

## Analysis of Drug Management in the Pharmacy Installation of the Jiwa Tampan Hospital, Riau Province, 2022

Siti Aisyah<sup>1</sup>, Nopriadi<sup>2</sup>, Budi Hartono<sup>3</sup>, Mishbahuddin<sup>4</sup>, Hetty Ismainar<sup>5</sup>

<sup>1,3,4,5</sup>Universitas Hang Tuah Pekanbaru, Indonesia

<sup>2</sup>Universitas Riau, Indonesia

[ael61aisyah@gmail.com](mailto:ael61aisyah@gmail.com)

### Abstract

*The purpose of this study is to analyze drug management in the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022. The research method used is qualitative with a descriptive approach. The research location is carried out at the Jiwa Tampan Hospital at Riau Province, especially the Pharmacy Installation. The research time starts from a preliminary study conducted in January 2022 and then this research is carried out on 17 May to 04 July 2022. The selection of hospital in this study is carried out by purposive sampling method. The total of main hospital and supporting hospital are 14 hospitals. The data analysis technique that will be used by the researcher is a qualitative data analysis technique with content analysis. Based on the results of the study show that drug management in the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022 is running well, but there are several components that are not optimal.*

### Keywords

drug management; hospital; pharmacy installation



## I. Introduction

The hospital is part of the overall national health service that plays an important role in supporting the implementation of health efforts and becomes a reference for health services for patients. Based on the Law of the Republic of Indonesia Number 44 of 2009, services provided by hospitals are efforts carried out by an organization either individually or jointly to maintain and improve health, prevent and treat disease and restore the health of individuals, groups, and or the community. Organization must have a goal to be achieved by the organizational members (Niati et al., 2021). The success of leadership is partly determined by the ability of leaders to develop their organizational culture. (Arif, 2019).

Hospitals are complex institutions consisting of various characteristics, functions and specializations, and are supported by intensive labor or resources, work, capital, and technology. The organization of hospitals in health services must have good and correct management support, so that they can provide quality, useful, and valuable health services. (Imron, 2010; Firmansyah and Mahardika, 2018; Setyawan and Supriyanto, 2019).

Hospital management aims to obtain products/services or health services in accordance with the expectations and needs of patients from various aspects, including service quality, price, types and service procedures, as well as information systems (Firmansyah and Mahardika, 2018; Setyawan and Supriyanto, 2019).

Pharmaceutical services are one of several services in hospital that are oriented and responsible to patients who relating to the supply and use of pharmaceutical supplies. Pharmaceutical services are management activities of pharmaceutical preparations, medical devices and consumable medical materials as well as clinical pharmacy services

that aim to ensure the quality, benefits, safety and efficacy of pharmaceutical preparations, medical devices and consumable medical materials carried out by hospital pharmacy installations (Kementerian Kesehatan, 2019).

Pharmacy services are medical support services with the largest expenditure in hospital. Based on the Organization for Economic Cooperation and Development (2015), the expenditure of funds in the management of pharmaceutical preparations occupies the third position after outpatient and inpatient, which is 20% or \$800 billion in health services. According to Aitken and Kleinrock (2015), 2025 there will be an increase in global spending on drugs by 3-6% of 2020 expenditure (\$1.4 trillion) for a total spending of \$1.6 trillion per year excluding spending on COVID-19 vaccines (Aitken dan Kleinrock, 2015).

The use of such a large budget, of course, must be managed properly and appropriately, taking into account the availability of a budget that does not always match the drug needs in hospital. The management of pharmaceutical supplies must be carried out in a coordinated, regular manner and with an effective and efficient process to ensure quality control and cost control (Kementerian Kesehatan, 2010).

The Jiwa Tampan Hospital is a class A Regional Hospital under the Riau Provincial Government, with a total of 250 beds. The Jiwa Tampan Hospital in providing mental and general health services has 7 types of services, one of which is pharmaceutical services which are part of medical support (Profil Rumah Sakit Jiwa Tampan, 2020).

The Jiwa Tampan Hospital of Riau Province aims to create a superior hospital in Indonesia that is innovative and environmentally friendly, with the motto "Serve with All My Heart". The Jiwa Tampan Hospital in providing mental and general health services has 7 types of services, namely emergency, outpatient, mental inpatient, medical support, non-medical support, nursing services and public mental health services (Profil Rumah Sakit Jiwa Tampan, 2020).

Pharmaceutical services in hospital pharmacy installations are mandatory services in every hospital. The Pharmacy Installation of the Jiwa Tampan Hospital is under medical support services in supporting health services. To maximize health services, hospital must be able to provide adequate goods, facilities and infrastructure both in quantity and quality to meet patient needs, one of which is the availability of drugs in hospital.

The initial survey showed that the human resources in the Pharmacy Installation of the Jiwa Tampan Hospital were 22 people in carrying out their duties and functions consisting of 7 pharmacists, 14 pharmaceutical technical personnel, and 1 administrative staff. Several problems in drug management were encountered, namely the incompatibility of planning and drug procurement which was seen from the incompatibility of drug spending with the previously planned and there were several damaged/expired drugs which amounted to 1.4% of the total assets of the types of drugs available.

Based on the research results of Winata et al. (2021), stated that drug management at the Pharmacy Installation of the Kepahiang Hospital was not optimal.

Drug management that does not meet the standard and maximum is caused by several factors. Research Day et al. (2020), stated that every stage of management at Waibakul Hospital has not gone well, where there are several obstacles in the stages of drug management, namely at the planning, procurement, receipt, storage, distribution and destruction stages of drugs. This causes less than optimal drug management in hospital.

Sulistiyowati et al. (2020) in his research stated that the drug management system can be influenced by several things, namely inappropriate drug planning, inappropriate drug requirements planning estimates, lack of communication, length of time for drug arrival, and short expiration date of drugs. In addition to this, the obstacles faced are the lack of

human resources, the budget has not been used optimally, the selection of drugs is not based on the national formulary, the procurement does not match the needs, there are damaged and expired drugs, there are several types of drugs that are empty and the facilities and infrastructure are lacking. adequate in its implementation (Mompewa et al., 2019).

Based on the results of direct observations and in-depth interviews in the initial survey conducted at the Pharmacy Installation of the Jiwa Tampan Hospital, it was found that there were several drug management problems, namely the incompatibility of planning and drug procurement. This is seen from the discrepancy in drug spending with the previously planned and there are some damaged/expired drugs.

Expired drugs are drugs that have expired or have passed their expiration date within the specified period and can no longer be used. Damaged and expired drugs can be dangerous because of reduced stability, non-optimal drug action, decreased drug reaction speed and can cause toxic effects to the body when it enters the body. In addition to this, the existence of expired drugs in the hospital causes economic losses for the hospital. At the end of 2020 there were several expired drugs in pharmaceutical installations with a total value of expired drugs 1.4% of the total assets of the types of drugs available.

Improper drug management can affect the effectiveness of drug supply management activities which will affect stagnant events and drug stockouts and can cause negative effects that are detrimental to hospital (Febreani and Chalidyanto, 2016). Based on the explanation above, proper drug management is needed in its management which includes the selection, planning, procurement, receipt, storage, distribution, elimination, control, and administration of drugs.

The purpose of this study is to analyze drug management in the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022.

## **II. Research Method**

The research method used is qualitative with a descriptive approach. Qualitative with a descriptive approach aims to describe or describe a situation, event, object or everything related to variables in the sense of what they are and can be explained verbally, in words or numbers in order to find the broadest relevant knowledge of the object being studied. investigated at a certain time (Octiva et al., 2018; Pandiangan, 2018). The purpose of qualitative with a descriptive approach is also to explain a phenomenon as deeply as possible by collecting the deepest data, which shows the importance of depth and detail of the data being studied (Asyraini et al., 2022; Octiva, 2018; Pandiangan, 2015).

The research location is carried out at the Jiwa Tampan Hospital at Riau Province, especially the Pharmacy Installation. The research time starts from a preliminary study conducted in January 2022 and then this research is carried out on 17 May to 04 July 2022.

The selection of hospital in this study is carried out by purposive sampling method, namely the determination of the hospital selected according to the specified criteria. Purposive sampling is one type of sampling in qualitative research (Jibril et al., 2022; Pandiangan et al., 2018; Pandiangan, 2022). The number of samples can be determined before the study or at the time of the study depending on the available data sources, the time of the study, and the purpose of the study (Octiva et al., 2021; Pandiangan et al., 2021; Pandia et al., 2018). The criteria for the hospital selected in this study are based on their availability to be interviewed, knowing, and understanding the problem clearly and well in this case drug management, classified as still involved in the activity being

researched, has sufficient time to be asked for information, and could function as a teacher or research sources. The total of main hospital and supporting hospital are 14 hospitals.

The data analysis technique that will be used by the researcher is a qualitative data analysis technique with content analysis. Data analysis is the process of organizing and compiling data into patterns, categories and basic units in a systematic and simple manner, so that the data is obtained in a form that is easier to read and understand by themselves and others (Pandiangan et al., 2022; Tobing et al., 2018). Qualitative data analysis is more open ended and needs to be adapted to field data/information. Qualitative data analysis aims to find the meaning behind the data through the acknowledgment of the culprit subject

### **III. Result and Discussion**

#### **3.1 Overview of Research Subjects**

The Jiwa Tampan Hospital is a referral center for mental health services for the administrative areas of Riau Province and Riau Islands. The Jiwa Tampan Hospital was established in 1980, began operating on July 5, 1984 and was inaugurated on March 21, 1987. Since 2002, the Jiwa Tampan Hospital was designated as a type A hospital under the Regional Government of Riau Province and in 2015 the Jiwa Tampan Hospital as a class A special Mental Hospital.

The vision of the Jiwa Tampan Hospital in Riau Province is "To Create a Superior Mental Hospital in Indonesia that is Quality, Innovative, and Environmentally Friendly", in order to realize better conditions in the future. To realize this vision, the mission of the Jiwa Tampan Hospital is set, namely to develop excellent services for geriatric health, child and adolescent mental health and drug rehabilitation; improve the competence of innovative and collaborative professionals; develop a mental hospital that is comfortable and environmentally friendly; develop a quality teaching hospital; develop an effective, efficient, transparent, and accountable management system based on technology.

The Jiwa Tampan Hospital in providing services has the motto "Serving Wholeheartedly". Types of services The Jiwa Tampan Hospital of Riau Province in providing mental and general health services has 7 types of services, namely emergency services, outpatient services, mental inpatient services, medical support services, non-medical support services, nursing services, and community mental health services. The Pharmacy Installation of the Jiwa Tampan Hospital is included in medical support services.

Analysis of Drug Management in the Pharmacy Installation of the Jiwa Tampan Hospital, Riau Province, 2022

Based on the results of the study show that drug management in the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022 is running well, but there are several components that are not optimal in their implementation:

1. Input components that can affect the process and output of drug management, namely the lack of number and qualifications of human resources, the unavailability of a special standard operating procedure for drug planning, inadequate facilities and infrastructure and the use of hospital management information systems in Pharmacy Installation has not been maximized and is still limited. As for the funds or budget resources available in sufficient quantities in drug management.
2. The implementation of drug management with available input components can affect the drug management process to be not optimal, namely in drug planning, drug procurement that is not flexible, the drug acceptance process is not in accordance with standard operating procedures, the drug storage area is not wide and separate maximum

implementation of drug distribution methods and drug control that are not yet effective. The drug management process for drug selection and drug administration has been running well and according to existing standards.

3. The output component, which is seen from the availability of drugs, is still not effective and efficient, because there are still vacancies, shortages, damaged, and expired drugs in pharmacy installations.

### **3.2 Input**

#### **a. Human Resources**

Human resources at the Pharmacy Installation of the Jiwa Tampan Hospital consist of 5 pharmacists and 12 pharmaceutical technical personnel, but the number and qualifications of existing human resources are still lacking, both pharmacists and pharmaceutical technical personnel and the absence of administrative staff. Lack of human resources in pharmaceutical installations can hinder the running of drug management, delegate tasks to those who are not competent, increase patient waiting time, so that it will affect the quality of service and the level of patient satisfaction (Winata et al., 2021; Yuniarti et al., 2021; Citraningtyas et al., 2021; Putri, 2019). The implementation of drug management is carried out by each human resource in accordance with their main duties and functions and competency development of human resources is carried out by participating in training and seminars sent by hospitals related to the interests of hospital accreditation, drug management, clinical pharmacy, and other training. which is related.

#### **b. Fund Resources (Money)**

Funding resources at the Jiwa Tampan Hospital come from regional public service agency funds, regional revenue and expenditure budgets, and Indonesia's state revenue and expenditure budget. The budget is available in sufficient quantities to carry out drug management in pharmacy installations.

#### **c. Facilities and Infrastructure (Material)**

Facilities and infrastructure at the Pharmacy Installation of the Jiwa Tampan Hospital there are still some facilities and infrastructure that are not yet available and meet the standards in drug management. This can be seen from the pharmacy warehouse which is not yet centralized in one place and with a considerable distance, the storage capacity is also less extensive as seen from the presence of other items placed in the safety room for hazardous and toxic materials and certain drugs pharmacy warehouses, the unavailability of a special room for receiving medicine, drug information service room and aseptic dispensing and its equipment. Drug management facilities that have not been equipped are one of the factors for ineffective and efficient drug management and can cause damage to drugs in storage (Waluyo et al., 2015; Tonis et al., 2021).

#### **d. Procedure (Method)**

Drug management procedures at the Pharmacy Installation of the Jiwa Tampan Hospital are available and contained in standard operating procedures and have been implemented by pharmacists. However, standard operating procedures specifically for drug planning are not yet available and the latest update of standard operating procedures was carried out in 2018. The availability of standard operating procedures in drug management can affect the quality of service in pharmacy installations (Gurning et al., 2021).



#### **e. Information System (Machine)**

The information system at the Pharmacy Installation of the Jiwa Tampan Hospital is already available, with the hospital management information system using “Pilar Hospital”. Implementation of a comprehensive management information system can be beneficial in providing fast, accurate and safe services as well as supporting the drug management process and improving patient safety (Advistasari et al., 2015; Yuniarti et al., 2021; Awami et al., 2014). However, the use of management information systems in pharmaceutical installations is still limited, so that in its implementation it has not been implemented optimally and most activities still use the manual system.

### **3.3 Process**

#### **a. Drug Selection**

Drug selection at the Pharmacy Installation of the Jiwa Tampan Hospital is carried out by the Pharmacy and Therapy Committee. The selection of drugs is carried out based on the hospital formulary and the national formulary by taking into account the planned drug needs, prices, availability of drugs in e-catalogs, and the ease of obtaining drugs. The selection of drugs carried out is in accordance with the needs of the hospital.

#### **b. Medication Planning**

Drug planning at the Jiwa Tampan Hospital Pharmacy Installation of Riau Province was made by the head of the pharmacy installation using a combination method, which was based on the use of drugs one year earlier and adjusted to the patient's disease pattern and availability in the hospital formulary. Drug planning is prepared and planned regularly once a year. Drug planning analysis using activity based costing method.

#### **c. Drug Procurement**

Drug procurement at the Pharmacy Installation of the Jiwa Tampan Hospital is carried out by the procurement team in accordance with the needs plan that was made and agreed in advance. Drug procurement is carried out using the e-purchasing method with an e-catalog system and direct procurement and grants. Medicines are procured twice a year for mental drugs, while general medicines are adjusted to the needs, prescribing patterns, and stock in the pharmacy installation.

#### **d. Drug Receipt**

Drug acceptance at the Pharmacy Installation of the Jiwa Tampan Hospital, Riau Province is carried out by authorized pharmacy warehouse officers. The process of receiving drugs at the pharmacy warehouse by receiving, checking and adjusting between orders/requests, order invoices and drugs received by taking into account the name, dose, quantity, brand of drug, batch number, expiration period of at least 2 years, and the condition of the drug received . If a drug is found that does not meet the specifications as ordered, it will be immediately rejected, unless the distributor can provide a return guarantee letter for drugs with an expiration date of less than 2 years.

#### **e. Drug Storage**

Drugs received by the Pharmacy Installation of the Jiwa Tampan Hospital from distributors are stored in the pharmacy warehouse. Drug storage is also carried out in the pharmacy depot room and inpatient treatment room. Drug storage conditions in the pharmacy warehouse do not meet the standards and are narrow, this is because there are still other items stored in the safety room for hazardous and toxic materials and drug

packaging is stored in the pharmacy warehouse. Drug storage based on dosage form, therapeutic class, drug type class, look alike sound alike, and high alert arranged in alphabetical order with first in first out and first expired first out system.

#### **f. Drug Distribution**

The distribution of drugs from the pharmacy warehouse is carried out using a request sheet/delivery of goods from the pharmacy warehouse. Distribution of drugs from outpatient pharmacy depots to patients is based on individual prescribing, while pharmacy depots for emergency and inpatient care use individual prescribing and emergency units, but delivery is done every 2-3 days. Drug distribution is the responsibility of each pharmacist who distributes drugs.

#### **g. Drug Removal**

Drug deletion at the Jiwa Tampan Hospital is carried out on expired/damaged drugs by the extermination team involving a third party, which is carried out every 5 years, the last being in 2016. Drugs that are approaching their expiration date must first be used and returned to distributors in accordance with their respective regulations and respective distributors. Withdrawals are made for expired drugs, causing serious side effects, withdrawals by the Food and Drug Supervisory Agency and distributors.

#### **h. Drug Control**

Drug control is carried out by controlling inventory, namely by conducting stock taking at the end of each month, evaluating slow moving and death stock drugs and conducting periodic stock taking. Drug quality control is also carried out by maintaining the condition of the drug storage room, starting from checking and recording room temperature and drug refrigerators, how to store drugs, filling in stock cards and entering the hospital management information system every time the drug comes in and out.

#### **i. Drug Administration**

Drug administration at the Pharmacy Installation of the Jiwa Tampan Hospital has been carried out and is running well in the form of recording and reporting, financial administration and write-off administration. Administrative activities are carried out manually using a hospital management information system and using Microsoft Excel, which is carried out by every pharmacist in the pharmacy installation.

### **3.4 Output**

#### **a. Drug Availability**

The availability of drugs at the Pharmacy Installation of the Jiwa Tampan Hospital has not been effective and efficient, because there are still drug vacancies. The availability of drugs is influenced by several factors, namely doctors, pharmacists and patients. In addition, the unavailability of drugs has a close relationship with data on the suitability of planning, procurement, selection, and compilation of drug use which results in reduced patient visits and service quality (Timpua et al., 2021; Prabowo et al., 2016; Hanjaya et al., 2021; Amiruddin and Septarani, 2019). Handling in the event of an unavailability/void of drugs at the Pharmacy Installation of the Handsome Mental Hospital has been implemented properly and in accordance with existing standard operating procedures.

## IV. Conclusion

Based on the results of the study show that drug management in the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022 is running well, but there are several components that are not optimal.

From the conclusions above, the suggestions in this study are:

### Social Significance

- 1.It is hoped that the Jiwa Tampan Hospital will increase the number of human resources for pharmacy staff by conducting open recruitment to reduce the workload and maximize pharmaceutical services and be adjusted to the workload and qualifications of human resources required.
- 2.It is hoped that the Pharmacy Installation of the Jiwa Tampan Hospital will conduct a planning analysis using the combination method of always, better, control (ABC), vital, essential, non essential (VEN) as an evaluation in planning drug requirements.
- 3.It is hoped that the Pharmacy Installation of the Jiwa Tampan Hospital will calculate the frequency of drug procurement using one or more reorder point (ROP) methods, economic order quantity (EOQ), exchange of information (EOI), or a combination to avoid drug shortages at the Pharmacy Installation.
- 4.It is hoped that the Pharmacy Installation of the Jiwa Tampan Hospital will maximize the application of the unit dose dispensing system in patient inpatient rooms to reduce/minimize drug distribution errors and maximize the drug management process.

### Scientific Significance

It is hoped that further researchers will be able to continue research with a mix method of drug management processes and be able to evaluate drug management that is already running at the Pharmacy Installation of the Jiwa Tampan Hospital at Riau Province in 2022.

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