment inventory was conducted in 2022 and 2023 by the K3RS Committee in collaboration with the IPSRS and the hospital assets department. The inventory includes all medical equipment, both usable and unusable, but to date, the inventory data has not been updated.

Monitoring (Study)

Regulation of the Minister of Health of the Republic of Indonesia Number 66 of 2016 states that monitoring elements include routine inspections or monitoring, recording, and reporting of incidents related to the implementation of facility and safety management (MFK). Based on interviews with research informants, it was found that, in general, inspections of utility systems and medical equipment were carried out by the person in charge together with the supervisor of the IPSRS (Hospital Facilities and Infrastructure Maintenance Installation), but inspections were not yet carried out regularly. The following is an interview with the research informant: "It is managed by the K3RS/MFK committee and technically the work is carried out by IPSRS" (A.1) "The authority for supervision is the K3 Committee or the MFK team and the daily technical IPSRS is supervised by the IPSRS supervisor" (A.2) "...monitoring and evaluation by the Facility Management and Safety Committee (MFK) are indeed carried out, but their implementation is still not optimal. Daily inspections for facility maintenance are no longer carried out regularly, so monitoring of facility conditions is less than optimal. Active monitoring is usually more focused on approaching or during the hospital accreditation process, while outside of that period, monitoring tends to be passive. Annual evaluations are also not fully integrated into the continuous improvement cycle, so some findings or recommendations are not always followed up, especially" (A.3) "Oversight of the utility system by the Facility Management and Safety Committee (MFK) is carried out but is still limited, because as the committee chair, I also serve as an emergency room and ward doctor, so the time for routine supervision is very divided. Oversight typically focuses on reviewing documents and reports from technical teams, and is conducted more actively when utility-related incidents occur. Regular on-site monitoring is rare, and regulatory compliance is often ensured through reactive, rather than preventative, unannounced inspections." (A.3) "...there is an IPSRS supervisor so our work is monitored by the supervisor, sometimes when working we are accompanied by the supervisor" (A.4)

Conclusion

1. The establishment of facility and safety management regulations is quite good, such as policies, guidelines, SOPs, and work programs that are prepared according to accreditation requirements.
2. the risk register has not been updated. In addition, there are still human resources in terms of both quantity and competence. This shows that even though the planning documents are available, the capacity of the implementers is still a challenge in supporting the successful

implementation of MFK as a whole.

3. The implementation of MFK at Kepahiang Regional Hospital, particularly in the management of utility systems and medical equipment, is still not optimal. Although the hospital has conducted an inventory of utility systems and medical equipment, this activity is not updated regularly as required by regulations. Routine maintenance and calibration of medical equipment are also not carried out consistently after accreditation, indicating weak compliance with SOPs and a lack of oversight from the K3RS committee. Furthermore, budget constraints, a lack of technical personnel, and slow repair processes also hamper the implementation of effective facility and safety management at the hospital.
4. Supervision and evaluation of the MFK at Kepahiang Regional Hospital has not been optimal and sustainable. Supervision tends to be passive and focused only on the lead-up to accreditation, while routine monitoring of facility conditions has not been implemented effectively. Annual evaluations are not fully utilized in the continuous improvement cycle, resulting in several priority risks not being efficiently addressed. Furthermore, recording and reporting of MFK activities remains limited.
5. Compliance with the MFK standards at Kepahiang Regional Hospital has not been optimally implemented due to various systemic and structural constraints, both at the management level, technical staff, and the K3RS Committee. Budget limitations, lack of management commitment, and minimal technical competency and occupational safety training have resulted in MFK implementation being administrative in nature and inconsistent at the operational level. Oversight by the K3RS Committee has also been ineffective because it is more formal in nature prior to accreditation without routine monitoring and ongoing follow-up. This condition indicates that a safety culture has not been fully embedded in the hospital's quality system, increasing the risk of incidents that could endanger the safety of patients, families, staff, and visitors.

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