

Overview of Logistics Management Implementation Medical Devices at Mitra Sejati Hospital Medan in 2024

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Article Info	ABSTRACT
<p>Keywords: Logistics Management, Medical Devices, Maintenance Evaluation.</p>	<p>This study aims to evaluate the implementation of medical equipment logistics management at Mitra Sejati Hospital Medan in 2024. Using qualitative methods with in-depth interviews of logistics officers, department heads, and related personnel, the research found that the logistics management covered all key stages including selection, planning, procurement, reception, storage, distribution, disposal, control, and administration, all in accordance with the Ministry of Health regulations. Medical equipment selection was based on hospital classification, actual service needs, and official regulatory guidelines, ensuring efficient and effective procurement. Stock management was systematically coordinated quarterly between relevant units and the Health Office to maintain adequate equipment availability. Maintenance and care followed clear Standard Operating Procedures (SOP) with dedicated staff conducting regular calibration and functionality tests. Equipment eligibility certificates were issued in cooperation with the Health Office and technical institutions to guarantee safety and service quality. Equipment damage handling was prompt and coordinated, either through internal repair or collaboration with suppliers, depending on the severity and warranty status. Logistics management evaluation was conducted at least twice a year, with quarterly meetings to address issues and plan continuous improvements. The hospital ensured only certified medical devices with official distribution licenses were used. Operator training and functional testing minimized operational errors. Recommendations include continuous staff capacity building through ongoing training and digitizing logistics management to enhance efficiency and data accuracy. Overall, Mitra Sejati Hospital's medical equipment logistics management is effective, efficient, and compliant with applicable standards, supporting optimal healthcare service quality.</p>
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INTRODUCTION

Quality health services in hospitals are not only determined by the competence of medical personnel, but are also greatly influenced by the availability of supporting facilities and infrastructure, one of which is medical equipment (Faisal et al., 2020; Pratama & Mulyanti, 2023). Medical devices have a very important role in medical service activities, both in the

process of diagnosis, treatment, rehabilitation, and monitoring of patient conditions (Feriana, 2021). Without adequate medical equipment, medical services cannot run optimally (Hadi & Hidayatulah, 2023). The availability of unsecured medical devices or their improper management can pose the risk of delays in patient handling, equipment damage, budget waste, and a decrease in the quality of hospital services (Astiena & Hadiguna, 2024). Therefore, medical device logistics management is an integral part of the hospital health service system (Jumadewi, 2021).

Medical device logistics management is the process of planning, selecting, procuring, receiving, storing, distributing, controlling, maintaining, destroying, and recording medical devices systematically and continuously (Astiena & Hadiguna, 2024). The purpose of this management is to ensure that medical devices are available in sufficient quantities, the right type, the right quality, and in suitable conditions so that they can be used effectively and efficiently in services to patients (Febriyanti et al., 2023). A good logistics system not only ensures the smooth operation of the hospital, but is also able to provide cost efficiency, prevent waste of resources, and provide accurate logistics information to support strategic decision-making of hospital management (Budiman et al., 2024).

In the context of regulations, the Government of Indonesia through various laws and regulations has emphasized the importance of professional and standard management of medical devices (Berdame, 2024). Law Number 44 of 2009 concerning Hospitals requires hospitals to meet pharmaceutical and medical device requirements, including ensuring the availability of quality, safe, useful, and affordable pharmaceutical preparations and medical devices by the public (Marâ et al., 2020). Meanwhile, Government Regulation Number 51 of 2009 concerning Pharmaceutical Work also emphasizes that pharmaceutical practices must follow established standards, including in terms of medical device management (Ningsih et al., 2025). In addition, the Regulation of the Minister of Health more technically regulates the standards for pharmaceutical services and logistics of medical devices in health care facilities (Amalia, 2022). In other words, every hospital is required to manage the logistics of its medical devices in accordance with the provisions of applicable laws and operational standards (Syam, 2023).

Mitra Sejati Hospital Medan Johor is one of the private hospitals operating in the city of Medan and has a great responsibility in providing health services to the community. As an advanced level health service facility, this hospital is required to have an orderly, structured, and efficient medical device logistics management system to ensure the smooth operation of medical services. In its implementation, the logistics management of medical devices in this hospital must be able to meet the needs of each service unit quickly and precisely, avoid delays or shortages of equipment, and minimize damage and loss of equipment. However, various challenges are still often found in the management of medical device logistics, such as inaccurate needs planning, delays in the procurement process, limited storage facilities, lack of integrated information systems, and lack of training of human resources in the field of health logistics.

Based on this background, it is necessary to conduct research that aims to find out the overview of the implementation of medical device logistics management at Mitra Sejati

Hospital Medan in 2024. This research will examine in depth how the medical device logistics management system is implemented in hospitals, including aspects of planning, procurement, storage, control, and obstacles faced in practice. The results of this research are expected to be evaluation and input for hospitals in an effort to improve the quality of medical device logistics management that is effective, efficient, and in accordance with the standards set by the government. With a good logistics system, it is hoped that health services at Mitra Sejati Hospital Medan can run more optimally and provide maximum benefits to the community.

METHODS

This research is a qualitative research with a descriptive approach that aims to comprehensively describe the implementation of medical device logistics management at Mitra Sejati Hospital Medan in 2024 (Wardani, 2020). The method used in this study is a qualitative descriptive method, where data is collected through in-depth interviews with informants who play a direct role in the management of medical device logistics at Mitra Sejati Hospital Medan (Agustianti et al., 2022). Informants are selected purposively, namely based on certain criteria such as having responsibility or direct involvement in the logistics process of medical devices, such as procurement departments, pharmaceutical warehouses, head of installations, or hospital logistics administration personnel. In addition to interviews, the researcher also conducted direct observations in the field and examined documents relevant to the logistics process of medical devices.

RESULTS AND DISCUSSION

Result

The implementation of medical device logistics management at Mitra Sejati Hospital Medan in 2024 has included all major stages in the logistics system, namely selection, planning, procurement, receipt, storage, distribution, destruction or withdrawal, control, and administration. Based on the results of the interview, it is known that the process of selecting medical devices has followed the standards set out in the Regulation of the Minister of Health. The type of medical device chosen has been adjusted to the hospital's classification and the needs of the community. The determination of procurement priorities is carried out based on the level of hospital services and the reference of official regulations that have been set, so that the medical equipment held is in accordance with real needs.

In terms of maintenance and maintenance, the hospital has a clear Standard Operating Procedure (SOP). There are special officers who are responsible for routine maintenance and calibration of medical devices, as well as regular training every year. The certificate of feasibility of the function of the tool is part of the quality control system implemented in collaboration with the Deli Serdang Regency Health Office and other technical institutions such as the Health Center. If a damaged or malfunctioning tool is found, the repair process is carried out by the provider or replaced if the tool is still within the warranty period or cooperation agreement. To maintain smooth service, handling of damage is carried out quickly and coordinated.

The management of medical device stock is carried out through regular meetings every quarter between goods officers, the asset section, and the Health Office. In the forum, tools that are no longer suitable and the tools needed can be repropose with the approval of the Head of the Hospital. Every time a new tool arrives, a function test process is carried out by the operator as a direct user, to ensure that the tool can be used optimally. To ensure quality, hospitals only use medical devices from providers who already have a distribution permit number and a standard certificate from the Ministry of Health. In the face of misuse or damage, there are two handling scenarios, namely through operational checks by hospital officers, or by the provider if the damage is technical. Evaluation of the medical device logistics system is carried out periodically, at least twice a year, to assess the effectiveness, efficiency, and continuous improvement of the implementation of logistics management at Mitra Sejati Hospital Medan.

Discussion

Priority Procurement of Medical Devices

Based on the results of the interview, the procurement of medical devices at Mitra Sejati Hospital Medan has referred to the reference of official regulations issued by the Ministry of Health. The types of medical devices held have been adjusted to the classification and capacity of hospital services, whether inpatient or outpatient. This shows that hospitals have implemented the principles of efficiency and effectiveness in procurement, by referring to applicable standards and not based on subjective assessments. The fulfillment of the needs of medical devices also considers the type of services provided and the workload of each service unit, so that it can be said that procurement is carried out in accordance with the needs of the community in a systematic and structured manner.

Medical Device Maintenance and Maintenance Procedures

Mitra Sejati Medan Hospital already has a Standard Operating Procedure (SOP) that regulates the maintenance and maintenance of medical devices on a regular basis. In addition, there are officers who are specifically assigned to ensure that the tools are in a suitable condition. Efforts to improve the competence of technical staff are also carried out through annual training which includes calibration and function test activities, in collaboration with the Health Engineering Center and the Deli Serdang Regency Health Office. Each appliance used must have a certificate of suitability, and only appliances that pass the feasibility test are allowed to be used. This reflects the hospital's commitment to ensuring patient safety and service quality.

Medical Device Damage or Failure Handling

In the event of damage or malfunction of medical equipment at Mitra Sejati Hospital Medan, the hospital will take two main steps. First, the damaged appliance can be returned to the provider for replacement or repair. Second, if the damage is minor and still within reasonable limits, then repairs can be carried out internally by hospital technicians. This approach shows that the logistics management system in this hospital has flexibility and speed in responding to emergency situations, so that it does not interfere with the running of health services.

Medical Device Stock Management

The management of medical device stocks is carried out by involving routine coordination between goods officers, service units, and the Health Office. Every quarter, meetings are held to discuss the condition of the tool stock, the identification of non-suitable tools, and the proposal of new tools needed. This proposal was submitted with the approval of the head of the relevant unit. This system allows hospitals to maintain the stability of the availability of medical devices so that patient needs are met and there are no shortages at critical moments. This approach also supports the principle of transparency and active participation of all service units.

Human Resource Capacity Building

To ensure that staff have the ability to operate medical devices, Mitra Sejati Medan Hospital implements functional test procedures and technical training when new devices arrive. Operators who will use the appliance are required to take a live test under the supervision of a technician or appliance provider. This is important so that the potential for operational errors can be minimized and the tool can be used optimally from the beginning of use.

Ensuring Quality Standards for Medical Devices

The hospital ensures that the medical equipment used meets the quality standards as regulated by the Ministry of Health. The provider is only allowed to supply medical devices that already have an official registration number and are produced by a certified factory. Thus, the quality and safety of medical devices used in services to the community can be guaranteed and in accordance with the applicable legal provisions.

Handling Errors in the Use of Medical Devices

If there is an error or failure in the use of medical devices, Mitra Sejati Medan Hospital will analyze the cause of the failure. Failures can be caused by equipment malfunctions or operational errors due to a lack of user understanding. In this case, it will be checked by an internal technician or by the direct tool provider. Corrective steps are taken immediately to prevent the recurrence of the same incident and maintain the quality of health services.

Evaluation and Improvement of Logistics Management System

Evaluation of logistics management is carried out regularly at Mitra Sejati Hospital Medan, at least twice a year. In addition, quarterly coordination meetings are a forum to discuss obstacles, needs, and improvement plans in the logistics system. This evaluation involves the hospital management and related units, so that the decision-making process becomes more holistic and based on real conditions in the field.

CONCLUSION

Based on the results of the research conducted, it can be concluded that the logistics management of medical devices at Mitra Sejati Hospital Medan has been carried out quite well and in accordance with the guidelines set by the Ministry of Health. The procurement process of medical devices is conducted based on standards that align with the hospital's classification and refer to the applicable official regulations. The management of medical equipment stocks is carried out systematically through routine coordination between units

and with the Health Office, ensuring that the needs of medical services are met optimally. In terms of maintenance, the hospital has clear SOPs and involves trained personnel to regularly calibrate and inspect the feasibility of the equipment. The handling of equipment damage is also well organized, through both internal repairs and collaboration with suppliers. Moreover, the hospital ensures that all medical equipment used meets established quality standards and is only operated by personnel who have undergone training and functional testing. Evaluation of the logistics management system is conducted regularly, both quarterly and annually, to identify issues and implement continuous improvements. This demonstrates that Mitra Sejati Hospital Medan has a strong commitment to maintaining the quality of healthcare services through effective, efficient, and standardized medical equipment logistics management.

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