

Conference Paper

Analysis of AFB+ Pulmonary TB Prevalence at the Wuna Community Health Service Center, West Muna District, Southeast Sulawesi Province, Indonesia

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Tuberculosis (TB) is an infectious disease caused by the Mycobacterium tuberculosis. Transmission occurs when a TB patient coughs or sneezes, germs are spread into the air in the form of phlegm droplets (droplet nuclei). This study used data from the Wuna Community Health Service Center, West Muna District. Data on AFB+ pulmonary TB cases were obtained from the health center from 2015 to 2017. In conclusion, AFB+ pulmonary TB cases from 2015 to 2017 fluctuated: in 2015 the number of AFB+ pulmonary TB was 40 cases, in 2016 it decreased to only 28 cases, while in 2017 it increased to 43 cases. The majority of patients with AFB+ pulmonary TB cases in the Wuna Community Health Service Center working area were in the age range of 45-54 years.

Keywords: Pulmonary TB BTA +, West Muna, Southeast Sulawesi, Indonesia

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1. Introduction

TB or Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis which can be transmitted through phlegm droplet. Tuberculosis is not a hereditary disease or curse, and it can be cured with regular medication, under supervised by the Drug Administration (PMO). Tuberculosis is a direct infectious disease caused by TB germs. Most TB germs attack the lungs but can also other organs.

Tuberculosis is a direct infectious disease caused by tuberculosis bacteria (Mycobacterium tuberculosis). It is estimated that one third of the world's population has been infected by Mycobacterium tuberculosis and 75% of tuberculosis patients are in the economically productive age range (15-50) years. The results showed that age was not a risk factor but a cause of tuberculosis. Respondents with more productive age suffer from pulmonary tuberculosis. (Kemenkes RI, 2018; Rachmillah Fadmi & Buton, 2021).

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A TB patient with AFB+ with a high positive degree has the potential to transmit TB disease. Each AFB+ will infect 10-15 other people, the probability of each contact being infected with TB is 17%. The results of another study reported that close contacts (e.g., family in the same house) would be twice as risky as regular contacts (not at home) (Widoyono, 2008: 15). The condition of the house can be one of the risk factors for TB disease transmission. Roofs, walls, and floors can be breeding grounds for germs. Floors and walls that are difficult to clean will cause dust accumulation, the germs will use it as a good medium for the proliferation of *Mycobacterium tuberculosis* germs (Paru, 2014).

The prevalence of AFB+ pulmonary TB by gender as in the previous year, the average new cases in male was higher than female with 59% compared to 41%. On average, in almost all districts, the number of male sufferers is higher. In the case of TB in children, especially in the 0-14 year age group. The number of cases found in Southeast Sulawesi was 0.79% of all TB cases. Although this proportion seems small, it is still slightly above the national proportion in 2016 which was only 0.7%, however, the trend is closer to the national figure (Southeast Sulawesi Provincial Health Office, 2017).

Based on data from the Health Office of West Muna Regency, the number of finding cases of AFB+ pulmonary TB showed that in 2015, there were 72 AFB+ patients out of 83,364 population with a prevalence of 87 per 100,000 population. In 2016, it found 40 AFB+ patients out of 83,364 population with a prevalence of 48 per 100,000 population. While in 2017, 116 AFB+ patients were found out of 83,364 population with a prevalence of 140 per 100,000 population (West Muna District Health Office, 2015-2017).

Data of TB case in the working area of the Wuna Community Health Service Center showed that AFB+ pulmonary TB in 2015 was recorded as 40 confirmed positive, in 2016 it found 28 positive patients, while in 2017 it increased from previous year to 43 positive patients (Profile of the Wuna Health Center, 2015- 2017).

2. Methodology

The Wuna Community Health Service Center is a first-level of community health center that was operated in 1991, it is located in Wuna Village serving 8 villages in 2012 and in 2013 it was expanded to 5 villages; 3 villages from Barangka Subdistrict and 2 villages from Sawerigadi Subdistrict, with an area of ± 1503 ha where the majority of the people's livelihood are farming. The distance from the Puskesmas to the subdistrict capital is ± 5 km and the distance from the puskesmas to the district capital is ± 6 km by land transportation.

This study uses various data from the Indonesian government. Data on AFB+ pulmonary TB cases were obtained from the North Wuna Community Health Service Center from 2015 to 2017. The data was taken from secondary data of the health center. Research results are presented in a figure format

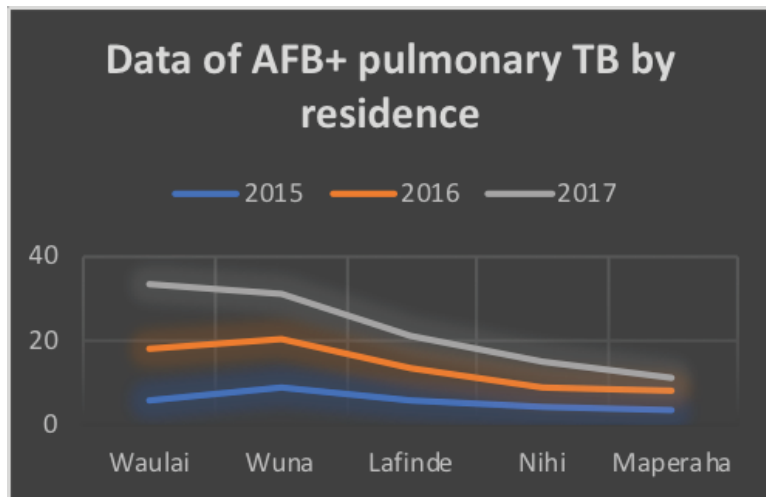


Figure 1: Number of cases by gender in the Wuna Community Health Service Center working area in year of 2015-2017.

3. Result

The results showed that based on gender, from 2015 to 2017 the distribution of AFB+ Pulmonary TB cases fluctuated. Where in 2015, the highest cases occurred in the female with 17 cases. In 2016, the highest cases occurred in male with 24 cases and 16 cases in women. Meanwhile, in 2017, AFB+ Pulmonary TB case between men and women were the same, but the frequency of sufferers was relatively small compared to previous years (Figure 1).

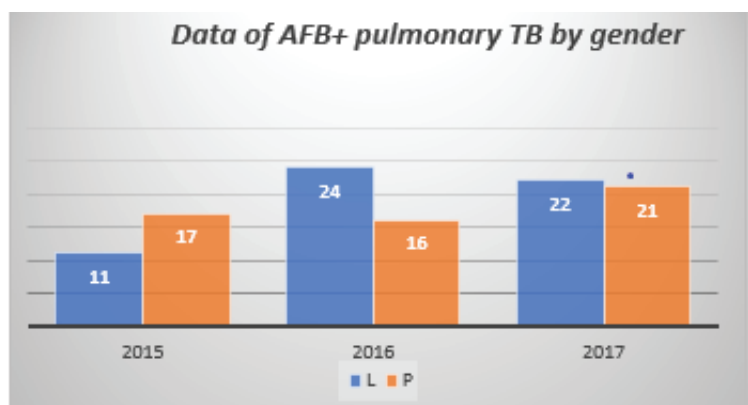


Figure 2: Number of cases by settlement in the Wuna Community Health Service Center working area.

Based on the figure above, it shows that the village with the highest number of sufferers is in the Waulai area with 33 cases, while the lowest is in the Maperaha area with 11 cases. In 2015-2017, the AFB+ pulmonary TB patients in the working area of the Wuna Community Health Service Center, namely Waulai Village, Lafinde Village and Nihi Village experienced an increase case, and for Wuna Village and Maperaha Village experienced fluctuations in 2015-2017.

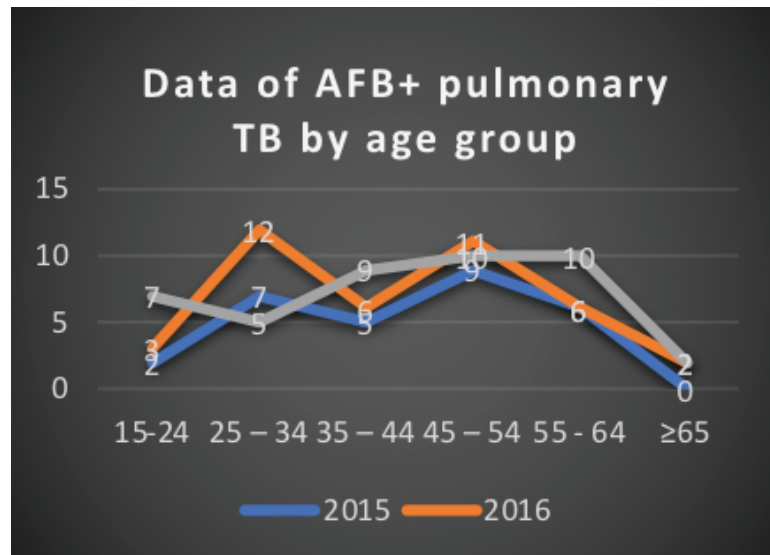


Figure 3: Number of cases by age group in the Wuna Community Health Service Center working area.

Figure 3. shows that there are more patients is in age of 45 to 54 year as 30 cases, while the fewer sufferers are in the age of 65 year above as 2 cases.

4. Discussion

According to the results of Riskesdas (2013), the prevalence of TB in Indonesia based on diagnosis is 0.4% of the total population. Meanwhile, according to the Indonesian Ministry of Health (2017), in 2016, in Indonesia new cases of AFB+ pulmonary TB were found with a total of 156,723 patients, where these cases were more common in men at 61% compared to women at 39%. The highest number of reported cases was in 3 provinces, e.g., West Java with 23,774 patients, East Java with 21,606 patients, and Central Java with 14,139 patients (Kemenkes RI, 2018).

The results of statistical analysis show that gender had a significant correlation with the prevalence of pulmonary TB and men had a risk of the disease 0.872 times higher than women. Research by Granich et al (2010) found 241 cases in male (59%) and 166 cases in female (41%). Epidemiologically, it proved that there were differences between men and women in terms of infectious disease, disease progression, prevalence and

death from TB. The development of the disease also has differences between men and women, where women have more severe disease when they come to the hospital. Women are more often late to come to health services than men. This maybe related to disgrace and feeling embarrassed are more in women than men. Women are also more likely to experience concerns about being ostracized from their family and environment due to their illness. Economic barriers and socio-economic cultural factors also play a role, including the understanding of pulmonary disease (Dotulong et al., 2015)

From the results of the study, it was found that the most respondents were in the age group ranging from 15-54 years as 65 respondents (67%) and it found less in the age group 55 years above at 32 respondents (33%). It is assumed that the body's resistance begins to decline after the age of 45 years, making it is susceptible to the disease. The results are in line with Frans Desmon (2006) which stated that age is not a risk factor for pulmonary TB. According to Frans, any ages as long as you are in the productive age category, you are at risk of getting pulmonary TB. Productive age is very dangerous for the level of transmission because patients easily interact with other people, have high mobility and allow it to spread to other people and the environment around their residence.(Prastiwi, 2013)

5. CONCLUSION

Prevalence of AFB+ Pulmonary TB by gender in this study is in accordance with the literature where male is at greater risk of pulmonary TB disease compared to female. In fact, men are relatively found smoking and drinking alcohol compared to women, in which these habits can lower the body's immunity that leads to more susceptible to pulmonary TB disease.

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