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PHYSICAL CONDITIONS OF THE ENVIRONMENT IN PATIENTS WITH DRUG RESISTANT TUBERCULOSIS (RO TB)

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Abstract

Background: It is not like where Tuberculosis patients live to be one of the global supporters of burden disease, especially in Indonesia. Economic problems are a trigger for low patient awareness in paying attention to living conditions. This incidence can be a supporting factor for the onset of RO TB. Objective: Knowing the home condition of Drug Resistant Tuberculosis (RO TB) patients. Method: Is an analytical research with a cross-sectional approach. Analysis of the home physical condition of Drug Resistant Tuberculosis (RO TB) patients. Results: There are three variables of residential buildings, namely the type of residence, the wall of the dinggal, and the ceiling of the residence that meets the criteria standards of Law No. 01 of 2011. Conclusion: The home of RO TB patients is included in the category of meeting the requirements for a healthy residence so that there are other factors that cause RO TB in the patient's living environment.

Keywords: Physical Condition, Place of Residence, Drug Resistant Tuberculosis

INTRODUCTION

Tuberculosis is still a global burden disease on the world stage (Ginsburg et al., 2017) . The low number of case detection is one of the causes of not optimal treatment, which has exacerbated the TB situation in Indonesia (Asri, Mundakir, Yang, Priyanti, & Lee, 2022) . Low tuberculosis control such as low findings and drug withdrawal in treatment programs can trigger the emergence of Drug Resistant Tuberculosis (RO TB) (Putri, Sitorus, & Zulkarnain, 2022). However, this chronic disease can be cured with routine treatment and in accordance with the recommendations of health workers. Another factor that influences healing is the living environment or home because it can increase the feeling of comfort so that patients do not feel bored at home (McNally, de Wildt, Meza, & Wiskin, 2019) .

A house or a place to live is included in the primary needs that must be met because as one of the life supports to shelter from heat or rain (Rao & Min, 2018). There are several factors that influence the livability of a house, one of which is the

patient's economic factor. Even though the physical health of the place where you live is closely related to a sense of security, comfort and makes it easier to carry out daily activities (Stall et al., 2020) . Through the Decree of the Minister of Health Number 829/MENKES/SK/VII/1999, it has regulated healthy houses which can become guidelines in building houses. There are 8 standard criteria for a residential or house environment set by the Ministry of Health, namely building materials; components and spatial arrangement; lighting; air quality, ventilation, disease-transmitting animals; water; food storage; waste; occupant density.

This research was conducted to obtain certainty whether the houses of TB RO patients were suitable for habitation in accordance with healthy home standards set by the Indonesian Ministry of Health so that they could formulate engineering designs for residences in future studies.

RESEARCH METHODS

This type of quantitative research is analytic research with a cross sectional approach. The population in this study were TB RO patients who were undergoing treatment from 2020 at Sardjito Hospital with a sample of 30 patients by analyzing aspects of a healthy livable home, especially bedrooms. Sampling using simple random sampling technique. Data collection was carried out door to door with interviews and measurements as primary data from patients and observations at the location of residence.

RESULTS AND DISCUSSION

RESULTS

1. General Patient Characteristics

a) Number of patients

Table 3.1 Frequency distribution of the number of patients

Gender	Frequency	%
Man	21	70
Woman	9	30

The majority of TB RO patients suffered from men, namely 21 patients (70%) and the number of female patients was 9 patients (30%).

b) Patient distribution

Table 3.2 Distribution of the frequency of distribution of patient areas

Region	Frequency	%
South Mountain	4	13.33
Bantul	9	30
Sleman	7	23.33
Yogyakarta	5	16.67
Kulonprogo		16.67

Most of the samples in this study resided in the Bantul Regency area, namely 9 patients (30%), second place from Sleman Regency as many as 7 patients (23.33%), third order from Kulonprogo Regency as many as 5 patients

(16.67%) and Yogyakarta City as many as 5 patients (16.67%) and the last order was in Gunung Kidul Regency with 4 patients (13.33%).

2. Aspects of residential buildings

a) Type of residence of the patient

Table 3.3 Frequency distribution of patient's house types

Variable	Criteria	Frequency	%
Type of residence of the patient	Permanent	24	80
	Semi Permanent	4	13.33
	Non Permanent	2	6. 67

The majority of patients had 24 permanent residences (80%), 4 semi-permanent residences (13.33%), and 2 non-permanent residences (6.67%).

b) Residential wall conditions

Table 3.4 Distribution of residential walls

Variable	Criteria	Frequency	%
Residential wall conditions	Cement plaster wall	21	70
	The walls haven't been plastered	6	20
	Woven bamboo	3	10

The results of the study showed that the majority of patients had 21 residences (70%) cement plaster walls, 6 residences (20%) unplastered walls, and 3 residences (10%) of woven bamboo.

c) Condition of the ceiling of the residence

Table 3.5 Frequency distribution of residential ceilings

Variable	Criteria	Frequency	%
House ceiling	Yes	17	56. 67
	Not	13	43. 33

According to data collection related to the variable condition of the ceiling of the residence, the majority of the patient's residences used a ceiling of 17 residences (56.67%) and as many as 13 residences (43.33%) did not use a ceiling of residence.

DISCUSSION

Physical condition of the type of residence

There are 3 categories in the physical condition of the type of patient's residence based on Law no. 01 of 2011 namely permanent, semi-permanent, and non-permanent. All three have different criteria, including the type of permanent residence consisting of tiled roofs, walls and tiled floors. Second, semi-permanent residence consisting of a tin/asbestos roof, wooden or bamboo walls, and a cement floor. Third, non-permanent residence consisting of a wooden or asbestos roof, bamboo or gedding walls, and a ground floor. The physical condition of the type of residence is influenced by various factors, one of which is the economic factor. This is directly related to family income so that it can be a benchmark in meeting their primary needs, especially in housing needs (Marmot, Allen, Bell, Bloomer, & Goldblatt, 2012) . In general, high levels of family income will pay more attention to the quality of their residence because it is related to family health and vice versa (Ma, Liu, Tao, Gong, & Bai, 2022) .

The results of the study showed that the majority of patients resided in permanent buildings so that the physical condition of the type of residence was in accordance with the established laws. The results of this study are reinforced by the results of Kenedyanti, E & Sulistyorin, R (2017) research that there is no relationship between the type of residence and TB RO because a person will be at greater risk of contracting the disease when living conditions are semi-permanent or non-permanent (Monintja, Warouw, & Pinontoan, 2020) . However, the condition of the type of residence cannot be used as a benchmark for assessing that the residence is categorized as healthy and habitable for TB RO patients (Falzon et al., 2017) . So this is a special concern for TB RO patients to change the concept of residence to support their recovery.

Residential wall conditions

The results showed that most TB RO patients had cement plaster walls, meaning that patients had walls that were impermeable to water. When a residence has walls that are not waterproof, there is a 0.191 greater risk of suffering from tuberculosis than patients who have walls that are impermeable (Monintja et al., 2020) .

Thus, the homes of TB RO patients have met the government's standard criteria in providing a healthy place to live. However, the walls of a good residence must be equipped with adequate ventilation so that the humidity conditions of the house remain stable, this can minimize mycobacterium bacteria from multiplying or surviving longer in the residence. Another reason is that these bacteria easily reproduce because they contain a lot of dust on their surface, so a wall with a smooth and flat surface is needed so that it is not difficult to clean (Vaerewijck, Baré, Lambrecht, Sabbe, & Houf, 2014).

Condition of the ceiling of the residence

Based on the results of a study of 30 respondents, it was shown that most TB RO patients had residences that had plasterboard ceilings so that the condition of the patient's ceiling was in accordance with the standard criteria set by the government. This is supported by the research results of Dani et al (2019) which said that most of the respondent's houses had good ceilings so there was no relationship between the presence of ceilings as a cause of tuberculosis in the

working area of the Batu 10 Health Center, Tanjungpinang City (Imaduddin, Setiani, & Suhartono, 2019).

The existence of a ceiling in a residential building functions to hold back dust and dirt and hold down raindrops that grow into the roof crevices. Regardless of the function of the ceiling, the condition of the materials used must be easy to clean and do not have harmful substances for the human body and use materials that are not a breeding ground for bacteria, one of which is the mycobacterium bacteria. The ceiling height that has been set by the government is at least 2.75 m from the base floor of the residence.

CONCLUSION

Most TB RO patients have a healthy physical condition of the living environment so that it can be said to be livable. The three variables used include the condition of the type of residence, the walls of the residence, and the ceiling of the residence according to the standard criteria of Law No. 01 of 2011. It is possible that there are other factors that cause TB RO patients to suffer from the disease.

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