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Analysis of Clinical Features of Pulmonary TB Patients at Dr. Hospital. P.P. Magretti Saumlaki in 2022

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ABSTRACT
Pulmonary Tuberculosis is the most common disease in 2022 at RSUD dr. P.P. Magretti Saumlaki Tanimbar Islands, Maluku. This study aims to determine the clinical picture of patients according to the characteristics of person, place and time. The retrospective approach is presented in descriptive form. The sampling technique uses purposive sampling. The sample was 51 pulmonary TB patients in the isolation room in 2022 with complete medical record files. The research results showed that the largest age group was 19-44 years, 24 people (47.1%). The male gender was more numerous, numbering 28 people (54.9%). The most common clinical symptoms were shortness of breath, 15 people (29.4%); The highest number of supporting examinations with Ro Thorax was 36 people (70.6%). The most common diagnoses were pulmonary TB on OAT as many as 22 people (43.1%). More patients returned home and recovered, namely 17 people (33.3%). The longest length of stay was 21.6% (3 days). The conclusion of this study is that pulmonary TB patients in the isolation room at RSUD dr. P.P. More Magretti in 2022: male gender, age 19-44 years, clinical symptoms of shortness of breath, AP/PA Thorax X-ray examination, discharged home recovered, and 3 days of hospitalization.

Keywords: Clinical features, magretti, pulmonary tuberculosis

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INTRODUCTION

Tuberculosis is an infectious disease caused by germs *Mycobacterium tuberculosis*. These germs spread through the air. Globally, it is estimated that 9.9 million people suffered from TB in 2020. (WHO, Global Tuberculosis Report, 2021). The number of deaths due to Tuberculosis in 2020 was 1.3 million, this has increased compared to 2019, which was 1.2 million (Ministry of Health of the Republic of Indonesia, 2022).
Indonesia has committed to reducing the incidence of tuberculosis cases to 65 per 100,000 population by 2030. Efforts to control tuberculosis in Indonesia in 2020-2024 are directed at accelerating Indonesia's efforts to achieve the elimination of tuberculosis by 2030, as well as ending the tuberculosis epidemic by 2050. (Indonesian Ministry of Health , 2020).
The target for finding new cases in the Tanimbar Islands Regency in 2022 and 2023 is 458 cases. The achievement in 2022 is 241 cases (52.62%) and as of June 2023 it reached 117

cases. This certainly needs to be paid attention to and improved in order to meet the target of finding new cases. The number of Tuberculosis deaths in 2022 in Tanimbar Islands Regency is 26 people.

Pulmonary TB is a disease that is still dominant at the Regional General Hospital dr. P.P. Magretti. This can be seen from the report on the top 10 inpatient and outpatient diseases in 2022, where pulmonary TB is the number 1 most inpatient disease with 98 patients and the number 3 disease in outpatients with 175 patients. (SIRS RL 5 RSUD dr. P.P. Magretti 2022). The aim of this research is to determine the clinical picture of pulmonary TB patients at RSUD dr. P.P. Magretti Saumlaki in 2022 in an isolation room according to the characteristics of person, time and place. There has never been any research on the analysis of clinical features of pulmonary TB patients at RSUD dr. P.P. Magretti. Similar research was conducted by Rosy Mutiara Tsani and Kasno regarding the Clinical Features of Pulmonary Tuberculosis at RSUP dr. Kariadi Semarang Period January–June 2011.

METHOD

This research is research with a retrospective approach and is presented in descriptive form. This research was carried out in the isolation inpatient room at RSUD dr. P.P. Magretti Saumlaki, Tanimbar Islands Regency from 16–30 June 2023. The population in this study were all pulmonary TB patients in the Isolation inpatient ward at RSUD dr. P.P. Magretti Saumlaki in 2022.

Sampling using techniques purposive *sampling*. Purposive sampling technique according to Sugiyono (2018) is sampling using certain considerations in accordance with the desired criteria to determine the number of samples to be studied.

The type of data in this study is secondary data, namely Medical Record Files (BRM) of pulmonary TB patients hospitalized in isolation rooms which are declared complete (inclusion criteria).

After the data is collected, descriptive analysis will be carried out for each variable, then the data will be grouped and analyzed using the SPSS application. The results of processing and analysis are presented in tabular form.

RESULT

The total number of pulmonary TB patients recorded in the isolation room inpatient register in 2022 is 71 people. Meanwhile, the medical record files that were declared complete were 51 patients.

The data examined in this study include: age, gender, clinical symptoms, type of supporting examination, diagnosis, condition at home, and length of stay.

Table 1.1. Statistical Distribution of Pulmonary TB Patients

Descriptive Statistics

	N	Minimum	Maximum	Std. Deviation
Age	51	17	79	15.554
Age group	51	1	4	.832
Jk	51	1	2	.503
Address	51	1	11	2.624
Support_enforcement	51	1	4	1.071
Diagnose	51	1	4	.868
home_condition	51	1	4	1.020
Long_days_of treatment	51	1	11	2.554
Valid N (listwise)	51			

Table 1.1 shows that the valid sample size is 51 people. Minimum patient age 17 years, maximum 79 years. Average age 44 years. Minimum length of stay is 1 day, maximum length of stay is 11 days. Average length of stay is 5 days. Standard Deviation is good because it has a value smaller than the mean and there is no data deviation for each variable.

Table 1.2 Frequency Distribution of TB Patients According to Age Groups

Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-18 Years	1	2.0	2.0	2.0
	19-44 Years	24	47.1	47.1	49.0
	45-59 years old	15	29.4	29.4	78.4
	>60 Years	11	21.6	21.6	100.0
	Total	51	100.0	100.0	

Table 1.2 shows the age group 10-18 years as many as 1 person (2.0%), 19-44 years as many as 24 people (47.1%), ages 45-59 years as many as 15 people (29.4%), and age over 60 years old were 11 people (21.6%).

For more clarity, it can be seen in the following diagram:

Figure 1.1 Frequency Distribution of Pulmonary TB Patients According to Age

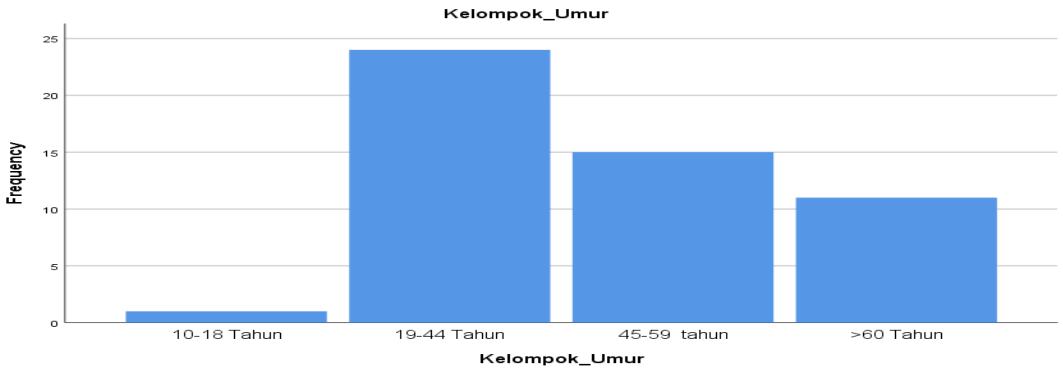


Figure 1.1 shows that the most common age group for pulmonary TB patients is 19-44 years and the least is 10-18 years.

Tuberculosis is a disease that causes morbidity and death at all ages throughout the world, especially in developing countries. The highest incidence of pulmonary tuberculosis usually affects young adults (Mangngi, 2018).

The results of the life cycle situation analysis found various health problems at every stage of life starting from neonates and infants (0-1 year); toddlers (1-5 years), pre-school children 5-6 years; children 6-10 years; teenagers 10-19 years; WUS/PUS (15-49 years) or adults 19-44 years to pre-elderly 45-59 years, and elderly 60 years and over. These problems include neonatal disorders, pneumonia, malnutrition, malaria, diarrhea, HIV-AIDS, TB, PTM, and cardio vascular disease, all of which greatly affect the quality of life in old age. (Ministry of Health, 2016).

This is the basis behind the researchers dividing the age group into 4 groups, namely: 10-18 years, 19-44 years, 45-59 years and 60 years and above.

Table 1.3 Frequency Distribution of Pulmonary TB Patients According to Gender

Jk

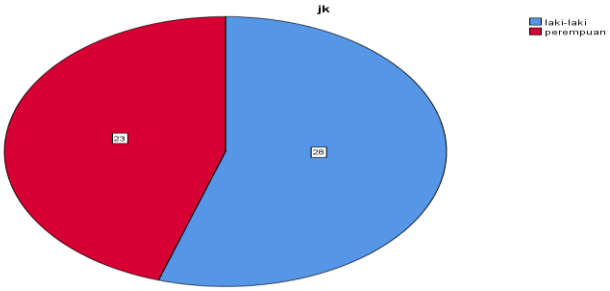
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	28	54.9	54.9	54.9
	Woman	23	45.1	45.1	100.0

Total	51	100.0	100.0	

Table 1.3 shows that there were 28 men (54.9%) while there were 23 women (45.1%).

To make it clearer, it can be depicted in the following diagram:

Figure 1.2 Frequency Distribution of Pulmonary TB Patients According to Gender



From figure 1.2 it is known that there are more male pulmonary TB patients than female. Pulmonary TB disease tends to be higher in men than women, because of the habit of smoking and drinking alcohol so that the body's defense system decreases and it is more easily exposed to agents that cause pulmonary TB (Aditama, 2000)(Mangngi, 2018). This is in line with the results of research by Amina, Tri Handoko and Dewi Damayanti regarding the epidemiological picture of pulmonary tuberculosis at Dr. Lung Polyclinic. H. Chasan Boesoire Ternate In 2018, pulmonary TB disease occurred more frequently in the male group, namely 73 patients (62.4%).

Table 1.4 Frequency Distribution of Pulmonary TB Patients According to Clinical Symptoms

clinical_symptoms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	cough, cough with phlegm	9	17.6	17.6	17.6
	coughing up phlegm accompanied by blood	6	11.8	11.8	29.4
	chest pain	1	2.0	2.0	31.4
	Fever	8	15.7	15.7	47.1
	malaise/weakness	11	21.6	21.6	68.6
	Decreased weight/appetite	1	2.0	2.0	70.6
	hard to breathe	15	29.4	29.4	100.0
	Total	51	100.0	100.0	

Table 1.4 shows the clinical symptoms of pulmonary TB patients with cough/cough with phlegm in 9 people (17.6%), cough with phlegm accompanied by blood in 6 people (11.8%), chest pain in 1 person (2.0%), fever in 8 people (15.7%), malaise/weakness in 11 people (21.5%), decreased weight/appetite in 1 person (2.0%) and shortness of breath in 15 people (29.4%).

For more clarity, see the following diagram:

Figure 1.3 Frequency Distribution of Pulmonary TB Patients According to Clinical Symptoms

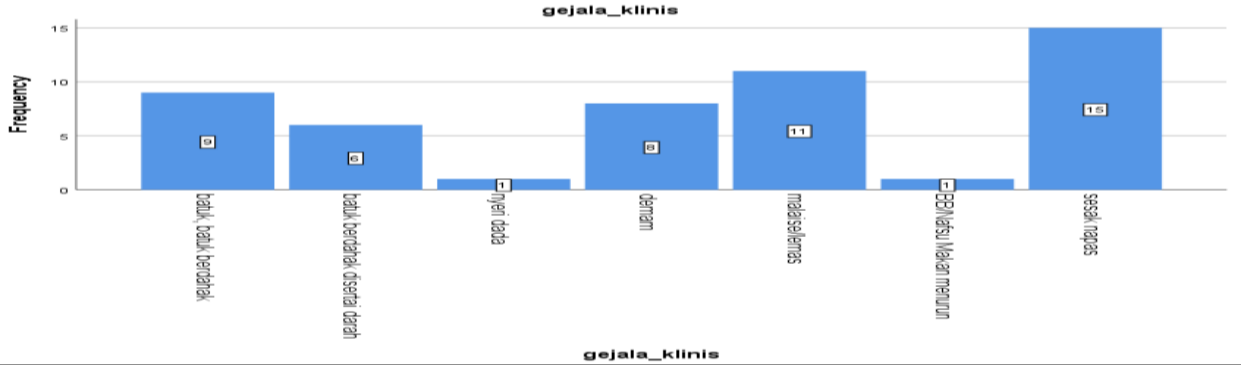


Figure 1.3 shows that the most common clinical symptoms are shortness of breath and the least common are chest pain and decreased weight/appetite.
The clinical symptoms in this study are the most dominant symptoms that arise from other symptoms felt by pulmonary TB patients.
Symptoms of pulmonary TB disease depend on the location of the lesion, so it can show the following clinical manifestations: cough ≥ 2 weeks, cough with phlegm, cough with phlegm that can be mixed with blood, can be accompanied by chest pain, and shortness of breath. Other symptoms include malaise, weight loss, decreased appetite, chills, fever and night sweats (Ministry of Health of the Republic of Indonesia, 2019).
The general signs and symptoms felt by tuberculosis sufferers vary, but there can also be no complaints at all. Some of the most frequently felt symptoms of tuberculosis infection are fever, coughing for more than three weeks, coughing followed by additional symptoms such as phlegm mixed with blood, shortness of breath, decreased appetite and decreased body weight (Radji, 2013)(Mangngi, 2018).

Table 1.5 Frequency Distribution of Pulmonary TB Patients According to Supporting Examinations

Support_enforcement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ro thorax	36	70.6	70.6	70.6
	Ro and TCM	11	21.6	21.6	92.2
	help Ro + TCM TB	4	7.8	7.8	100.0
	Total	51	100.0	100.0	

Table 1.5 shows that 36 people had pulmonary TB patients with Ro Thorax investigations (70.6%), 11 people had RO and TCM TB (21.6%), and 4 people without supporting examinations (7.8%). For more clarity, you can see the following picture:

Figure 1.4 Frequency Distribution of Pulmonary TB Patients according to Supporting Examinations

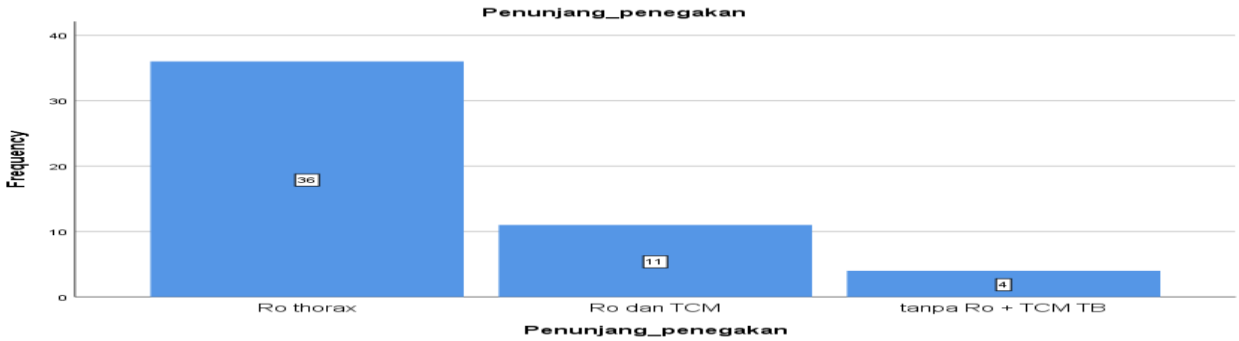


Figure 1.4 shows that the most supporting examinations for establishing a diagnosis are examinations using Ro Thorax and the least without using Ro and TCM TB.

The principle of diagnosing pulmonary TB is that the TCM examination is used to confirm the diagnosis of TB, while monitoring the progress of treatment is still carried out using microscopic examination and it is not justified to diagnose TB just based on chest x-ray examination alone. Chest x-ray does not always provide a specific picture of pulmonary TB, so it can cause over- or under-diagnosis. Patients with negative TCM M.TB results undergo a chest X-ray examination. If the chest radiograph supports TB and at the discretion of the doctor, the patient can be diagnosed as a clinically confirmed TB patient. If the chest x-ray does not support TB, it is probably not TB, look for other possible causes. (RI Ministry of Health, 2019).

This is intended for health facilities that have TB rapid molecular test equipment (TCM), such as RSUD dr. P.P. Magretti Saumlaki.

Table 1.6 Frequency Distribution of Pulmonary TB Patients According to Diagnosis

Diagnosis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Active/New Pulmonary TB	14	27.5	27.5	27.5
	TB pulmonary on OAT	22	43.1	43.1	70.6
	Pulmonary TB Drug withdrawal	12	23.5	23.5	94.1
	TB Published MDR	3	5.9	5.9	100.0
	Total	51	100.0	100.0	

Table 1.6 shows that 14 people (27.5%) were diagnosed with active/new pulmonary TB, 22 people were on OAT (43.1%), 12 people had dropped out of OAT (23.5%) and 3 people were MDR pulmonary TB. (5.9%). For more clarity, see the following diagram:

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Figure 1.5 Frequency Distribution of Pulmonary TB Patients According to Diagnosis

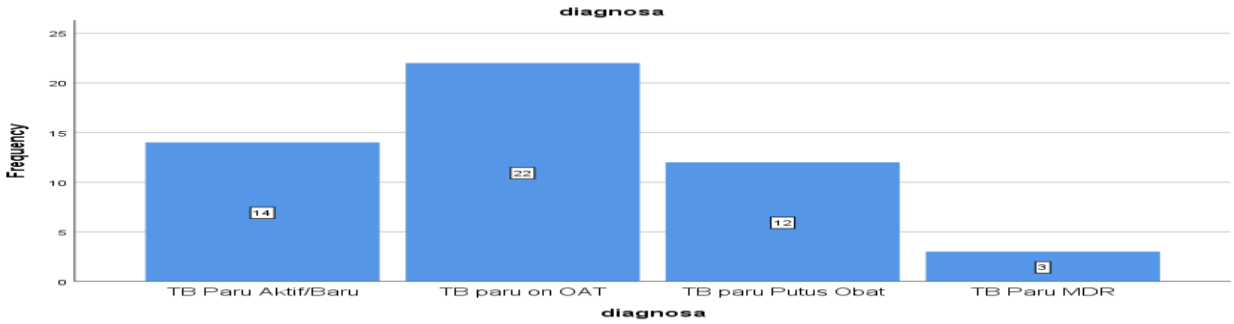


Figure 1.5 shows that more pulmonary TB patients with a diagnosis are pulmonary TB on OAT. Meanwhile, the fewest are MDR pulmonary TB patients.

New cases are patients who have never received OAT before or have had a history of receiving OAT for less than 1 month (< 28 doses if using program drugs). On OAT is a case with a treatment history of a patient who has received OAT for 1 month or more (>28 doses when using program drugs). OAT withdrawal is a case after loss to follow up or a patient who has taken OAT for 1 month or more and has not continued it for more than 2 consecutive months and is declared loss to follow up as a result of treatment. For OAT withdrawal cases, more supervision needs to be carried out (providing education and PMO). The drug swallowing supervisor (PMO) must observe every drug intake that the OAT swallowed by the patient is the right drug, the right dose and the right interval, besides that the PMO should be someone who has been trained, is well accepted and chosen together with the patient (Ministry of Health of the Republic of Indonesia, 2019b).

This is done to prevent severity/relapse, complications and/or death due to pulmonary TB.

Table 1.7 Frequency Distribution of Pulmonary TB Patients according to Condition of Return

home_condition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Healed	17	33.3	33.3	33.3
	Improved	16	31.4	31.4	64.7
	APS	12	23.5	23.5	88.2
	Die	6	11.8	11.8	100.0
	Total	51	100.0	100.0	

Table 1.7 shows that 17 (33.3%) of the pulmonary TB patients who returned home recovered, 16 (31.4%) improved, 12 (23.5%) recovered at their own request/forced return home, and 6 (11.8%) died.).

For more clarity, you can see the following image:

Figure 1.6 Frequency Distribution of Pulmonary TB Patients according to Discharge Condition

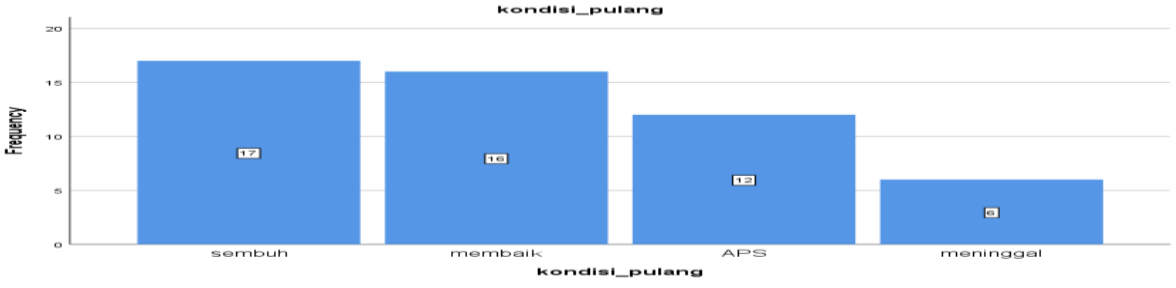


Figure 1.6 shows that more pulmonary TB patients who went home recovered and died the least.
Recovered are pulmonary TB patients with positive bacteriological confirmation at the start of treatment and negative sputum BTA or negative culture at the end of treatment and have negative test results in one of the previous examinations. Meanwhile, deaths are TB patients who died for any reason before and during TB treatment. Supervised treatment helps patients to take OAT regularly and completely. Directly Observed Treatment Short Course (DOTS) is a monitoring method recommended by WHO and is a supporting package that can answer patient needs. (RI Ministry of Health, 2019b)

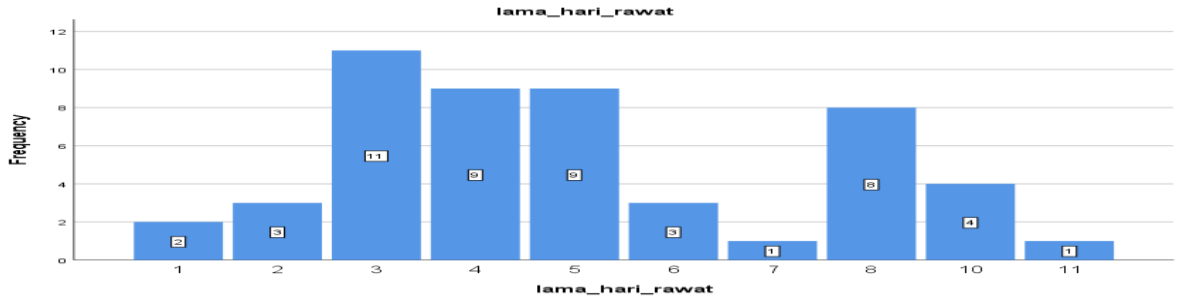
Table 1.8 Distribution of Pulmonary TB Patients According to Length of Hospitalization Days

long_days_of treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	3.9	3.9	3.9
	2	3	5.9	5.9	9.8
	3	11	21.6	21.6	31.4
	4	9	17.6	17.6	49.0
	5	9	17.6	17.6	66.7
	6	3	5.9	5.9	72.5
	7	1	2.0	2.0	74.5
	8	8	15.7	15.7	90.2
	10	4	7.8	7.8	98.0
	11	1	2.0	2.0	100.0
	Total	51	100.0	100.0	

Table 1.8 shows that the length of stay for pulmonary TB patients is 1 to 11 days with the highest percentage being 21.6%, namely 3 days with a total of 11 patients. And the lowest percentage was 2.0%, namely 7 days and 11 days with 1 patient. This can be seen in the following diagram 1.6.

Figure 1.7 Frequency Distribution of Pulmonary TB Patients According to Length of Hospitalization



The definition of the number of treatment days is the total number of treatment days for all patients treated for a total of one year. Meanwhile, the total length of treatment is the total length of treatment for the patient from admission to discharge, for one year. Example: a patient is admitted to the hospital on the 5th and goes home on the 10th. So days of treatment = 5th, 6th, 7th, 8th, 9th, 10th = 6 days. Meanwhile length of stay = 10th - 5th = 5 days. The measure used to determine the length of stay is ALOS (Average Length of Stay). AlOS is the average length of stay (in days) for a patient. The ideal ALOS parameter value is 6-9 days.

The ALOS value of each hospital can be obtained from the SIRS Online reporting R.L. 1.2 and 3.1. (RI Ministry of Health, 2019).
ALOS value of RSUD dr. P.P. Magretti Saumlaki in 2022 is 2 days. This needs to be paid attention to because it is not yet in accordance with ideal standards.
Length of care for pulmonary TB patients at RSUD dr. P.P. Magretti was influenced by several factors, including:

Cost

The cost factor is also a factor in the length of hospital stay. This can be seen in the condition of patient discharge where there are 12 patients who have been forced to return home or at their own request (APS).

Supporting investigation

Types of supporting examinations that are invalid and/or experiencing stock shortages often lead to extensions of treatment days. Because it is necessary to re-examine or postpone the examination.
In some patients, taking sputum samples during the Genexpert examination experienced problems because the sample given by the patient or family was not phlegm but saliva. Another reason is that the phlegm is mixed with blood, so a repeat sample needs to be taken.

CONCLUSION

The conclusion of this research is that pulmonary TB patients who are hospitalized in the isolation room at RSUD dr. P.P. More Magretti in 2022: male, aged 19-44 years, has clinical symptoms of shortness of breath, examination to support diagnosis using X-ray examination results (Ro) AP/PA Thorax Photo, patient goes home in good condition with 3 days of stay.

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