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Malaria Cases Rate by Gender in the North Buton Regency During the 2018-2020 Period

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Abstract.
Malaria is a life-threatening disease and causes many deaths around the world. The disease is caused by a protozoan parasite of the genus Plasmodium which is transmitted to humans through the bite of the Anopheles mosquito which also serves as a host for this parasite. The objective of the study is to describe Malaria cases in the North Buton Regency in the 2018-2020 period based on gender. This is a survey research using data from the health report of the Health Office of North Buton Regency for the period 2018-2020 involving data on the malaria cases by gender. The research sample is malaria sufferers. The type of research data is numerical and the research data is presented in the form of a graph with narration. Malaria cases by gender in the North Buton regency showed that in 2018 the highest was at the Kulisusu Health Center with 12 cases, in 2019 the highest was at the Bonerombo Health Center with 7 cases, and then in 2020 the highest was at the Lambale Health Center with 6 cases. The number of cases in North Buton Regency was more dominated by men than women.

Keywords: Malaria, Gender, Male, Female, Plasmodium

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1. INTRODUCTION

Malaria is an infectious disease caused by sporozoa of the genus Plasmodium which consists of species Plasmodium vivax, Plasmodium malariae, Plasmodium falciparum, and Plasmodium ovale which enter the body through the bite of a female Anopheles mosquito [1–3].

Malaria infection occurs when a person is bitten by an Anopheles mosquito infected with the Plasmodium sp. Parasites that enter the bloodstream will attack and multiply in erythrocytes, when erythrocytes containing parasites lyse, free parasites will attack other erythrocytes [4, 5].

Symptoms fever is depend on the type of malaria. Besides the nature of the acute fever (paroxysmal), there is another which is preceded by a cold stage (shivering) followed by a high fever then sweating profusely. In addition to the classic symptoms above, other symptoms can be found such as headache, nausea, vomiting, diarrhea,

aches and muscle aches. These symptoms are usually found in people who live in endemic areas [6, 7].

Today, the world still faces great challenges against the malaria. According to the 2017 World Health Organization (WHO) Malaria Report, after a period of unprecedented global success in malaria control, progress has stalled [8]. In 2016, 91 countries reported a total of 216 million malaria cases, and an increase of 5 million cases compared to the previous year. Meanwhile the number of malaria deaths reached 445.000 [9]. Malaria transmission occurs mainly in areas where resources are limited, and individual health systems are poor and unable to provide adequate diagnosis and treatment [10].

Malaria is a public health problem throughout the world, including Indonesia [11]. The Indonesian government has set a national goal to be free of malaria by 2030. Currently, 24 of the 576 districts in Indonesia are classified as malaria endemic, and it is estimated that 45% of Indonesia's population lives at risk of contracting malaria [12].

Changes in the hematological examination of patients with malaria can be influenced by several factors, including the level of regional endemicity, the background of hemoglobinopathies, demographic factors and immunity to malaria, but this is not yet known with certainty due to the complex pathogenesis process [13].

The objective of this study is to describe Malaria cases in the North Buton Regency for the 2018-2020 period based on gender.

2. METODHOLOGY OF THE STUDY

The type of this research is a survey research by using data from the health report of the Health Office of North Buton Regency for the period 2018-2020 involving data on the cases of malaria by gender. The research sample is malaria sufferers. The type of research data is numerical and the research data is presented in the form of a graph 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 the number of Malaria cases in North Buton Regency based on male gender, it shown in 2018 the highest was at the Kulisusu Health Center as many as 12

cases, in 2019 the highest was at the Bonerombo Health Center as many as 7 cases, then in 2020 the highest was at the Lambale Health Center as many as 6 cases.

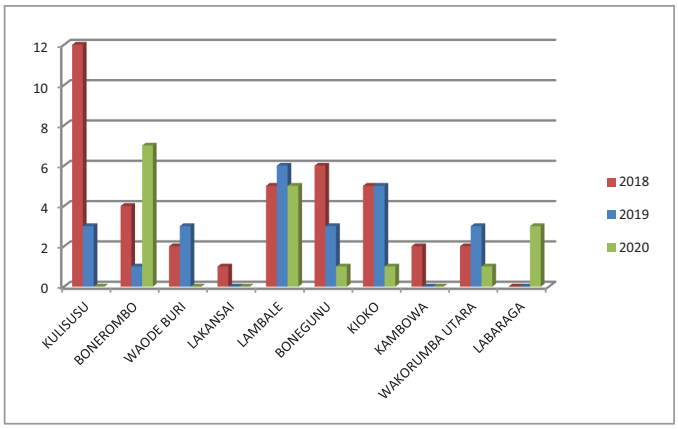

Figure 1: Number of Malaria Cases in North Buton Regency by Gender in the 2018-2020 Period.

Figure 1 shows the number of Malaria cases in North Buton Regency based on female gender, it appears in 2018 the highest was at the Boneguru Health Center as many as 3 cases, in 2019 the highest was at Lambale, Boneguru and North Wakorumba Health Centers each with 1 case, then in 2020 The highest was in the Lambale Health Center as much as 1 case.

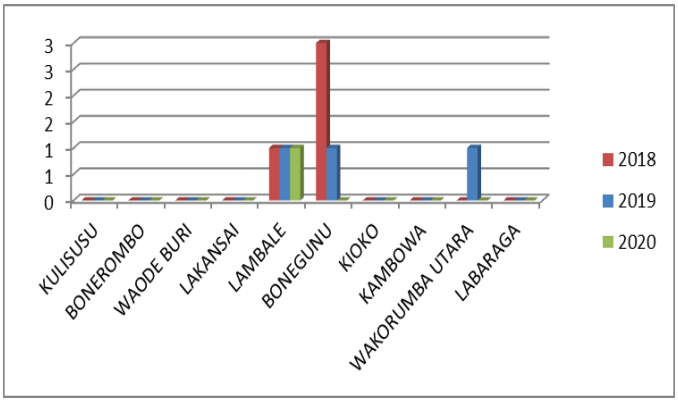

Figure 2: Number of Malaria Cases in North Buton Regency by Gender 2018-2020 Period.

4. FINDINGS

Malaria cases in North Buton Regency by gender showed in 2018 the highest at the Kulisusu Health Center as many as 12 cases, in 2019 the highest was at the Bonerombo Health Center as many as 7 cases, and then in 2020 the highest was at the Lambale Health Center as many as 6 cases. The number of cases in North Buton Regency is dominantly by men than women. This is in line with the 2007 Riskesdas (Indonesia

Health Center Research) conducted by the Health Research and Development Agency [12] and Ramadhani [14] regarding male predominant malaria sufferers compared to women. This is related to exposure to malaria vector mosquitoes.

In contrast to Arnida Sari's research which found that gender with malaria sufferers from 32 respondents. There were 31 female with 96.90% malaria suspicion and 3.10% malaria positive. It is different to the Lestari's research [15] state that men suffer from malaria a lot because malaria-transmitting mosquitoes have biting activity at night, especially men who usually go out at night either to watch the night or monitor rice fields or plantations where the Anopheles mosquito is most active looking for blood at 21.00-03.00 and the habit of residents. According to Darmadi [16] being outside the house at night between 21.00 to 22.00 is closely related to the incidence of malaria, because the frequency of sucking blood at that hour is high, especially in men in rural areas.

In line with the research of Mareza Dwithania et al [17] stated that the male gender (53.85%) with the incidence of malaria at Sungai Durian Health Center and Talawi Health Center was dominantly caused by Plasmodium vivax.

5. CONCLUSIONS

Malaria cases in the North Buton Regency by gender, in 2018 the highest was at Kulisusu Health Center with 12 cases, in 2019 the highest was at Bonerombo Health Center with 7 cases, then in 2020 the highest was at Lambale Health Center with 6 cases. The number of cases in North Buton Regency is dominantly by men than women.

6. AUTHOR CONTRIBUTION

The authors have contributed on this research.

7. ACKNOWLEDGMENTS

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