Characteristics of Tuberculosis Patients at the Kauman Public Health Center, District of Ngawi

Karakteristik Pasien Tuberkulosis Di Puskesmas Kauman Kabupaten Ngawi

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Abstract

Objective: The objective of this research is to identify the characteristics of Tuberculosis (TB) patients at the Kauman Public Health Center.

Methods: This research employed an analytical descriptive methodology and analyzed patient medical records from 2020 to 2022 as well as data from SITB. In this research, 42 patients made up the sample.

Results: The results showed that of the 42 patients with TB, 60% were male, and 40% were female. The age range of most TB sufferers is 45-60 years (36%), while the lowest is the age range 0-18 (7%). Most TB cases were new (98%) compared to those with a history of previous TB (2%). TB patients who are sensitive to drugs are 93%, while those who are not are only 7%. And the diagnosis of Lung TB (93%) is the majority compared to Extra Lung TB, only 7%.

Conclusion: The results showed that most TB patients were male (60%), the age range of most TB patients was 45-60 years (36%), most TB cases were new (98%), most TB patients were drug-sensitive (93%), and the diagnosis the most was lung TB (93%). This research suggests that further research be carried out to discover other characteristics of TB patients with a larger sample size and more complex research methods.

Keywords: Patient, public health center, tuberculosis.

Introduction

Tuberculosis is a disease that is known to be very dangerous and deadly.[1] When compared with the effects of HIV/AIDS, tuberculosis is more deadly, which makes it the biggest infectious killer worldwide. Approximately millions of people are infected with Mycobacterium tuberculosis yearly, making up about one-third of the world's population. The diagnosis and treatment of primary pulmonary tuberculosis are discussed in this session.[2]

According to Robert Loddenkemper et al., Chronic cough, sputum production, lack of appetite, weight loss, fever, night sweats, and hemoptysis are the hallmark clinical characteristics of pulmonary TB.[3,4] If a person exhibits any of these signs, they should be evaluated for tuberculosis. A person's risk of contracting tuberculosis increases if they are or have been in contact with someone who has the disease.[3]

According to World Health Organization's (WHO) data, around 8.5% of TB sufferers in the world are Indonesian residents. The incidence of tuberculosis in Indonesia reaches 850,000 people, which makes Indonesia ranked second after India.[5] This disease also mostly affects adults, with more male sufferers than women. About a quarter of the world's population has been infected with M. tuberculosis.[6]

Because it is so dangerous, it is necessary to do treatment for TB patients. TB treatment aims to increase sufferers' cure rate and quality of life, prevent disability or death, prevent a recurrence, and avoid transmission and resistance to anti-tuberculosis drugs. Administration of Anti-Tuberculosis Drugs (OAT) in two stages, namely the intensive phase (2HRZE) and the continuation phase (4H3R3) within six months.[7]

Kauman Public Health Center is one of the Public Health Centers in Ngawi Regency which can find and treat pulmonary TB cases independently in collaboration with the Ngawi District Health Office. Since 2022 several cases of Rifampicin-Resistant Pulmonary TB have been found. Therefore, the Kauman Public Health Center works with a Pulmonary Specialist doctor from RSUD dr. Soeroto Ngawi and RSUD dr. Soedono Madiun in the management of drug-resistant pulmonary TB cases.

With the increasing diversity of TB cases encountered, it is necessary to know the characteristics of TB patients so that they can make an overview of the pattern of TB patients being treated to facilitate the classification and follow-up of these findings.

Therefore, the objective of this research is to identify the characteristics of Tuberculosis (TB) patients at the Kauman Public Health Center.

Methods

This research is an analytical descriptive study, with data obtained from SITB (Tuberculosis Information System) and TB patient treatment cards and medical records at the Kauman Health Center. Data collection was carried out in the period January 2020-December 2022.

The study population was all TB patients who received ATD (Anti-Tuberculosis Drugs) therapy at the Kauman Health Center from January 2020-December 2022. The study sample was all TB patients who routinely received ATD (Anti-Tuberculosis Drugs) therapy at the Kauman Health Center from January 2020 – December 2022 and met the inclusion and exclusion criteria.

Patients who met the exclusion criteria did not routinely receive OAT treatment, dropped out of treatment, died, and were transferred patients for treatment. Data processing is done manually, and research results are displayed in tables and writings.

Results

This study was carried out at the Kauman Public Health Centre between 2020 and 2022, and it identified a total of 42 TB patients who fulfilled both the inclusion and exclusion requirements.

Table 1. Patient Characteristics Based on Gender

No	Gender / Sex	Results	
		N	%
1	Male	25	60%
2	Female	17	40%
	Total	42	100%

According to the data presented in Table 1 above, there were a total of 42 patients, out of whom there were 25 male patients with tuberculosis (representing 60% of the total) and 17 female patients representing 40% of the total.

Table 2. Patient Characteristics Based on Age

No.	Age	Results	
		N	%

No	Age	N	%
1	0-18	3	7%
2	19-30	5	12%
3	30-45	9	21%
4	45-60	15	36%
5	>60	10	24%

According to the data shown in Table 2 above, the most significant number of tuberculosis patients were found in the age range of 45-60 years, which was 15, while the smallest number of patients was found in the age range of 0-18 years, which was 3, out of a total of 42 patients.

Table 3. Patient Characteristics Based on Case Type

No	Patient Type	Results	
		N	%
1	New Case	41	98%
2	Prior TB history	1	2%
	Total	42	42

According to the data presented in Table 3 above, the proportion of patients diagnosed with new tuberculosis (TB) cases was the greatest at 41 patients (98%). In comparison, the proportion of patients with a history of having tuberculosis in the past was only one patient (2%) out of a total of 42 patients.

Table 4. Characteristics of Patients Based on Case Types of TB Drug Sensitivity

No	Case Type	Results	
		N	%
1	Drug Sensitive TB	39	93%
2	Drug-Resistant TB	3	7%
	Total	42	42

According to the data presented in Table 4 above, out of a total of 42 TB patients, 39 of them were responsive to drugs (representing 93% of the total), while only three of them were resistant to Rifampicin (representing 7% of the total).

Table 5. Patient Characteristics Based on TB Location Diagnostics

No	TB diagnosis	Results	
		N	%
1	Pulmonary TB	39	93%
2	Extra Pulmonary TB	3	7%
	Total	42	42

According to the data presented in Table 5 above, out of a total of 42 TB patients, 39 of them were responsive to drugs (representing 93% of the total). At the same time, only three of them were resistant to Rifampicin (representing 7% of the total).

Discussion

The aforementioned research found that the majority of patients suffering from tuberculosis were between the ages of 45 and 60 years old, accounting for 36% of the entire patient population. The study conducted by Novita and Ismah came to the same conclusions, finding that the adult age group of 49-61 years had the highest prevalence of tuberculosis patients at 25%.[8]

It was found that the number of male TB patients was 25 people (60%), while there were 17 female TB patients (40%), This is in accordance with the conclusions of Katherine C. Horton's et al research that states that the prevalence of TB is significantly higher among men than women.[9] This was also supported by the research of Sazkiah and Hardja which showed the results of the number of male TB patients 72.56% while female TB patients were 27.43%.[10]

According to research conducted by Dotulong et al., the practice of drinking alcohol and smoking makes males more prone to contracting tuberculosis infection.[11] Denise Rossato Silva et al. discovered the same thing that drinking alcohol on a regular basis was connected with an elevated risk of tuberculosis when smoking was also present.[12] Similar expressions are also supported by many other researchers such as Padmanesan Narasimhan et al.,[13] Marina Lampalo et al.,[14] Chen Jiang et al.,[15] Kuma Diribacorresponding and Gemechu Churiso,[16] and Tengku Noor Farhana Tengku Khalid et al.[17] Additionally, the high mobility of men is a contributing factor to the rise in the incidence of tuberculosis.[11]

Forty-one patients, or 98%, tested positive for having pulmonary tuberculosis, while one patient, or 2%, tested positive for having a recurrence. This is consistent with the findings of research conducted by Alif R et al., which showed that the number of newly diagnosed TB patients was 55 (100%). In contrast, the number of TB patients who experienced a relapse was as few as 0 patients. The World Health Organisation (WHO) estimates that in 2020, Indonesia will be one of the eight nations with the highest number of TB cases worldwide, with 8.5% of cases.[18] Therefore, the infectious disease known as tuberculosis (TB) should have been a serious concern in Indonesia. It is because Indonesia is one of the three major countries with the greatest number of TB cases globally.[19]

In the result of the research that was presented earlier, there were a total of 39 instances (93%) of tuberculosis that were responsive to treatment, and there were 3 patients (7%) with drug-resistant TB. In recent years, there has been a rise in the incidence of drug-resistant tuberculosis cases in Indonesia.

According to a study conducted by Azizi et al., pulmonary TB cases were detected in 89.2% of patients, while extrapulmonary TB cases were found in 10.8% of patients. Pulmonary TB cases were found in 39 patients (93%), while patients with extrapulmonary TB accounted for 7% of the total. The existence of the NRAMP1 factor in the patient's genome is responsible for the increased frequency with which lungs are discovered in patients.[20]

Conclusion

According to the findings of the aforementioned study, the characteristics of tuberculosis patients at the Kauman Public Health Centre were as follows: the majority of tuberculosis patients were male (25 patients, or 60%), the most common age group for tuberculosis patients was 45-60 years (15 patients, or 36%), and the biggest number of cases were new tuberculosis patients—41 patients (98%). Patients diagnosed with drug-sensitive tuberculosis numbered 39 (93%), patients diagnosed with Rifampicin drug-resistant tuberculosis numbered three (7%), the number of patients diagnosed with pulmonary tuberculosis was 39 (93%), and patients diagnosed with extrapulmonary tuberculosis numbered three (7%).

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