International Journal of Research and Review
Volume 11; Issue: 5; May 2024
Website: www.ijrrjournal.com
Research Paper *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

Assessment of Clinical Pharmacy Service Standards Implementation at Bhayangkara Hospital Level III in Kendari

Sartia Rahman[1], Asriati[2], Asnia Zainuddin[3]

[1,3]Postgraduate Public Health Department, Halu Oleo University, Kendari, Indonesia
[2]Medicine Department, Medicine Faculty of Halu Oleo University, Kendari, Indonesia

Corresponding Author: Asriati

DOI: https://doi.org/10.52403/ijrr.20240502

ABSTRACT

One crucial component influencing the successful implementation of healthcare efforts in hospitals is the pharmaceutical system. Pharmaceutical services play a pivotal role in supporting quality healthcare, as outlined in Permenkes Number 72 of 2016, which delineates Pharmaceutical Service Standards in Hospitals. However, preliminary survey results conducted by the author indicate suboptimal implementation of these standards in 2021. Consequently, the researchers embarked on a study aimed at analyzing the implementation of pharmaceutical service standards at the Pharmacy Installation of Bhayangkara TK III Kendari Hospital. This research is scheduled to be conducted in January - February 2024. This study employed an exploratory qualitative method involving 9 informants at the pharmaceutical installation of Bhayangkara Hospital TK III Kendari. Data collection was conducted using interview guidelines, followed by transcription, introduction to interviews, coding, analysis, interpretation, and data mapping into a matrix. The implementation of health minister regulation Number 72 of 2016 regarding clinical pharmaceutical service standards at the Pharmacy Installation of Bhayangkara TK III Kendari Hospital can be summarized as follows: assessment and prescription services were carried out effectively, tracing the history of drug use was partially implemented well, drug reconciliation was partially implemented, drug information services (PIO) were partially implemented well, but some items such as counseling, visitation, monitoring drug therapy (PTO), monitoring drug side effects (MESO), evaluating drug use (EPO), dispensing sterile preparations, and monitoring drug levels in the blood (PKOD) were not implemented optimally. Overall, the implementation of pharmaceutical service standards according to health minister regulation Number 72 of 2016 at the pharmaceutical installation of Bhayangkara Hospital TK III Kendari has not been optimal.

Keywords: *Pharmaceutical service standards, Health minister regulation, Pharmacist, Hospital*

INTRODUCTION

Health services encompass all endeavors, whether conducted independently or collaboratively within an organization, aimed at preserving and enhancing the health of individuals, families, groups, and communities. In accordance with the Law of the Republic of Indonesia Number 44 of 2019 and Regulation of the Minister of Health Number 34 of 2017, hospitals serve as health service institutions that provide comprehensive individual health services,

including inpatient, outpatient, and emergency care. Furthermore, as outlined by Adikoesoemo S [1], hospitals constitute an integral component of the broader health service system, formulated within the framework of health development plans.

One crucial component that significantly influences the successful implementation of healthcare initiatives in hospitals is the pharmaceutical system [2,3]. Pharmaceutical services represent a fundamental aspect of hospital activities aimed at bolstering the quality of healthcare [4]. This is underscored in Health minister regulation No. 72 of 2016, which delineates Pharmaceutical Service Standards in Hospitals, emphasizing the pivotal role of hospital pharmaceutical services within the broader healthcare system. These services are designed to prioritize patient care and ensure the provision of high-quality, affordable medicines, including clinical pharmaceutical services, accessible to all segments of society. The standardization of pharmaceutical services in hospitals encompasses two key elements: the management of pharmaceutical preparations, medical devices, and medical consumables, as well as clinical pharmacy services [4].

In practice, pharmaceutical activities in hospitals sometimes encounter complaints regarding drug therapy errors, which may arise from the provision of inappropriate medications or other factors. Additionally, high drug expenditure due to prescribing errors, resulting in the provision of multiple medications and apparent wastefulness, presents another challenge. These issues often stem from suboptimal implementation of clinical pharmacy services. Furthermore, evolving patient and public demands for the quality of pharmaceutical services necessitate a shift in service paradigm. Moving away from the traditional drug-oriented approach to a patient-oriented paradigm is imperative to meet these expectations [5].

Clinical pharmacy services represent a patient-oriented aspect of healthcare [6]. By implementing these services in hospitals, pharmacists can provide patients with improved therapeutic outcomes and reduce the risk of drug-related side effects. This ultimately ensures patient safety and enhances their quality of life [7].

Hence, adherence to clinical pharmacy service standards is imperative to ensure the provision of quality services. Previous studies examining pharmaceutical service standards, such as the research conducted by [8], have shed light on various aspects. For instance, [8] investigated the perceptions of doctors and nurses regarding the role of pharmacists in clinical pharmacy services at PKU Muhammadiyah Yogyakarta Hospital. The study revealed that factors such as age, length of service, and interaction with pharmacists significantly influenced the perceptions of doctors and nurses regarding the implementation of clinical pharmacy services.

Research conducted by [9] focusing on effective drug information services in multiple countries highlights the status of pharmaceutical services, particularly in the realm of drug information services, across various nations. The aim is to identify effective solutions that can be implemented in Indonesia. The findings revealed that only approximately 14% of monitored hospitals had effectively implemented Drug Information Services (PIO), while 42% had only partially implemented PIO. Alarmingly, about 44% of hospitals had not implemented PIO at all. As a result, further research is warranted to delve into the implementation of pharmaceutical service standards in hospitals, with a specific focus on this aspect.

Bhayangkara Hospital TK III Kendari is a government-operated hospital designated as a regional referral center. It offers comprehensive, high-quality, and affordable healthcare services to individuals of all socioeconomic backgrounds. Moreover, it serves as a hub for education and training of healthcare professionals and facilitates research and development to enhance public health outcomes. The pharmaceutical

department at Bhayangkara Hospital TK III Kendari comprises 17 personnel, with only 5 pharmacists. Despite the relatively recent introduction of Health Minister Regulation No. 72 of 2016 and the limited number of pharmacists, it is essential for Bhayangkara Hospital TK III Kendari, as a prominent referral hospital in Southeast Sulawesi, to prioritize the proper implementation of clinical pharmacy service standards. This initiative is crucial to ensure the delivery of comprehensive and high-quality healthcare services. Implementing these standards promptly is imperative to guarantee optimal service provision for all users.

The limited implementation of clinical pharmacy service standards at Bhayangkara Hospital TK III Kendari is paradoxical, considering the hospital's policy of delegating authority to technical personnel for clinical pharmacy services. This policy aimed to enable pharmacist assistants to contribute to the provision of clinical pharmacy services. However, despite this initiative, the preliminary survey results indicate significant challenges in implementing clinical pharmacy service standards. Given these circumstances, the authors are motivated to investigate factors contributing to the adequacy of implementing clinical pharmacy service standards at the pharmaceutical installation of Bhayangkara Hospital TK III Kendari.

MATERIALS & METHODS

This study employed an exploratory qualitative method conducted at the Pharmacy Installation of Bhayangkara Hospital TK III Kendari from December 2023 to February 2024.

The informants in this study were categorized into three groups: key informants, main informants, and supporting informants. The key informants comprised two individuals who are experts in their respective fields and possess essential knowledge relevant to the research. They are Kaur Jangmed (Head of Medical Support Affairs) and the Head of the pharmaceutical installation of Bhayangkara Hospital TK III Kendari. The main informants included two pharmacists: the individual responsible for the outpatient pharmacy and the PJ (Penanggung Jawab) of the inpatient pharmacy. Additionally, there were five supporting informants who are pharmacist assistants contributing to the implementation of clinical pharmacy standards at Bhayangkara Hospital TK III Kendari.

The data in this study are categorized into primary data and secondary data. Primary data refer to information provided directly to researchers by respondents. On the other hand, secondary data consist of information obtained indirectly or from non-original sources such as magazines, books, or newspapers. Primary data in this study include respondent characteristics and details about clinical pharmacy services. Secondary data encompass information about the number of pharmacists and pharmacist assistants, which were obtained from the hospital profile.

The data is presented in narrative form and is supplemented by a matrix of in-depth interview results. These results provide insights into the implementation of Pharmacy Service Standards outlined in Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016.

RESULT

In addressing the responsibility of pharmacists in assessing and fulfilling prescriptions, including administrative requirements, pharmaceutical suitability, clinical considerations, and consulting with prescribing doctors in case of uncertainties regarding the prescription, it was found through interviews with informants that pharmacists routinely fulfill these duties.

The evaluation results of drug reconciliation implementation at Bhayangkara Hospital level III Kendari reveal several key activities. Pharmacists consistently document drug usage details such as name, indication, dose, frequency, and route. However, recording patient drug allergies and side effects is currently lacking.

Additionally, pharmacists do not regularly consult with doctors in case of inconsistent documentation. Moreover, communication with patients, their families, or nurses regarding therapy changes is inconsistent. Furthermore, the documentation of reconciliation results overall is inadequate. Based on interviews with informants, drug usage is recorded in the hospital system, including drug name, dose, frequency, and route of administration. However, the documentation of patient drug allergies and side effects is insufficient. Pharmacists do not routinely coordinate with doctors regarding therapy changes. Overall, the reconciliation process lacks adequate documentation.

The results of interviews regarding the tracing of drug use history at the pharmaceutical installation of Bhayangkara Hospital level III Kendari reveal several key findings. Pharmacists consistently inquire about patients' prior drug use history before administering medications. They also routinely inquire about patients' drug allergies and document this information. However, there is a lack of consistency in querying patients about medication compliance, and documentation of this aspect is inadequate. It can be inferred that pharmacists regularly inquire about patients' history of specific drug usage, particularly antibiotic medications. However, there is minimal inquiry into patients' medication compliance, and documentation of drug use history tracking is suboptimal.

The results of interviews regarding Drug Information Services (PIO) at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass various aspects. These include the types of PIO services provided, dissemination methods such as bulletins, brochures, and leaflets, community empowerment through counseling, patient information and education, instruction to pharmacy students, research on drug use, presentations at scientific forums, routine quality assurance programs, and documentation practices conforming to Form 6 of Health Minister Regulation No. 72 of 2016. It is evident that both oral and written drug information services have been conducted in both inpatient and outpatient settings. Brochures have been disseminated to patients and their families. However, there is a lack of Standard Operating Procedures (SOP) for the implementation of pharmaceutical education to patients. Furthermore, activities such as drug use research, presentations at scientific forums, routine quality assurance programs, and documentation of drug information services have not yet been initiated.

The results of interviews regarding the implementation of counseling services at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass various aspects. These include communication between pharmacists and patients meeting the inclusion criteria stipulated in Minister of Health Regulation No. 72 of 2016, assessment of patient understanding of drug use through three key questions, further exploration of drug use issues, provision of explanations to address drug-related problems, and final verification to ensure patient comprehension. It is evident that counseling services have not been implemented due to the absence of dedicated facilities, such as a designated room within the hospital.

The results of interviews regarding home pharmacy care services at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass several key activities. These include identifying treatment-related issues, assessing patient compliance, assisting in managing medications and/or medical devices at home, providing consultations on drug and health-related matters, monitoring the implementation, effectiveness, and safety of drug use based on patient treatment records, and documenting the provision of home pharmacy services using Form 8 as stipulated in Minister of Health Regulation No. 72 of 2016. It is evident that these services have not been conducted due to the absence of clinical pharmacy services

at Bhayangkara Hospital, and pharmacists have not received training on monitoring drug therapy.

The results of interviews regarding the implementation of drug therapy monitoring (PTO) at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass several key processes. These include selecting patients who meet the criteria outlined in Minister of Health Regulation No. 72 of 2016, gathering data on the patient's treatment history through interviews with patients, their families, or other healthcare workers, identifying drug-related problems such as indications for no therapy, inappropriate drug selection, dosage errors (both too high or too low), adverse drug reactions, or potential drug interactions, prioritizing the identified problems based on the patient's condition, providing recommendations or follow-up plans with monitoring strategies, communicating the results and recommendations to relevant healthcare professionals to optimize therapeutic goals, and documenting the drug therapy monitoring process using Form 9 as specified in Minister of Health Regulation No. 72 of 2016. It is evident that the implementation of drug therapy monitoring at Bhayangkara Hospital has not been optimal.

The results of interviews regarding the implementation of Monitoring Drug Side Effects (MESO) at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass several key steps. These include identifying drugs and patients who are at high risk of experiencing drug side effects, completing the Monitoring Drug Side Effects (MESO) form, and reporting to the National Drug Side Effects Monitoring center using Form 10 as specified in Minister of Health Regulation No. 72 of 2016. It can be concluded that the Monitoring of Adverse Drug Events (MESO) at Bhayangkara Hospital has not been implemented optimally.

The results of the interview regarding the implementation of drug utilization evaluation (EPO) at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass several key activities. These include conducting research on the pattern of drug use within the hospital, comparing patterns from one period to the next, providing input and assessment on these patterns, and determining whether appropriate follow-up actions are taken. It can be concluded that the implementation of drug utilization evaluation (EPO) at the pharmaceutical installation of Bhayangkara Hospital has not been optimal.

The results of interviews regarding the implementation of sterile drug dispensing at the pharmaceutical installation of Bhayangkara Hospital level III Kendari include assessing whether the hospital has a designated room equipped with a laminar airflow hood (LAF) for this purpose. Additionally, it was explored whether pharmacists are responsible for the preparation of injectable drugs such as IV admixtures and Total Parenteral Nutrition (TPN), and whether they handle cytostatic drugs using appropriate Personal Protective Equipment (PPE). It can be concluded that the implementation of sterile drug dispensing at the Bhayangkara Hospital Pharmacy Installation has not been optimal due to the absence of clinical pharmacy services and the lack of relevant training attended by pharmacists.

The results of interviews regarding the implementation of Monitoring Drug Levels in Blood (PKOD) at the pharmaceutical installation of Bhayangkara Hospital level III Kendari encompass several key aspects. These include assessing the requirements for PKOD among patients, pharmacists engaging in discussions with doctors to conduct PKOD for patients, and pharmacists analyzing the PKOD results and offering recommendations. It can be concluded that PKOD implementation is lacking at Bhayangkara Hospital due to the absence of clinical pharmacy services, and the current pharmacists have not received training on monitoring drug levels in the blood.

DISCUSSION

Implementation of assessment and prescription services in the pharmaceutical installation of Bhayangkara Hospital TK III Kendari

The first clinical pharmacy service involves the delivery and review of prescriptions. This service commences with the receipt and review of prescriptions, followed by the preparation of pharmaceutical supplies such as compounding drugs, and the subsequent checking, submission, and provision of information. Throughout each stage of the prescription service flow, measures are taken to anticipate any errors in drug administration, prioritizing patient safety [10]. Prescription review activities commence with the selection of administrative, pharmaceutical, and clinical requirements for both outpatients and inpatients, as stipulated by the Ministry of Health in 2016. Additionally, the process of delivering and providing drug information encompasses service activities that initiate with the compounding or preparation of drugs, followed by etiquetting or labeling, and ultimately the delivery of pharmaceutical preparations along with adequate information, accompanied by documentation [11].

The results revealed that prescription screening, encompassing administrative, pharmaceutical, and clinical aspects, is routinely conducted at Bhayangkara Hospital for every prescription received by both the inpatient and outpatient pharmacies. The utilization of drugs recorded in the hospital's information system (HIS) includes details such as the drug name, dosage, frequency, and route of administration. However, the recording of patient history regarding drug allergies and side effects is currently inadequate. This is attributed to several factors, notably the infrequent communication by the attending physicians regarding patient allergies, and the absence of allergy and side effect information in the current HIS system. Hence, there is a pressing need for further development in this area.

Clarity in writing the dosage of medication is imperative to prevent errors in administering doses and to maximize the therapeutic effects for patients. Therefore, it is essential that the dosage of medication prescribed is accurate and appropriate. The precise indication of the quantity and usage instructions in a prescription holds significant importance during drug administration, ensuring that the medications align with the patient's specific needs and conditions. Equally crucial is the accurate labeling of medication names, as it mitigates the risk of errors during drug administration to patients.

The lack of clarity in writing the frequency of drug administration in prescriptions significantly impacts the provision of drug services to patients. Omitting the frequency of drug administration can lead to misinformation regarding medication usage, as the patient's condition dictates the frequency of drug intake. However, pharmacists have yet to document pharmaceutical administration services, and this activity has been inadequately performed at Bhayangkara Kendari Hospital, primarily due to limited human resources.

Implementation of tracking the history of drug use in the pharmaceutical installation of Bhayangkara Hospital TK III Kendari

In the Drug Use History Tracing Service, pharmacists are mandated to inquire about the patient's previous medication history and allergies, despite assessments conducted by doctors. This practice aims to mitigate errors in drug administration. Besides direct inquiry, pharmacists may refer to the patient's medical records or drug use list sheets in the hospital repository and satellite units for comprehensive information. Additionally, pharmacists play a crucial role in assessing each patient's medication compliance, crucial for the success of therapy.

Particularly for inpatients, pharmacists delegate the administration of medication to

nurses to ensure patient compliance. This measure is taken to monitor and regulate medication intake effectively. All aspects of drug use history, allergy history, and patient compliance monitoring are meticulously documented in a dedicated form known as the Drug Monitoring Sheet (LPO).

Drug tracing at Bhayangkara Hospital, encompassing both inpatient and outpatient pharmacies, has been conducted; however, documentation is lacking, primarily due to insufficient human resources in the pharmacy department. While antibiotic usage tracing has been initiated, not all patients receive this scrutiny. Pharmacists routinely inquire about patients' medication histories before administering drugs, with some patients proactively disclosing drug allergies.

This aligns with the research conducted by Indiani et al. [12], which reported several applications of clinical pharmacy service standards implemented in the Inpatient Ananda Purwokerto Hospital, including tracking the history of drug use. Similarly, Mulyani et al. [13] found that pharmacists routinely conduct drug use history tracing activities.

Implementation of drug reconciliation at the Bhayangkara TK III Kendari Hospital pharmacy

Medication reconciliation involves comparing treatment instructions with the medication received by the patient. In inpatient settings, this process occurs during the Unit Dose Dispensing (UDD) procedure. Conversely, for outpatients, it takes place before handing over the medication to the patient or their family.

The purpose of medication reconciliation is to prevent medication errors such as omissions, duplications, dosage errors, or drug interactions. These errors are particularly prevalent during patient transfers between hospitals, between treatment rooms, and during hospital discharge to primary healthcare facilities, and vice versa.

The research findings reveal that pharmacists conduct a matching process between prescription notes received and those documented by nurses for inpatients. Similarly, this procedure extends to outpatients, patients relocating within the hospital, new clinic patients, and those transferring from other medical facilities. Given the limited number of pharmacists in hospitals, Pharmacy Technicians often assist in this task to accommodate the large patient volume and expedite the process.

During this process, pharmacists document any drug allergies, reactions, or side effects experienced by the patient. These records are subsequently reported to the Head of the Pharmacy Installation section. However, these notes, constituting the pharmacists' daily reports, are currently undocumented and not subject to periodic review.

Pharmacists also conduct data comparison tasks with the assistance of Pharmacy Technicians. This comparison is carried out when discrepancies arise between the prescribed medication and the medication being used by the patient. Pharmacists will first confirm with the doctor or nurse. Research findings indicate that pharmacists directly inquire with nurses in cases of data discrepancies, as nurses are presumed to have a better understanding of the accuracy of the documentation. If the nurse's response is deemed inadequate, the pharmacist will then seek confirmation from the relevant doctor.

In general, the medication reconciliation process at the hospital has achieved a 100% success rate. This indicates effective implementation, as pharmacists meticulously compare patients' medication history data. However, despite this success, pharmacists encounter several obstacles, including a shortage of staff and incomplete medical records, leading to challenges in conducting medication reconciliation.

These findings contrast with research by Indiani et al. [12], which reported that certain standard implementations of clinical pharmacy services at the Ananda Purwokerto Inpatient Hospital, including

medication reconciliation, had not been fully implemented. Conversely, in line with the research conducted by Mulyani et al. [13], pharmacists routinely carried out drug reconciliation activities.

Implementation of Drug Information Services (PIO) at the Bhayangkara TK III Kendari Hospital pharmacy installation

Pharmaceutical services, also known as Pharmaceutical Care, represent a vital aspect of the pharmacist profession, aiming to enhance patients' quality of life through pharmaceutical interventions. These services strive to deliver satisfactory outcomes to every patient, adhering to established ethical codes and service standards [14].

The findings of this study reveal that Drug Information Services (known as PIO) are consistently offered to both outpatients and select inpatients, either through informational brochures or verbal communication, especially for patients receiving specific medications such as ointments, suppositories, dry syrups, and inhalers.

However, overall, the drug information service at Bhayangkara Hospital has not been optimized. It has only been provided to approximately 85% of patients, primarily due to a shortage of pharmacists within the hospital. Additionally, the absence of a dedicated space for Drug Information Services, coupled with the high volume of patients and time constraints for outpatients, further hampers the delivery of these services.

Accurate reporting of the quantity of medication obtained is crucial within drug information services. This practice minimizes errors in dosage, particularly for patients undergoing polypharmacy. Moreover, drug information services play a pivotal role in enhancing patients' understanding of their prescribed medications.

Providing information about the indications of drugs serves to clarify the purpose of each medication, facilitating patient comprehension. At Bhayangkara Kendari Hospital, pharmacists undertake the responsibility of imparting this essential knowledge.

Equally significant is the dissemination of information regarding the proper usage of medications to patients and their families. Incorrect medication practices significantly heighten the risk of errors, thereby increasing patient burden and susceptibility to adverse side effects and drug interactions [15].

Kostagiolas et al. [16], in their study focusing on drug information services, particularly regarding guidance on medication storage, obtained a result of 4.35%. According to their findings, the factor influencing pharmacists' omission of drug information relates to medication storage. Patients at the outpatient pharmacy are often in a rush to leave due to long waiting times from registration to doctor consultations and at the pharmacy.

Arifah et al. [17] emphasized the necessity of proactive pharmaceutical staff in providing comprehensive drug information services to patients. Key information to convey includes drug dosage, administration method, timing, daily consumption, storage guidelines, and management of potential side effects.

These findings resonate with the research by Indiani et al. [12], which highlighted the successful implementation of various clinical pharmacy services at the Ananda Purwokerto Inpatient Hospital, including drug information services. Similarly, Mulyani et al. [13] reported routine drug information service activities conducted by pharmacists.

Implementation of counseling

Drug counseling is the provision of advice or recommendations on drug therapy by a pharmacist (counselor) to patients and/or their families. This service can be initiated by pharmacists, upon referral from a doctor, or at the request of patients or their families. Effective counseling relies on patient trust

in the pharmacist. When human resources are limited, priority may be given to patients in need of more extensive counseling.

Interview results indicate that routine drug counseling is lacking at Bhayangkara Hospital. Counseling is sporadic, primarily occurring when patients or their families actively seek information before discharge. Pharmacists engage in counseling sessions with both inpatients and outpatients to enhance their understanding of prescribed drug therapies.

However, counseling services at Bhayangkara Hospital are not consistently implemented due to insufficient pharmacist staffing and the absence of dedicated counseling rooms. Counseling sessions typically occur upon request or when patients' families directly approach the pharmacist on duty. Nevertheless, in cases of long-term drug use, counseling is deemed essential for optimal treatment outcomes.

Research in Croatia and Serbia reveals that 66.67% of respondents consistently provide counseling services, with 33.33% to 50% offering counseling exclusively to patients with chronic conditions. During the pandemic, counseling rates were 78.4% in Serbia and 55.5% in Croatia (Novak et al., 2021).

These findings are consistent with those of Indiani et al. [12], who documented the successful implementation of clinical pharmacy service standards at Ananda Hospital Purwokerto, including drug counseling. Similarly, Mulyani et al. [13] reported routine drug counseling activities conducted by pharmacists.

Implementation of visits

A ward round is conducted by pharmacists either independently or in collaboration with other healthcare professionals to visit inpatients. Priority is given to new patients, those under shared care, patients in intensive care, individuals with critical laboratory results, those on polypharmacy (receiving more than 5 medications), and those prescribed drugs with a narrow therapeutic index and significant side effects. Mistakes in treatment within the intensive care unit pose a higher risk of fatality compared to those in general wards. Hence, the severity of the illness, complications, and polypharmacy warrant close attention.

Prior to conducting ward rounds, pharmacists prepare by gathering patient information and reviewing drug therapy from medical records or other sources. While the standard mandates visits for all admitted patients, resource constraints may necessitate patient selection based on established criteria.

Pharmacists gather information on drug utilization by reviewing medical records and conducting targeted interviews with patients or their families. This includes patient demographics, medical history, drug usage patterns, allergy profiles, and laboratory results. Subsequently, the pharmacist assesses the medication's appropriateness considering factors such as side effects, cost, and therapeutic efficacy. This proactive approach is crucial in preventing medication errors, a leading cause of patient harm.

At Bhayangkara Hospital, comprehensive ward rounds are not consistently conducted. Independent or collaborative rounds with other healthcare professionals are lacking due to a lack of interprofessional collaboration. However, VIP patients may receive occasional visits before discharge. Pharmacists are available for room visits upon request, particularly for patients requiring assistance.

During independent and team visitations, pharmacists engage in documentation, which includes recording details on visitation forms and drug assessment sheets. Information regarding drug usage, recommendations, and therapy outcomes is documented, with confidentiality being strictly maintained. Documentation of visitation activities serves several purposes, including ensuring accountability and credibility, providing material for evaluating and enhancing activity quality, and serving as a resource for educational and research

endeavors. However, due to suboptimal visitation practices at Bhayangkara Hospital, documentation of these activities has been neglected.

This aligns with the findings of Indiani et al. [12], who reported that various standard implementations of clinical pharmacy services at Ananda Purwokerto Inpatient Hospital had not been executed, with visitation being one such area.

Implementation of Drug Therapy Monitoring

Drug Therapy Monitoring (DTM) is an essential activity aimed at ensuring the safety, effectiveness, and rationality of patient medication therapy. Safety entails ensuring that the medication administered to the patient does not induce adverse effects. Effectiveness, on the other hand, ensures that the medication provides the intended therapeutic benefit for the patient's illness or condition. Rationality involves ensuring that the patient receives treatment tailored to their clinical needs, at appropriate doses, for the correct duration, and at the lowest possible cost.

At Bhayangkara Hospital, direct monitoring of patients for side effects and medication effectiveness by pharmacists has not been implemented. This is primarily due to the high patient volume and limited number of pharmacists available. Additionally, pharmacists have not been empowered to provide recommendations to address medication-related issues, as such decisions still rely solely on physicians.

Several factors influence the implementation of Drug Therapy Monitoring in hospitals, including pharmacists' ability to access up-to-date and reliable evidence (Best Evidence Medicine), maintaining the confidentiality of patient information, and fostering collaboration with other healthcare professionals.

Bhayangkara Hospital has not achieved full compliance with Drug Therapy Monitoring, primarily due to challenges such as insufficient collaboration among healthcare staff and a shortage of pharmacists who are predominantly engaged in managerial tasks.

These findings align with the research conducted by Indiani et al. [12], which highlights various standard implementations of clinical pharmacy services at Ananda Purwokerto Inpatient Hospital, including drug therapy monitoring.

Implementation of Monitoring of Drug Side Effects (MDSE)

Ideally, hospitals should promptly detect adverse drug reactions using the specified form outlined in the clinical pharmacy service indicators for Monitoring Drug Side Effects (MESO). Given the national significance of this task, all personnel interacting with patients play a crucial role in promptly reporting drug side effects to mitigate potentially fatal outcomes. The reported findings are then forwarded to the National Drug Side Effects Monitoring Center.

In addition to recording and reporting, pharmacists also discuss and document any identified drug side effects with the Pharmacy and Therapy Team. Several factors must be considered when implementing MDSE, including collaboration with the Pharmacy and Therapy Committee/Team, availability of treatment rooms, and ensuring the availability of MESO forms at all times.

At Bhayangkara Hospital, pharmacists have not yet detected any adverse drug reactions. However, they do identify drugs with a high risk of causing side effects in patients. Nonetheless, pharmacists have not evaluated reports of drug side effects as no such incidents have been reported in the hospital thus far.

Unfortunately, Bhayangkara Hospital has not achieved 100% implementation of drug side effect monitoring activities. This can be attributed to a shortage of pharmacists on duty and the lack of training for pharmacists in detecting drug side effects.

These findings diverge from the research by Indiani et al. [12], which indicated that several implementations of clinical

pharmacy service standards at Ananda Purwokerto Inpatient Hospital were successfully implemented, including a drug side effect monitoring service.
Top of Form

Implementation of Drug Use Evaluation (DUE)

The medication history tracing activities involve pharmacists directly questioning patients or their families about medication adherence. This aims to ascertain details such as the medication regimen, any remaining medication, drug allergies, prior medication usage, and the patient's or family's understanding of medication usage. However, hospital pharmacists have not routinely verified the medication history provided by other healthcare providers, despite its crucial role in minimizing the occurrence of adverse drug reactions. When necessary, pharmacists may refer to the patient's medical records.

According to interview findings, hospitals have not achieved 100% compliance with medication history tracing. This is attributed to a shortage of pharmacists and limited interaction between pharmacists and patients. The standards of practice outlined by the Indonesian Pharmacists Association (IPA) emphasize the importance of medication history taking by pharmacists. Standard number 2 underscores the need for pharmacists to collect and document a patient's medication history to inform professional decision-making.

Drug Use Evaluation (DUE) is a structured program aimed at qualitatively and quantitatively assessing drug usage patterns. This involves comparing usage patterns over specific periods, offering suggestions for improving usage, and intervening where necessary. DUE serves as a continuous quality assurance mechanism to ensure the appropriate, safe, and effective use of medications. Pharmacists conduct evaluations and address drug-related issues based on patient therapy outcomes.

Hospital pharmacists currently lack specialized techniques for evaluating drug usage patterns, hindering their ability to provide input and assess usage patterns effectively. Additionally, they have not evaluated the impact of interventions on drug usage patterns. Consequently, hospitals have not been able to implement a comprehensive evaluation of drug usage due to a shortage of pharmacists.

These findings align with research by Indiani et al. [12], indicating that several standard implementations of clinical pharmacy services at Ananda Purwokerto Inpatient Hospital, including Medication Use Evaluation (MUE), have not been fully realized.

Implementation of dispensing of sterile preparations

The dispensing of sterile preparations requires the presence of both a Pharmacist and Pharmaceutical Technical Personnel. A dedicated room, equipped with essential features such as preparation area, handwashing station, changing room, intermediate space, and sterile room, is necessary. Additionally, the room should maintain regulated air pressure and be equipped with a pass box for the safe transfer of medical equipment and materials. Adequate equipment like Personal Protective Equipment (PPE) and Laminar Air Flow (LAF) is also essential.

According to interview findings, Bhayangkara Hospital has not implemented sterile preparation dispensing activities. This is primarily due to the lack of necessary facilities, including the absence of a dedicated room. Moreover, the hospital lacks essential tools such as Biological Safety Cabinets (BSC), mixing cabinets, and adequate Personal Protective Equipment (PPE). Additionally, there is a shortage of qualified personnel in this field.

Sterile preparation dispensing should occur in the Pharmacy Installation, utilizing aseptic techniques to ensure product sterility and stability while safeguarding staff from hazardous substances and preventing medication errors. However, it's not mandatory for every depot and satellite to

have a specialized room for dispensing sterile preparations.

These findings resonate with research by Indiani et al. [12], which noted that several standard implementations of clinical pharmacy services at Ananda Purwokerto Inpatient Hospital, including the dispensing of medicinal preparations, had not been fully realized.

Implementation of Blood Drug Level Monitoring (BDLM)

Monitoring drug levels in the blood involves interpreting specific drug level checks, typically requested by the treating physician due to a narrow therapeutic index or recommended by the pharmacist. It's a practical application of pharmacokinetics aimed at adjusting drug therapy based on individual patient responses, maximizing benefits, and minimizing side effects.

This process includes assessing patient needs for examinations, collaborating with physicians to authorize tests, and analyzing test results.

However, at Bhayangkara Hospital, monitoring drug levels in the blood has not been fully implemented. The hospital lacks the necessary equipment for this activity, and the limited number of pharmacists primarily focuses on pharmacy services. Monitoring blood drug levels is crucial as it ensures optimal drug administration based on target concentrations, facilitating dose adjustments.

Research by Djamaluddin et al. [18] at RSUP Dr. Wahidin Sudirohusodo Makassar also found challenges in implementing Blood Drug Level Monitoring (BDLM) due to limited facilities and infrastructure. To prevent poisoning and enhance the effectiveness of blood drug level monitoring, attention must be paid to therapeutic dose, onset, and duration of the drug.

These findings align with research by Indiani et al. [12], which highlighted the lack of implementation of clinical pharmacy services at Ananda Purwokerto Inpatient Hospital, including monitoring drug levels in the blood. Similarly, research by Mulyani et al. [13] indicated challenges in conducting Blood Drug Level Monitoring (BDLM) at the Sambang Lihum Mental Hospital Pharmacy Installation.

CONCLUSION

The adherence to pharmaceutical service standards outlined in Minister of Health Regulation Number 72 of 2016 at the pharmaceutical installation of Bhayangkara TK III Kendari Hospital has not been optimal.

Declaration by Authors

Ethical Approval: Not Required
Acknowledgement: None
Source of Funding: None
Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Adikoesoemo S. Manajemen rumah sakit. Jakarta: Pustaka Sinar Harapan 2017;
2. Aivalli PK, Elias MA, Pati MK, Bhanuprakash S, Munegowda C, Shroff ZC, et al. Perceptions of the quality of generic medicines: implications for trust in public services within the local health system in Tumkur, India. BMJ Global Health 2018;2(Suppl 3):e000644.
3. Muinga N, Magare S, Monda J, Kamau O, Houston S, Fraser H, et al. Implementing an open source electronic health record system in Kenyan health care facilities: case study. JMIR medical informatics 2018;6(2):e8403.
4. Badan Pemeriksa Keuangan. Standar Pelayanan Kefarmasian Di Rumah Sakit [Internet]. 09 Januari 20172017;Available from: https://peraturan.bpk.go.id/Details/114491/permenkes-no-72-tahun-2016
5. Larasanty LPF, Wirasuta IMAG, Sarasmita MA, Cahyadi MF, Wirayanti NW, Triastuti NNA, et al. Pengembangan Kuisioner Kepuasan Pasien Untuk Pelayanan Farmasi Klinik. Jurnal Farmasi Udayana 2018;7(1):7–12.
6. Williams DM. Clinical pharmacology of corticosteroids. Respiratory care 2018;63(6):655–70.

7. Hidayanti E. Gambaran pelaksanaan pelayanan farmasi klinik di Rumah Sakit X Tahun 2017. 2017;
8. Restriyani M, Maziyyah N. Persepsi Dokter Dan Perawat tentang Peran Apoteker Dalam Pelayanan Farmasi Klinik di Rumah Sakit PKU Muhammadiyah Yogyakarta (Skripsi). Yogyakarta: Universitas Muhammadiyah Yogyakarta 2016;
9. Amaranggana L. Pelayanan informasi obat yang efektif dari beberapa negara untuk meningkatkan pelayanan farmasi klinik. Farmaka 2017;15(1):20–8.
10. Luqman M. Gambaran penerapan pengadaan obat berdasarkan secara e-purchasing di rumah sakit umum kota tangerang selatan tahun 2016.
11. Tveden-Nyborg P, Bergmann TK, Lykkesfeldt J. Basic & clinical pharmacology & toxicology policy for experimental and clinical studies. Basic & clinical pharmacology & toxicology 2018;123(3):233–5.
12. Indiani TW. Evaluasi Penerapan Standar Pelayanan Farmasi Klinik Pada Instalasi Rawat Inap di Rumah Sakit Ananda Purwokerto. 2018;
13. Mulyani. Analisis Pelaksanaan Pelayanan Farmasi Klinis Dan Kepuasan Pasien: Studi di Puskesmas Kabupaten Garut dan Maluku Tengah [Internet]. 20202020;Available from: http://etd.repository.ugm.ac.id/
14. Novaryatiin S, Ardhany SD, Aliyah S. Tingkat kepuasan pasien terhadap pelayanan kefarmasian di RSUD Dr. Murjani Sampit: The level of patient satisfaction to pharmaceutical service in Dr. Murjani Hospital Sampit. Borneo Journal of Pharmacy 2018;1(1):22–6.
15. Octavia DR. Tingkat Pengetahuan Masyarakat Tentang Swamedikasi yang Rasional di Lamongan. Surya: Jurnal Media Komunikasi Ilmu Kesehatan 2019; 11(03):1–8.
16. Kostagiolas PA, Aggelopoulou VA, Niakas D. A study of the information seeking behaviour of hospital pharmacists: empirical evidence from Greece. Health information and libraries journal 2011;28(4):302–12.
17. Hariani H, Fitriani AD, Sari M. Manajemen Pengelolaan Obat di Instalasi Farmasi Rumah Sakit Umum Daerah dr. Zubir Mahmud Kabupaten Aceh Timur Tahun 2021. Miracle Journal 2022;2(1):49–66.
18. Djamaluddin F, Imbaruddin A, Muttaqin M. Kepatuhan Pelayanan Farmasi Klinik di RSUP Dr. Wahidin Sudirohusodo. Jurnal Administrasi Negara 2019;25(3):176–93.

How to cite this article: Sartia Rahman, Asriati, Asnia Zainuddin. Assessment of clinical pharmacy service standards implementation at Bhayangkara Hospital Level III in Kendari. *International Journal of Research and Review*. 2024; 11(5): 7-19. DOI: *https://doi.org/10.52403/ijrr.20240502*

******