

CHAPTER I

INTRODUCTION

This chapter contains the background, problem formulation, research objectives, research scopes and outline of the research report.

1.1 Background

Humans are social creatures who engage in daily activities, including work. The human must be in perfect health in order to keep the activity going. Health is a happy state of mind, body, and spirit that enables people to be socially and economically active. According to article 1 paragraph 1 of the Constitution Law No.36 of 2009 about Health, health is a physically, mentally, spiritually, and socially healthy state that enables each person to live socially and economically productive lives and paragraph 2 of the Constitution Law No.36 of 2009 about Health, resources in the field of health include all forms of funds, energy, health supplies, pharmaceutical preparations, medical devices, and health services and technology used to conduct health.

Currently, the Covid-19 virus has been spreading across the world since December 2019 according to World Health Organization (<https://www.who.int/indonesia/news/novel-coronavirus/>, accessed November 2nd, 2021), and the spread of the virus is still happening today. Although the Covid-19 virus's spread in Indonesia has decreased, the spread of the Covid-19 virus in Indonesia is still quite high with 18,388 million positive Covid-19 cases as of October 18, 2021 (<https://covid19.go.id/peta-sebaran>, accessed October 18th, 2021). The government has implemented policies to suppress Covid-19 cases, such as providing medical equipment (personal protective equipment, masks, hand sanitizers, and test kits) including preparing health facilities through health institutions such as hospitals, health centers, and pharmacies (<https://itjen.kemkes.go.id/berita/detail/>, accessed November 2nd, 2021).

Hospital is one of the facilities that offers health services to help people improve their health. Hospital is a health service institution for the community that is impacted by the development of health science, technology, and social-economic life to improve the quality and affordability of service to improve health status (Law of Republic of Indonesia No. 44, 2009). As a result, the hospital must provide a high-quality service that meets the quality standard, and the most crucial aspect is that it can reach all sectors of Indonesian society. To reach all sectors of society, each region should have a certified hospital that can meet the demands of health care. In order to sustain customer loyalty, hospitals must improve their service in order to achieve a high level of customer satisfaction (Amin, 2013). Hospitals in general must have a pharmacy installation in order to support the distribution of medicines needed by patients. Pharmacy as one of the health facilities, play an important role in educating the community about taking precautions, offering product recommendations for prevention, as well as providing accurate information to the public about rise of fake news about Covid-19.

Naili DBS Hospital is one of the type C private hospitals in Padang which officially operated on April 4th, 2016 which was established and organized by PT Ananda Naili Prima. The establishment of this hospital was motivated by the desire of Mr. Naili DBS (Datuak Buang Sati) who wanted to establish a quality hospital, and have optimal services like his experience while seeking treatment abroad. Mr. Naili DBS passed away on October 26th, 2013. The good intentions to establish a hospital were continued by the deceased's children, namely Mr. Indra Warman, Mrs. Irdawati, and Mrs. Eriati, under the supervision of PT Ananda Naili Prima. This hospital is named after the deceased, namely Naili DBS Hospital, with the hope that this hospital can develop sufficiently to provide individual and community health service in Padang. The Naili DBS Hospital has an area of ± 1.542 m² located on Ratulangi street No. 24, Kampung Jao, Padang so it is easy to reach from everywhere. By 2020, Naili DBS Hospital intends to be the preferred hospital in West Sumatera and a leader in health care.

The pharmacy installation is one of the installations at Naili DBS Hospital that supports the operational activity. The pharmacy at Naili DBS Hospital is in charge of the procurement, storage and delivery of medications throughout the hospital. As the primary source of revenue, Naili DBS Hospital must be mindful of pharmacy administration, particularly pharmacy inventory management. According to Deloitte and Ahia (2015), if a hospital is unable to provide suitable medication for a patient when it is needed, the hospital is at risk. Because the revenue cycle in the hospital is operated properly, appropriate pharmacy inventory management can improve customer happiness, reduce the risk of patient safety, and improve financial performance.

Inventory is an idle resource that is provided to meet customer demand (Bahagia, 2006). Without an inventory, companies are faced with the risk of not being able to meet customer demands at a certain time. Therefore, inventory control is important that must be done by the company to anticipate inventory problems. The main purpose of inventory control is to keep the inventory level of an item at an optimal level with the smallest possible risk (Atmojo , 2015).

According to Ristono (2009), excess inventory will cause additional costs and risks due to storage in addition to the large investment that must be incurred by the company. But if there is a shortage of inventory will result in disruption of the smooth production process. Therefore, there needs to be a balance in the procurement of inventory so that costs can be reduced to a minimum. Inventory is usually carried out due to unpredictability, especially in the timing of procurement and the number of requests so that the company finds it difficult to provide the item at the required time, place, and quantity. In order to solve inventory problems, it is necessary to select the right policy, especially involving a large number of items such as medicines.

According to an interview with the head of Pharmacy Installation, there is no planning to manage the inventory of medication in Naili DBS Hospital. The current order quantity is calculated using an average of the previous month's

demand. The time it takes to place an order is estimated by the supervisor and no specific calculation to determine it. This situation leads to inventory problems, such as excess and shortages of medicines inventory. This situation will risk causing losses for the pharmacy because of the loss of opportunities to profit from sales (Bahagia, 2006). Losses also occur in the high cost of storing large quantities of medications at one time. **Figure 1.1** shows the number of medication overstock of outpatients in Naili DBS Hospital 2020 and 2021.

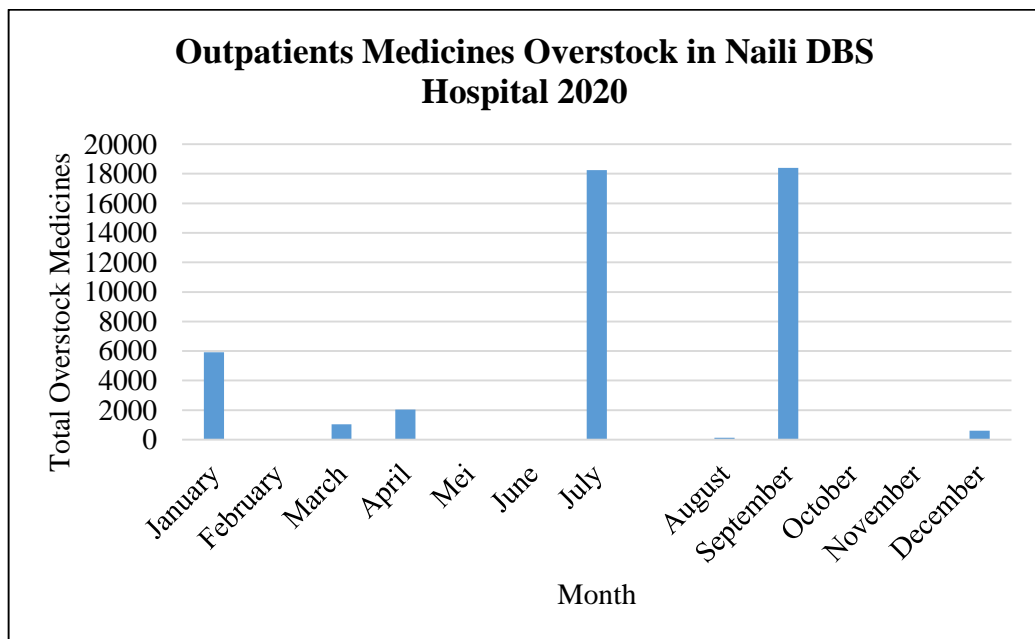


Figure 1.1 Outpatients Medicines Overstock 2020
(Source: Naili DBS Hospital, 2020)



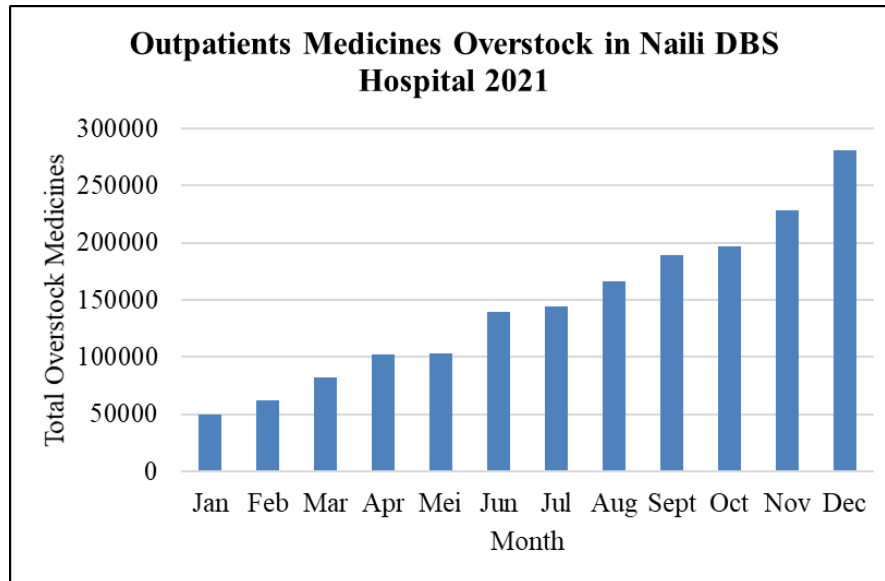


Figure 1.2 Outpatients Medicine Overstock 2021

(Source: Naili DBS Hospital, 2021)

Based on **Figure 1.1** and **Figure 1.2** above, it can be seen that the number of outpatient medicines that are overstocked fluctuates from January to December in 2020 and 2021. It can be seen that the number of overstocked medicines per month increased in the range of 2020 to 2021. This is due to the low demand for medication while there are quite a lot of medicines supplies in the storage. One of the consequences of high storage costs is the cost of inventory, where the medication stored is not free but has a value in the form of investment. Another problem that can be caused by overstock is the high cost of storage that must be incurred by the hospital. In addition, there is a high risk of damage to overstocked medications because the longer the medication is not used, the quality of the medication will decrease and the possibility of expired medications will be higher. This is certainly a loss because the hospital will have to repurchase the drug in the future because the medication's quality has decreased to the point where it can no longer be used. According to Istamarudin (2016), excess medication inventory is a waste because there are costs involved with it, and the hospital cash flow is unhealthy because a large portion of money is kept in the storage. Problems like this might have a negative impact on the hospital's costs, such as storage charges. The amount of damage or loss caused by a large number of medications stacking up in the storage as a result of the excess inventory problem (overstock).

In addition to the problem of overstock, the pharmaceutical installation of Naili DBS Hospital Padang also experienced a shortage of outpatient medicines. **Figure 1.3** shows a list of stockout medication data from January to September 2021 at Naili DBS Hospital Padang.

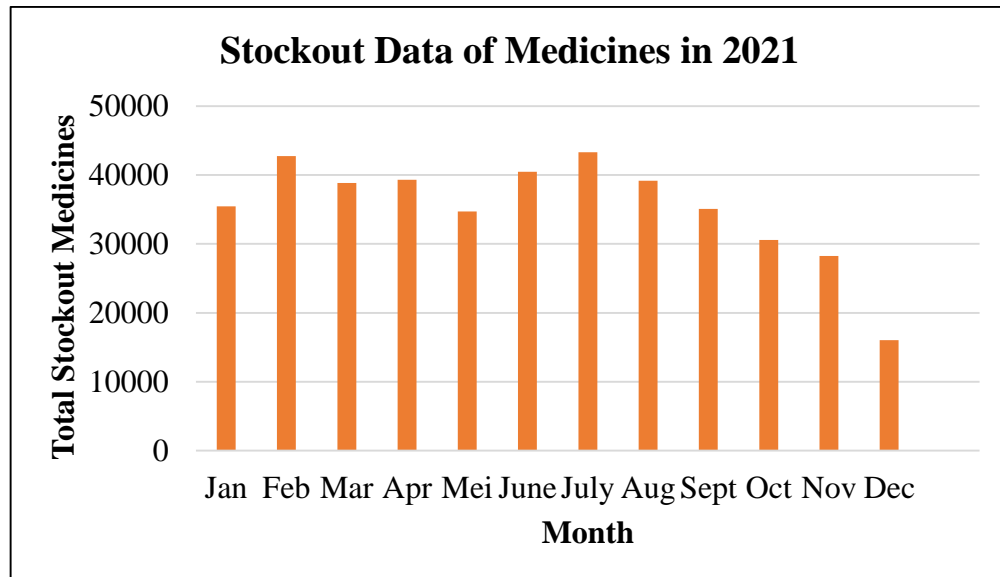


Figure 1.3 Stockout Data of Medicines in 2021
(Source: Naili DBS Hospital, 2021)

Based on the result of interviews with PPIC staff at the pharmacy installation at Naili DBS Hospital, the main factor causing stockout at Naili DBS Hospital was because the purchase plan as the basis for the proposed purchase could not calculate accurately. Because of this lack of planning, the medication demand is too high while storage stock is either empty or insufficient. This problem will put a risk for Naili DBS Hospital Padang because it will lose profits from medicine sales. Furthermore, consumers will also feel dissatisfied with pharmacy services if they are unable to obtain the needed medicines. Consumers will slowly abandon the pharmacy if it is unable to provide good service, and these consumers will move to other pharmacies outside the hospital that provide better service. According to Rangkuti (2004), a shortage of pharmaceuticals can cause material shortage cost, profit delay or it may even result in lost customers. This situation will affect the good name of Naili DBS Hospital Padang in the eyes of consumers. Currently, there

are 192 types of outpatient medicines at the pharmacy installation of Naili DBS Hospital, Padang.

Based on the existing situation, we can assume that Naili DBS Hospital does not have proper medication inventory control planning, which has numerous negative consequences for both patients and the hospital. There has been no analysis or review of the medicines inventory control planning. The inventory management on pharmacy installation in Naili DBS Hospital has a complex scenario that is concerned with patient safety, service quality, and financial aspects and needs to determine inventory control planning to minimize inventory costs and risks arising from inventory problems that occur.

1.2 Problem Formulation

The problem formulation of this research is how to establish the inventory planning of medication in Naili DBS Hospital.

1.3 Research Objectives

The objective of this research is to determine the planning of medication inventory proposal in 2021 and medication inventory planning in 2022 at Naili DBS Hospital in order to minimize the costs and risks associated with inventory overstock and shortages.

1.4 Research Scopes and Assumptions

The scopes of this research are as follows:

1. In this research, it is assumed that there is no change in the purchase cost of the medication
2. Ordered medicines are assumed to come at once
3. There are no discounts on medication purchases
4. The data used is only outpatient medicines data at Naili DBS Hospital Padang

1.5 Outline of Report

The outline of the final project report consists of six chapters as follows:

CHAPTER I INTRODUCTION

This chapter contains the research background problem formulation, research objective, research scopes and outline of report.

CHAPTER II LITERATURE REVIEW

This chapter presents the related literature that supports in solving the problems consisting of inventory, inventory control, ABC analysis, Continuous Review System, and previous study on inventory planning of medication

CHAPTER III RESEARCH METHODOLOGY

This chapter contains the steps carried out in this research consisting of preliminary study, literature review, problem identification, problem formulation, data collecting, data processing, discussions, conclusions and suggestions for future research.

CHAPTER IV DATA COLLECTING AND PROCESSING

This chapter contains the data collecting through direct visits, interview with the pharmacy installation staff of Naili DBS Hospital and obtained historical data from the hospital, The data processing are conducted using normal distribution test, ABC-FSN classification for the medicine, calculate the actual medicine inventory costs in 2021, forecast the medicine demand for 2022, calculate the medicine inventory planning in 2022 using Continuous Review System, and sensitivity analysis.



CHAPTER V DISCUSSIONS

This chapter contains the results of this research consisting of medication classification using ABC-FSN analysis, comparisons of actual and proposed medication inventory costs for 2021, medication inventory planning for 2022 using the continuous review method, and sensitivity analysis.

CHAPTER VI CONCLUSIONS

This chapter contains conclusions of the research and suggestions for future research.

