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Conference Paper

Investigating the Spread of Leprosy Using Secondary Data in Southeast Sulawesi, Indonesia

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Abstract.
Leprosy, also known as Hansen's disease, is caused by the bacterium *Mycobacterium leprae*. This disease attacks the skin, peripheral nerves, upper respiratory tract mucosa and eyes. This bacterium undergoes a long division process between 2-3 weeks. The survival of leprosy bacteria is 9 days outside the human body. Leprosy germs have an incubation period of 2-5 years. The World Health Organization reported that in 2019, 202,256 new cases of leprosy were detected in 118 countries, and that 79% of these were in India and Brazil. This study obtained data on leprosy from the Kendari City Health Office for 2017 to 2020. According to the findings, in 2018, the prevalence of leprosy in Kendari was 0.73%. The span was found to be 15 years with multi-bacillary type/wet leprosy with level 0 defects. Males were found to be the most susceptible to infection. There was a decrease in 2020 in the number of new cases of leprosy.

Keywords: leprosy, Southeast Sulawesi, Indonesia

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1. INTRODUCTION

Leprosy is known as leprosy or Hansen's disease caused by the bacterium Mycobacterium Leprae. This disease attacks the skin, peripheral nerves, upper respiratory tract mucosa and eyes. This bacterium undergoes a long division process between 2-3 weeks. The survival of leprosy bacteria reaches9 days outside the human body. Leprosy germs have an incubation period for 2-5 years and it can even take more than 5 years. Poor management of leprosy cases may cause permanent damage to the skin, nerves, movement members and eyes.

According to the World Health Organization (WHO) data in the year 2019 reported from 161 countries as many as 202,256 new cases of leprosy were detected in 118 countries. It includes 79% were in India and Brazil. In Indonesia itself there was an increase in leprosy cases in the last 5 years and data in 2019 showed new cases Leprosy as many as 17,439 cases. Mycobacterium leprae, is an acid-fast bacillus (AFB)

in the form of a rod that initially attacks the nerves and the skin. It can also attack other tissues, such as the reticuloendothelial system, bones and joints, mucous membranes, eyes, testes, muscles, and adrenals. Leprosy is an infectious disease that causes very complex problems apart from medical aspects but also extends to social, economic and cultural problems because leprosy becomes a stigma in society, families, including some health workers.

Southeast Sulawesi has 11 sub-districts and 15 health centers.The prevalence rate of leprosy in Kendari in 2017 was 22 (0.64%). In the year 2018, there were 27 (0.73%), in 2019 were 17 (0.45%) cases and in 2020 there were 9 (0.29) cases per 100,000 population. The control of leprosy cases can be done by increasing early detection of indicators used to show success in detecting new cases of leprosy. This study objective is to detect the finding of new cases of leprosy so that the prevalence of new leprosy can be prevented early.

2. METHODOLOGY

Kendari is the capital city of the province of Southeast Sulawesi. It is located in the southern part of the equator, between 3 54 ”40” and 4 5”05 south latitude and stretching from west to east between 122”26”33 and 122”39” longitude east (LE). This study used various data in Indonesia. Leprosy cases data were obtained in profile document of the Kendari City Health Office in the year 2017-2020.

3. RESULT OF STUDY

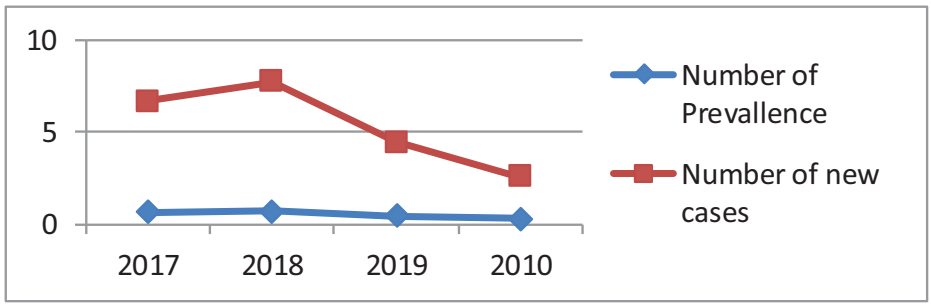

Figure 1: Prevalence rate and new case finding rate of leprosy (NCDR) in year 2016-2020.

The results of the research show the finding of new cases in 2018 was an increase and decrease in the following year namely in 2019 and 2020. The prevalence of leprosy cases was static.

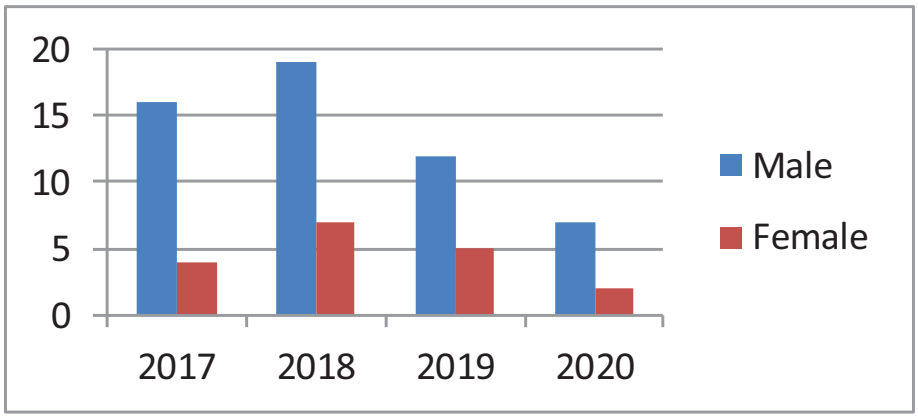

Figure 2: New case finding data of leprosy by gender in year 2017-2020.

From the graph above was found that the most new cases of leprosy by gender were male significantly in 2018 and decreased in the following 2019-2020 years.

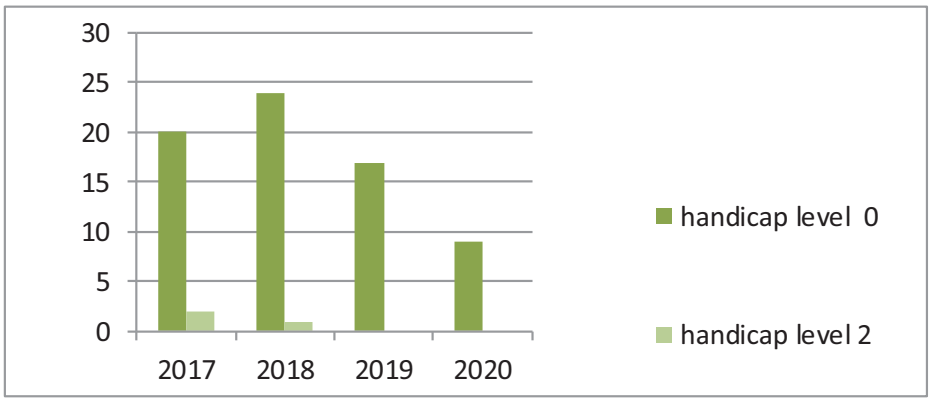

Figure 3: New case finding data of leprosy handicap 0, handicap level 2, child sufferer ≤ 15 years old.

The results of the study found that handicap level 0 were the most in 2018 and handicap level 2 in 2017 and the indicator for finding new cases of leprosy is when a handicap level 2case is found.

Figure 4 can be seen that there are 2 types of leprosy are bacillary or dry leprosy and the type of multi-bacillary or wet leprosy. In 2018 the cases with the multi-bacillary type/wet leprosy were 23 cases and this type was dominantly infectious. Meanwhile, most dry leprosy in the year 2017 but decreased in the following year.

The results of the study showed that the most leprosy cases happen in Kendari and sPuuwatu districts in the year 2018. In the year 2019 was in Mandonga and Puuwatu districts. In the year 2020 was in West Kendari districts, Mandonga districts and Puuwatu districts.

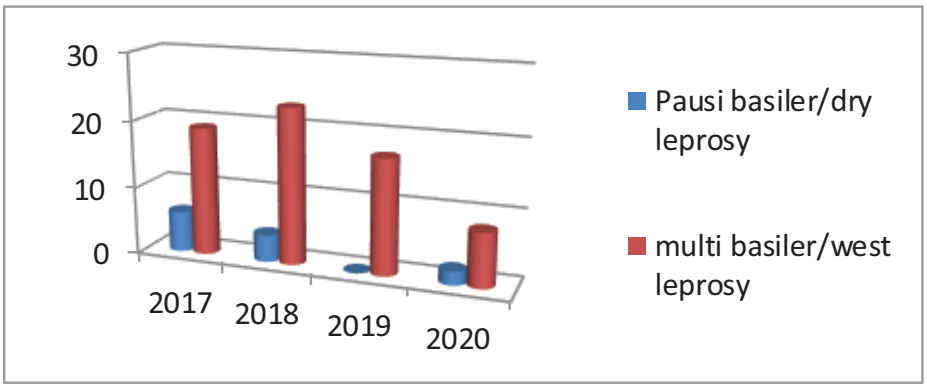

Figure 4: Leprosy data by type of Pausi bailer (dry leprosy) and Multi bacillary (wet leprosy).

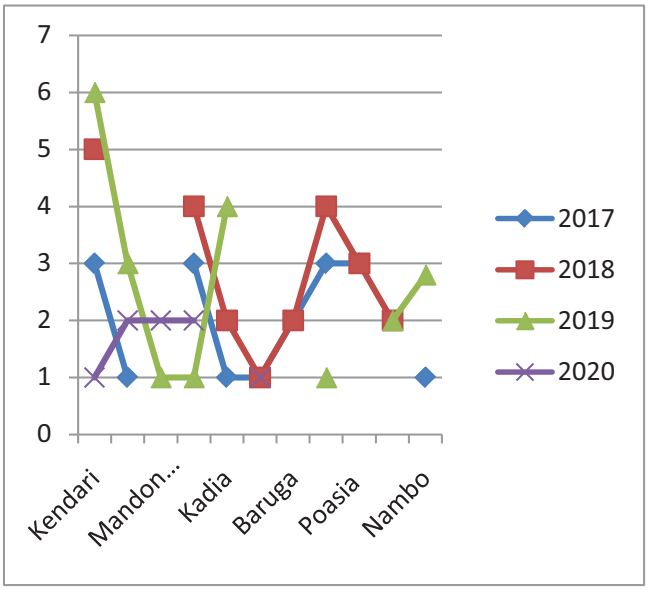

Figure 5: Distribution data of the number of leprosy cases in sub-districts and health centers.

4. DISCUSSION

Indonesia has achieved the number of leprosy elimination of <1 per 10.000 population (< per 100.000 population) in the year 2000. Indonesia succeeded in reducing the incidence of leprosy although it was relatively slow. The prevalence rate of leprosy in Indonesia in the year 2017 was 0.70 cases/per 100.000 population and the new discovery rate was 6.08 cases per 100.000 population. In addition, there are several provinces which prevalence is above 1 per 10,000. This prevalence rate cannot be declared free of leprosy. There are 10 provinces in Indonesia state as the free of leprosy.

In the province of Southeast Sulawesi is Kendari City stated as one of them. In the last 4 years, the prevalence of leprosy has been found to be static. In the year 2018 there was an increase of 0.73% and in year 2020 there was a decrease of 0.29%.

Leprosy happens to children under the age of < 15 years and the most were boys. The multibacillary type/wet leprosy was the most common with a level 0 handicap.

5. CONCLUSION

This study showed that the prevalence rate of leprosy cases in the year 2017.It was 0.73% as the highest and the lowest in 2020 namely 0.29 happen tomen under the age of <15 years with multi-bacillary type/wet leprosy on level 0 handicap. The finding of new leprosy is expected to be able to carry out by early prevention, promotion and recovery for patients so that the increase of leprosy cses can be suppressed.

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