


Characteristics Of Childhood Tuberculosis Patients At La Palaloi Maros Regional Hospital

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Article Info	ABSTRACT
Keywords: Child TB, Characteristics of TB Sufferers	Pulmonary tuberculosis (TB) is a disease caused by Mycobacterium tuberculosis. Knowing the frequency of characteristics of childhood tuberculosis at La Palaloi Maros Regional Hospital. This research uses a cross-sectional method which is descriptive retrospective with a total sampling technique. The population covered by this study were all pediatric patients diagnosed with TB at La Palaloi Maros Regional Hospital. The results of the study showed that, of the 50 people suffering from tuberculosis, based on immunization history, the most cases occurred in children who did not have a history of BCG immunization, namely 30 people (60.00%), TB contact history occurred most often in children who had a history of contact. TB is 33 people (66.00%), gender is most common in children with male gender, namely 30 people (60.00%), age is most common in children aged >5 years, namely 27 people (54.00%), nutritional status was most common in children with normal nutritional status, namely 27 people (54.00%). The characteristics of Tuberculosis sufferers at La Palaloi Maros Regional Hospital in 2021, those who most often experience Tuberculosis are those who do not have a history of BCG immunization, have a history of contact, male gender, age > 5 years, and normal nutritional status.
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INTRODUCTION

Pulmonary tuberculosis (TB) is a disease caused by Mycobacterium tuberculosis - an aerobic bacterium that can live mainly in the lungs or various other body organs that have a high partial pressure of oxygen. Pulmonary TB disease caused occurs when the body's immune system decreases. In an epidemiological perspective, disease incidence is seen as the result of interactions between the three components of host, agent and environment. The risk factors for these nodes can be studied. On the host side, susceptibility to Mycobacterium tuberculosis infection is greatly influenced by a person's immune system at that time. People with HIV/AIDS or people with poor nutritional status are more likely to become infected and contract TB.

Tuberculosis (TB) is a disease caused by the Mycobacterium Tuberculosis complex organisms, which include *M. africanum*, *M. bovis*, and *M. canetti* (and others that do not affect humans). This disease is transmitted through infected small respiratory tracts (around 1-5 mm) and is released in the form of droplet nuclei from TB sufferers and is inhaled by other individuals and then enters the alveoli through close contact. The Bacterium Tuberculosis bacillus is spread from individual to individual via aerosol particles.

In 2020, an estimated 10 million people fell ill with tuberculosis (TB) worldwide. 5.6 million men, 3.3 million women and 1.1 million children. TB is present in all countries and age groups. But TB can be cured and prevented. In 2020, 1.1 million children fell ill with TB globally. Child and adolescent TB is often overlooked by health care providers and is difficult to diagnose and treat. In 2020, 30 countries with a high TB burden accounted for 86% of new TB cases.

Data from the South Sulawesi Provincial Health Service report for 2021 recorded that there were 31,022 estimated TB cases in South Sulawesi, of which only 14,808 cases or confirmed cases were only 47.73%. This means that there are still around 53% whose whereabouts are unknown amidst a large threat of transmission.

METODE

This research method employs a quantitative approach with a retrospective descriptive study design. Data will be collected through the electronic medical records of RSUD La Palaloi Maros, encompassing demographic, geographic, clinical, and risk factor information of pediatric tuberculosis patients. Additionally, a structured questionnaire will be developed to gather additional data from patients or guardians if necessary. The study population will include all pediatric TB patients treated within a certain period, with sampling conducted using purposive sampling techniques. Data analysis will involve descriptive analysis to examine the frequency distribution of characteristics, as well as potentially inferential analysis to evaluate relationships between specific characteristics and other variables. Ethical considerations will be observed to ensure patient privacy and data limitations are addressed. The conclusion of this research is expected to provide better insights into the characteristics of pediatric TB patients at RSUD La Palaloi Maros.

RESULT AND DISCUSSION

Tabel 1. Frequency Distribution of Childhood Tuberculosis Incidents in La Palaloi Maros in 2022 Based on BCG Immunization Group

Riwayat	n	%
<u>Imunisasi BCG</u>		
Ada	20	40,00
Tidak	30	60,00
Total	50	100,00

Tabel 2.Frequency Distribution of Childhood Tuberculosis Incidents in La Palaloi Maros in 2022 Based on TB Contact History Groups

Riwayat Kontak	n	%
Positif	33	66,00
Negatif	17	34,00
Total	50	100,00

Tabel 3. Frequency Distribution of Childhood Tuberculosis Incidents in La Palaloi Maros in 2022 Based on Gender Groups

Jenis Kelamin	n	%
Laki-Laki	30	60,00
Perempuan	20	40,00
Total	50	100,00

Tabel 4. Frequency Distribution of Childhood Tuberculosis Incidents in La Palaloi Maros in 2022 Based on Age Group

Usia (tahun)	n	%
≤5	23	46,00
>5	27	54,00
Total	50	100,00

Tabel 5. Frequency Distribution of Childhood Tuberculosis Incidents in La Palaloi Maros in 2022 Based on Nutritional Status Groups

Status Gizi	n	%
Kurang	12	24,00
Normal	27	54,00
Over Weight	11	22,00
Total	50	100,00

Discussions

Based on the results of research on the frequency distribution of Child Tuberculosis Incidents in La Palaloi Maros in 2022 Based on BCG Immunization History, where the majority occurred in children who did not have a history of BCG immunization, namely 30 people (60.00%) while 20 people had a history of BCG (40.00%).

This research obtained the same results as research conducted by Rezki Mulvadi at Negri Islamic University, almost all respondents did not receive BCG immunization. This research is supported by research conducted by R. Evi Sofia Riani, and Putri Bungsu

Machmud at the University of Indonesia where the effectiveness of the BCG vaccine in protecting children from all types of TB is only around 37%, and giving the BCG vaccine to children does not rule out the possibility that a child will not be infected. Pulmonary TB, the patient had a history of BCG immunization and this had an impact on the results of the sample characteristics where there were no significant differences regarding the history of BCG immunization in patients with confirmed or unconfirmed pulmonary tuberculosis. 5,6

Based on the results of research on the frequency distribution of childhood tuberculosis incidents in La Palaloi Maros in 2022 based on TB contact history, the majority occurred in children who had a history of TB contact, namely 33 people (66.00%), while 17 people did not have a history of TB contact (34.00%).

This research obtained the same results as those conducted by Akmal who found that children in Mataram City who had previous household contact with adult tuberculosis sufferers had a 32.15 times risk of developing tuberculosis compared to children who had never had previous contact with adult tuberculosis sufferers. Contact history is an important indicator in the process of diagnosing childhood tuberculosis using a scoring system. Selection of a scoring system in the diagnosis of childhood tuberculosis is beneficial for areas with limited access to health facilities.

Based on the results of research on the frequency distribution of childhood tuberculosis incidents in La Palaloi Maros in 2022 based on gender, where the majority occurs in children with male gender, namely 30 people (60.00%), while 20 people (20.00%) are female. %). According to a survey by the Indonesian Ministry of Health's data and information center in 2018, it showed that men had 1.3 times more TB cases than women. This may occur because men are more exposed to TB risk factors due to their activities outside and lack of compliance in taking medication.

Based on the results of research on the frequency distribution of childhood tuberculosis incidents in La Palaloi Maros in 2022 based on age groups, where the majority occurred in children aged >5 years, namely 27 people (54.00%), while those aged ≤5 were 23 people (46, 00%). This research obtained different results than those carried out by Farsida, who found that the Pamulang Public Health Center played a role in the incidence of pulmonary TB in children. Children have lower immune systems, this is because the child's immune system is not yet fully formed, and increases with age so that they have good resistance to TB. Children aged <5 years tend to be at higher risk of being exposed to TB.

Based on the results of research on the frequency distribution of Child Tuberculosis in La Palaloi Maros in 2022 based on gender, the majority occurred in children with normal nutritional status, namely 27 people (54.00%), while 12 people with malnutrition status (24.00%) %), and overweight nutritional status of 11 people (22.00%). This research obtained the same results as those carried out by Mardiati who discovered the Kendari City Hospital. Although it was found that many patients' nutritional status was in the normal category, the research stated that normal nutritional status could increase the incidence of pulmonary tuberculosis, because some subjects had undergone tuberculosis treatment, so their body weight became normal in However, there are some patients who have poor nutritional status, starting from attacks by Mycobacterium Tuberculosis bacteria causing

infections which automatically increase metabolism in the body because it has to fight bacteria or foreign objects that attack the body and we have to fight. So due to increased metabolism, it will ultimately cause side effects in the form of decreased appetite and decreased nutritional status.

CONCLUSION

The highest distribution of BCG immunization occurs in children who do not have a history of BCG immunization, namely 30 people (60.00%) while those who have a history of BCG are 20 people (40.00%). The distribution of history of TB contact was most common among children who had a history of TB contact, namely 33 people (66.00%), while 17 people had no history of TB contact (34.00%). Gender distribution occurs most often in children with male gender, namely 30 people (60.00%), while 20 female children (20.00%). Age distribution occurs most often in children aged >5 years, namely 27 people (54.00%), while those aged ≤5 are 23 people (46.00%). The distribution of nutritional status was most common in children with normal nutritional status, namely 27 people (54.00%), while 12 people had less nutritional status (24.00%), and 11 people (22.00%) had overweight nutritional status.

REFERENCES

1. Wahid Akbari Rizal. Karakteristik Pasien Tuberkulosis Pada Anak Di Kota Ternate tahun 2019. (2020).
2. Leksono Ananias Agus Dwi. Faktor-Faktor Yang Berhubungan Dengan Peningkatan Kejadian Tb Anak (Studi Di Wilayah Kerja Uptd Puskesmas Kebong Kecamatan Kelam Permai Kabupaten Sintang). (2022).
3. Organization World Health. Tuberculosis. (2022).
4. Kasus, E. J. & Diobati, B. *Masalah TBC di Sulsel, Seperdua dari Estimasi Jumlah Kasus Belum Diobati*. <https://tbckomunitas.id/2022/03/masalah-tbc-di-sulsel-seperdua-dari-estimasi-jumlah-kasus-belum-diobati/> (2022)
5. Evi, R. *et al. Kasus Kontrol Hubungan Imunisasi BCG dengan kejadian TB Paru pada anak tahun 2015-2016*. vol. 19 (2018).
6. Tanner, R., Villarreal-Ramos, B., Vordermeier, H. M. & McShane, H. The humoral immune response to BCG vaccination. *Frontiers in Immunology* vol. 10 Preprint at <https://doi.org/10.3389/fimmu.2019.01317> (2019).
7. Tchakounte Youngui, B., Tchounga, B. K., Graham, S. M. & Bonnet, M. Tuberculosis Infection in Children and Adolescents. *Pathogens* **11**, 1512 (2022).
8. Nurwitasari, A. & Wahyuni, C. U. *The Effect of Nutritional Status and Contact History toward Childhood Tuberculosis in Jember*. (2015).
9. mardiaty. Gambaran Status Gizi Pada Pasien Tuberkulosis Paru (TB Paru) Usia 0-5 Tahun yang Menjalani Rawat Jalan di Poli Anak RSUD Cut Meutia Aceh Utara Tahun 2022. (2023).
10. farsida, K. R. Gambaran Karakteristik Anak dengan Tuberkulosis di Puskesmas Pamulang Tangerang Selatan. *Muhammadiyah Journal of midwifery* (2020).