

Conference Paper

Pulmonary Tuberculosis Cases Rate by Gender in the North Buton Regency in the 2018-2020 Period

Indrawati¹, Ramadhan Tosepu^{2*}, Devi Savitri Effendy²¹Student of Postgraduate Program of Public Health, University of Halu Oleo, Indonesia²Faculty of Public Health University of Halu Oleo, Southeast Sulawesi Province, Indonesia**Abstract.**

Tuberculosis (TB) is a debilitating chronic infectious disease that affects more than a third of the global population. This study was designed to investigate different peripheral blood parameters and risk factors in TB patients. The objective of this study is to describe the cases of pulmonary tuberculosis by gender in the North Buton Regency in the 2018-2020 period. This is a survey research utilizing data from the health report of the Health Office of THE North Buton Regency in the period 2018-2020, which includes data on the cases of TB by gender. The research sample is TB patients. The type of research data is numerical. The research data is presented in the form of graphs with narration. The number of cases in the North Buton Regency by gender from year to year was higher in males and dominant at the Kulisusu Kambawo Health Center. This is related to the literature where men are at greater risk of developing pulmonary TB disease compared to women. Men smoke and drink alcohol compared to women. Smoking and drinking alcohol can lower the body's immunity so that they are more susceptible to pulmonary TB disease.

Keywords: Tuberculosis, Gender, Male, Female

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1. introduction

Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis* [1–3]. Most of the *Mycobacterium tuberculosis* bacteria infected the lungs (80%), while the other 20% infected organs outside the lungs. Tuberculosis becomes a health problem in the world, which ranks second as an infectious disease that causes the most death after Human Immunodeficiency Virus (HIV) [4, 5].

Pulmonary TB is a chronic infectious disease that has become a global issue. In Indonesia, this disease is one of the national priorities for disease control programs because it has a wide impact on the quality of life and the economy, and often brings to the death. Pulmonary TB disease has increased from year to year even though various

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efforts have been made, both counseling and free treatment at health centers and hospitals [6].

The 2019 World Health Organization (WHO) report that it was estimated 10.0 million suffered from TB in 2018 which 1.2 million TB deaths were HIV-negative, and the highest percentage of TB cases in 2018 was in Southeast Asia (44%) and lowest in Europe (3%). India is the country with the highest TB morbidity rate in the world, namely 27 male (2.7 million) in 2018, increase about 16% compared to 2017 while Indonesia (8%) ranks 3rd after India (27%) and China (9%) [7, 8].

The number of TB patients in Indonesia in 2018 is estimated at 842,000 cases and as many as 569,889 cases have been notified. The achievement of TB treatment has reached 85% [9]. Health Profile of Southeast Sulawesi Province in the year 2017 showed that 2,587 new cases of positive acid-fast bacilli (BTA+) were found, a decrease compared to 2016 with 3,105 cases [10].

The determinants of pulmonary TB disease are population and environmental factors. Population includes gender, age, nutritional status, socio-economic conditions. While environmental factors include residential density, floor of the house, ventilation, lighting, humidity [11, 12].

According to gender, AFB+ cases in men were higher than women which were almost 1.5 times compared to AFB+ cases in women. In each province throughout Indonesia, BTA+ cases are more common in men than women. The highest disparity between men and women occurs in North Sumatra, cases in men are twice that of cases in women

Based on this case, this study objective is to describe the incidence of pulmonary tuberculosis by gender in North Buton Regency for the 2018-2020 periods.

2. METODHOLOGY

The type of this research is a survey research by using the health report data of the North Buton Regency Health Office for the 2018-2020 period involving data on the cases of tuberculosis by gender. The research sample was tuberculosis patients. The type of research data is numerical. The research data is presented in the form of graphs with narration

3. result of the study

The research results can be presented using a bar chart accompanied by an explanation that can be presented as follows:

Figure 1 shows that the number of cases in North Buton Regency. Based on gender, in 2018 showed that male was the highest at the Kulisusu Health Center with 20 cases, in 2019 the highest was at the Kulisusu Health Center with 12 cases, then in 2020 the highest at the Kulisusu and Kambawo Health Centers with 3 cases.

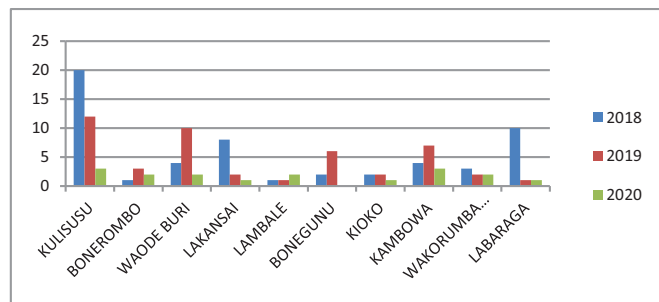


Figure 1: Number of Tuberculosis Cases in the North Buton Regency Based on Male in the 2018-2020 Period.

Figure 2 shows that the number of cases in the North Buton Regency based on female gender in 2018 was highest at the Kulisusu Health Center with 13 cases, in 2019 the highest case was at the Kambawo Health Center with 10 cases, then in 2020 the highest at the Kulisusu Health Center with 4 cases.

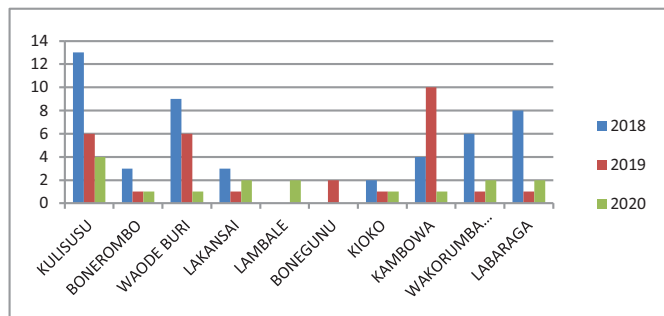


Figure 2: Number of Tuberculosis Cases in the North Buton Regency by female in the 2018-2020 Period.

4. DISCUSSIONS

The number of cases in the North Buton Regency by gender from year to year is higher for males and dominantly in Kulisusu Kambawo Health Center. This is in related with the literature where men are at greater risk of developing pulmonary TB disease compared to women. Where more men smoke and drink alcohol compared to women, smoking

and alcohol can lower the body's immunity so that it is more susceptible to pulmonary TB disease.

Naga [13] stated that pulmonary TB in men is higher than in women because of the habit of men who often smoke and consume alcoholic beverages which can lower the body's defense system. So it is natural that smokers and alcohol drinkers are often referred to as agents of pulmonary TB disease

In line with the findings of Jendra F.J Dotulong et al [14] it was found that the majority of respondents were female respondents as many as 22 respondents (56.4%) and 10 respondents (17.2%) with fewer by male. This is also in line with the research of Elisa S. Korua et al which stated that men had a greater proportion than women suffering from pulmonary TB

Research conducted at Fatima Jinnah General & Chest Hospital Brewery Road Quetta, Pakistan found something different, namely the proportion of women was higher than men. It was probably due to the location of the study in the hospital so that it did not describe the true prevalence of cases based on the sex of the patient [15]. It is further argued that our findings corroborate with Ayaz et al, Baloch et al [16] and Ullah et al, [17] who also reported a higher prevalence in the female population. This can be related to women's lack of access to hospitals, at least doorstep health diagnostic facilities, the communal lifestyle of women in rural settings and illiteracy. A previous research report conducted in Balochistan Pakistan also revealed a ratio of 1:14 male to female tuberculosis as a matter of great concern as reported by Dogar et al. [18] The rate of development of tuberculosis may be seen in societies where women remain neglected for long periods of time.

5. CONCLUSIONS

The number of cases in the North Buton Regency by gender from year to year is higher in males and dominant in Kulisusu Kambawo Health Center. This is in related with the literature stated that where men are at greater risk of developing pulmonary TB disease compared to women. Men mostly smoke and drink alcohol compared to women, while smoking and alcohol can lower the body's immunity so that it is more susceptible to pulmonary TB disease.

6. AUTHOR' CONTIBUTION

The authors have contributed to the preparation of this article.

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