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Profile Of Prescription Of Antituberculosis Drug In Patients Outpatient Care At X Hospital Medan

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ABSTRACT

Tuberculosis, a highly infectious ailment, is triggered by the bacterium Mycobacterium tuberculosis, primarily affecting the lung's functional tissue. Transmission occurs when a person inhales airborne saliva droplets containing the bacteria expelled by a tuberculosis patient through coughing, thus spreading the disease. This investigation sought to determine the attributes of tuberculosis patients receiving outpatient care, along with the pattern of anti-tuberculosis drug prescriptions at X Hospital Medan between July and December 2023. Metode; The study utilized a non-experimental approach because of its design and structure, which involved collecting survey data from the hospital's historical records. Ninety-six tuberculosis drug prescriptions issued during July–December 2023 were selected through random sampling. The study's findings revealed that, among 96 patients, the 46–55 age group comprised 22 individuals (22.9%), with females accounting for 55 patients (57.3%), and 94 patients (95.8%) utilized BPJS as their payment guarantor. The research indicated that Category I anti-tuberculosis drugs were prescribed more frequently than Category II anti-tuberculosis drugs for 92 patients (95.8%), and 59 patients (61.5%) at X Hospital received OAT-FDC, a commonly employed tuberculosis treatment. This study proposed that future research should outline the anti-tuberculosis medication prescription profile, using patients' health information.

Keywords: Prescription, Anti-Tuberculosis Drugs, Outpatients

INTRODUCTION

Tuberculosis is a highly contagious disease caused by Mycobacterium Tuberculosis which attacks the lung parenchymal tissue. The initial symptoms of this disease are coughing up phlegm for more than three weeks, coughing up blood, shortness of breath, chest pain (Himyatul., 2023). This disease is transmitted through the air (droplet nuclei) when a TB patient coughs and the saliva droplets containing the bacteria are inhaled by others when breathing (Kesehatan., 2016).

Mycobacterium tuberculosis is a rod-shaped bacteria measuring 1-4 mm long and 0.3-0.6 mm thick. Most of the components of M. tuberculosis are fat/lipids, making the bacteria resistant to acid and highly resistant to chemicals and physical factors. This microorganism is aerobic, meaning it prefers areas with plenty of oxygen. Therefore, M. tuberculosis prefers to live in

the apex of the lungs, which has a high oxygen content. This area is conducive to the development of tuberculosis (Soemantri.,2020).

In the effort of treatment or healing there are many efforts made, one of which is the use of drugs ranging from the use of drugs that can be purchased freely to drugs that require a doctor's prescription. These drugs are usually used in efforts to prevent disease (preventive), cure disease (curative), and restore health (rehabilitative). Drugs are substances or combinations of substances, including biological products that are used to influence or investigate physiological systems or pathological conditions in order to determine the diagnosis, prevention, healing, recovery, health improvement and contraception for humans (Suryani.,2023).

Indonesia is currently in a state of emergency with many people suffering from tuberculosis. Tuberculosis remains a public health problem not only in Indonesia but globally, making it one of the goals of sustainable health development. Tuberculosis is an infectious disease that is a major cause of health problems and one of the leading causes of death worldwide. Infectious diseases are diseases transmitted through various media. This disease is a major health problem in almost all developing countries due to its relatively high morbidity and mortality rates and relatively short time span (Masriadi., 2017).

TB is caused by the Mycobacterium Tuberculosis bacillus, which is transmitted when a TB sufferer releases the bacteria into the air, for example through coughing, and this disease usually attacks the lung parenchyma. Nearly a quarter of the world's population is infected with the Mycobacterium Tuberculosis bacillus, with the majority of estimated deaths caused by TB occurring in four countries: India, Indonesia, Myanmar, and the Philippines (WHO., 2022).

According to the World Health Organization (WHO) TB Report 2023, the number of people suffering from TB in 2022 is estimated to be 10.6 million people, an increase from the previous year in 2021 of 10.3 million people, and 10.0 million people in 2020(WH0., 2023).

The estimated incidence of TB in Indonesia in 2021 was 969,000 or 354 cases per 100,000 population across all genders, a 17% increase compared to 819,000 TB cases in 2020. The TB mortality rate in 2021 was 144,000, a 55% increase compared to 93,000 cases per 100,000 population in 2020. Based on the TB incidence of 969,000 cases, there were 724,309 TB case notifications in 2022 (75%), or 25% that had not yet been modified, and the number increased to 809,000 cases in 2023 (Kemenkes., 2023).

Data from the North Sumatra Provincial Health Office stated that in 2022, North Sumatra Province was ranked 4th with the highest TB caseload in Indonesia after West Java, East Java and Central Java with 43,019 TB cases from an estimated 72,738 cases (59.14%) and a treatment success rate of 90%. while in 2023 there were 32,486 cases from an estimated 83,949 cases (38.7%) and a treatment success rate of 90.5% (Dinkes., 2021). Based on data from the Ministry of Health in 2021, North Sumatra was ranked 6th in Indonesia for pulmonary TB cases of 22,169 cases, according to Ministry of Health data, 9.7% of TB cases occurred in children aged 0-14 years. In 2020, TB cases in North Sumatra were 20,720 cases (Kemenkes., 2023).

In an effort to prevent and overcome Tuberculosis cases in Indonesia, the government has issued a TB control program through Presidential Regulation of the Republic of Indonesia Number 7 of 2021 concerning Tuberculosis Control which regulates: a) National Targets and Strategies for TB Elimination; b) Implementation of the National TB Elimination Strategy; c) Responsibilities of the Central Government and Regional Governments; d) Coordination of the Acceleration of TB Control; e) Community Participation; f) Monitoring, Evaluation, and Reporting; and g) funding. This Presidential Regulation is intended as a reference for government institutions in implementing TB control (Kemenkes., 2022).

Based on data from X Hospital Medan, the number of TB cases in 2020 was 811 cases, there was an increase in 2021 of 1258 cases, an increase in 2022 of 1765 cases and in 2023 there was an increase of 2160 cases. From the data from X Hospital Medan, we can see that every year the number of TB cases at X Hospital Medan increases (Kemenkes., 2021).

With the current WHO-recommended treatment (anti-TB drugs for 4-6 months), approximately 85% of people can be cured. A 1-6 month regimen is available to treat TB infection. Without treatment, the death rate from TB is high. Therefore, everyone needs to have access to treatment to reduce the number of deaths caused by TB and make it curable (Kemenkes., 2021).

Previous research conducted by Ratu Anggita Hastria Anggraini (2019) on the Profile of Tuberculosis Drug Prescriptions in Outpatients at the Kebo Regional General Hospital, showed that from the results of data processing of Tuberculosis patients who were most prescribed based on Gender were men with 513 prescriptions (55.33%), based on patient age, namely (15-59 years) with 83 patients (73.8%), the most prescribed combination of Tuberculosis drugs was FDC with 418 prescriptions (52.38%). The most prescribed Tuberculosis drug was FDC with 418 prescriptions (27.46%) (Ratu., 2019).

Based on the description and initial pre-survey that has been conducted, the researcher is interested in conducting research on the Prescribing Profile of Antituberculosis Drugs in outpatients at X Hospital Medan. This research was conducted using a descriptive retrospective method, because no treatment was given to the Object. The subject sampling method was carried out by recording several data at X Hospital Medan.

METHODS

This research is a non-experimental research with a type and research design that collects retrospective survey data, namely a study that describes, provides explanations and illustrates a health problem.

The sample used in this study was 96 prescriptions for anti-TB medication at the Pharmacy Unit of X Hospital Medan, using Slovin calculations. The data used in this study is secondary data. Secondary data is data obtained from records or documents related to the study at X Hospital during the period July–December 2023. The data collection technique used in this study was observation. This observation involved analyzing prescriptions from outpatients with tuberculosis over a six-month period.

Data analysis in this study was conducted descriptively by examining the profile of outpatient antituberculosis drug prescriptions for the period July–December 2023 at X Hospital Medan. The data were then presented in the form of a frequency distribution table. The data were processed using SPSS with a univariate method, then presented in the form of a frequency distribution table, thus obtaining a profile of antituberculosis drug prescriptions for outpatients based on age, gender, and the percentage of antituberculosis drug prescription profiles for outpatients at X Hospital Medan for the period July–December 2023.

RESULTS

Based on the research results, the characteristics of respondents include age and gender as follows:

Table 4.1. Frequency Distribution of Prescription Profiles by Age of Outpatient TB Patients at X Hospital Medan , July–December 2023

NO	Age (Years)	Frekuensi (f)	Presentase (%)

1	15-25	13	13.5
2	26-35	18	18.5
3	36-45	21	21.9
4	46-55	22	22.9
5	56-65	15	15.6
6	>66	7	7.3
Total		**96**	**100**

Table 4.2. Frequency Distribution of Prescription Profiles Based on Gender of Outpatient TB Patients at X Hospital Medan, July – December 2023

No	Gender	Frekuensi (f)	Presentase (%)
1	Perempuan	55	57.3
2	Laki-laki	41	42.7
Total		96	100

Table 4.3. Frequency Distribution of Prescription Profiles Based on Cost Insurer for Outpatients at X Hospital Medan, July – December 2023

No	Cost Guarantor	Frekuensi (f)	Presentase (%)
1	BPJS	94	97.9
2	General	2	2.1
Total		96	100

Table 4.4. Frequency Distribution of Prescription Profiles based on Type of Category 1 and Category 2 Oats for Outpatient TB Patients at X Hospital Medan for the Period July-December 2023.

No	Kategori	Frekuensi (f)	Presentase (%)
1	Oat Kategori I	92	95.8
2	Oat Kategori II	4	4.2
Total		**96**	**100**

Table 4.5. Frequency Distribution of Prescription Profiles Based on Category I Intensive, Advanced Oats and Category II Intensive, Advanced Oats in Outpatients at X Hospital Medan, July – December 2023

No	Kategori	Frekuensi (f)	Presentase (%)
1	Oat Kategori I Fase Intensif	33	34.4
2	Oat Kategori I Lanjutan	59	61.5
3	Oat Kategori 2 Intensif	4	4.2
4	Oat Kategori 2 Lanjutan	-	-
Total		**96**	**100**

DISCUSSION

Characteristics of Tuberculosis Drug Use Patients at X Hospital Medan, July – December 2023 This research period of July–December 2023 was conducted at X Hospital Medan for Outpatients, and as a sample in this study, 96 TB patient prescriptions were taken. The results of the study showed that of the 96 patient prescriptions, 13 patients aged 15–25 years (13.5%), 18 patients aged 26–35 years (18.5%), 21 patients aged 36–45 years (21.9%), 22 patients aged 46–55 years (22.9%), 15 patients aged 56–65 years (15.6%), and 7 patients aged 66 years and above (7.3%). From this study, patients who were most affected by TB occurred in the age range of 46–55 years, as many as 22 patients (22.9%).

The results of this study are similar to research conducted by Yulia Rahmawati (2018), which also explained that the highest age range also occurred at the age of 45-55 years, with 12 patients (34.29%).

Age has a big influence on the characteristics of an individual, because they can make optimal and independent decisions in determining a choice, especially the choice to be aware of the importance of treatment and taking medication. Judging from the gender of the 96 patients, 55 were female (57.3%), and 41 were male (42.7%),

The results of this study contradict the research conducted by Nurdantini (2019) which stated that there were more male TB patients than female patients, with 62 male patients (53.9%) being greater than 53 female patients (46.1%) (15).

Gender is one of the factors that can influence the response to service, especially in providing services, as in this study, female patients were more dominant as pulmonary TB sufferers, clarifying the distribution of sufferers.

In terms of the percentage of male TB patients, the number of female TB patients is almost the same. Several factors explain that women are more often diagnosed with TB: 1) household and health conditions, where women are more often confined to homes with poor ventilation, which facilitates the spread of TB through the air; 2) stigma and health access, women are more vulnerable to the stigma associated with TB, which can prevent them from accessing health services. This stigma is more easily accepted by women when they are married, which can worsen their health conditions (Naufal., 2020).

Based on research conducted at X Hospital Medan in the form of outpatient TB patient prescription sheets, it shows that out of 96 patients using BPJS, 94 patients (97.9%) and patients using general care were 2 patients (2.1%). This explains that many patients prefer to use BPJS rather than general patients because of the JKN - KIS program introduced by the Indonesian government. This program provides broader and cheaper health insurance compared to general health services. This makes more people register as BPJS participants to get better and cheaper health protection.

Based on Tuberculosis Drug Prescriptions at X Hospital Medan for the Period July – December 2023

Based on the type of sufferer from 96 TB patients, which are patients with Oat category I Intensive Phase using 4FDC as many as 33 samples (34.4%), and Oat category I Advanced Phase using 2FDC as many as 59 samples (61.5%), Oat category II Intensive Phase using R/H/Z/E as many as 4 samples (4.2%) and Oat category II advanced 0. in the research that has been conducted, it was found that there was a suitability of the prescription of Antituberculosis drugs (OAT) in the form of a combination of several drugs to the X Hospital Medan formulary, Medical service standards, and the national formulary.

From the results of the research conducted, it shows that all the most widely used Antituberculosis drugs are OAT - FDC which has been combined from several existing drugs in accordance with several guidelines in force at the X Hospital Medan for the period July - December 2023. In this study, it explains that category I patients are new patients, TB patients confirmed bacteriologically, clinically, lung extracts. Category I treatment is given intensive treatment, namely H / R / Z / E or 4FDC treatment for 2 months and for the advanced stage is given a combination of H / R or 2FDC treatment 3 times a week for 4 months. While patients with category II treatment are patients with relapse status, failed patients, patients with drug withdrawal. Patients with intensive treatment are given HRZES

for 2 months and advanced patients are given a combination of HRE 3 times a week for 5 months.

This research is in line with research conducted by previous researchers by Naufal (2020) which stated that there were more category I oat patients than category II oat patients (Naufal., 2020).

The 4FDC Drug Combination is one of the initial therapy treatments given to Tuberculosis patients. 4FDC stands for Fixed Dose Combination, this refers to a drug formulation that combines two or more active ingredients in one tablet or capsule with a fixed dose. The goal is to increase patient compliance with treatment, reduce the number of tablets or capsules that must be taken, and facilitate dose regulation by medical personnel. The use of 4FDC (fixed dose combination) for tuberculosis can last quite a long time, depending on the type of TB suffered by the patient.

Types of TB patients: Latent TB patients, where TB bacteria are present in the body but do not cause symptoms, usually require treatment for 3 to 9 months. Active TB patients, where TB bacteria cause symptoms and are contagious, can require longer treatment. The standard treatment regimen for active TB usually involves a combination of drugs for at least 6 to 9 months. In some cases, especially if the TB is more resistant or complex, treatment can take longer, possibly up to 12 to 18 months.

The 2FDC combination is an advanced treatment therapy for Category I oats. 2FDC stands for two fixed-dose combination. This refers to a drug formulation that combines two active ingredients in a single tablet or capsule at a fixed dose. Its purpose is similar to 4FDC, namely to improve patient adherence to treatment and simplify dose administration.

The use of 2FDC (Two Fixed Dose Combination) in the treatment of tuberculosis also depends on the type of TB suffered by the patient and the recommendations by the treating doctor. In general, the duration of use of 2FDC for TB can be similar to the duration of use of the standard TB treatment regimen which is common for latent TB, the duration of treatment ranges from 3 to 9 months, depending on the patient's condition. For active TB patients, the duration of treatment is usually a minimum of 6 months to 9 months. In more complex cases or with more resistant types of TB, treatment can take longer, possibly up to 12 to 18 months.

CONCLUSION

Characteristics based on TB patients show that 22 patients (22.9%) were aged 46–55 years, 55 patients (57.3%) were female, and 94 patients (95.8%) used BPJS as their cost guarantor. Based on treatment category, category I was more common than category II, with 92 patients (95.8%). OAT-FDC was widely used in TB treatment at X Hospital Medan , with 59 patients (61.5%).

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