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CHARACTERISTICS OF CHILDREN INFECTED WITH MALARIA AT BLU NABIRE DISTRICT HOSPITAL YEAR 2023

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ABSTRACT

Malaria that occurs in children can pose a major risk to their growth and development. One in four Indonesians lives in an area with a high risk of contracting malaria. In 2016 malaria killed 161 people in Indonesia. Globally this disease killed 445,000 people in the same year. Research Objectives were to determine the characteristics of children infected with malaria. This type of research uses research techniques with a quantitative descriptive method. The population in this study were parents of children infected with malaria who were hospitalized or outpatient for 6 months from January – July 2023 at the BLUD of Nabire Regency Hospital, totaling 57 children, and the sample used was total sampling. It was found that the highest number of children infected with malaria was 0-5 years old with a percentage (64.9%), the highest number of children's gender was male (57.9%), the type of malaria that infects children was tertian malaria with a percentage of (57.9%), the highest initial complaint when children are hospitalized is moderate, namely (70.2%), and the environment where children infected with malaria live is coastal/beach areas (50.9%) and nearby houses. with forests/bushes (64.9%) and the habit of not using mosquito nets when sleeping (64.9%).

Keywords

Characteristics, Malaria, Children

INTRODUCTION

Malaria throughout Indonesia is still quite high, where the number of cases of malaria sufferers in 2019 mostly occurred in Eastern Indonesia, with 7,079 cases occurring in West Papua Province, followed by East Nusa Tenggara Province with 12,909 cases of malaria sufferers, and in first place with the highest cases in Indonesia being in Papua Province with a total of 216,380 cases or around 86% of cases being in Papua Province. Around 300 districts and cities or 58% of the total cases in Indonesia have entered the elimination category, or there are around 208.1 million Indonesians living in malaria-free areas. Provinces such as DKI Jakarta, East Java Province and Bali Province are regions in Indonesia that have been 100% successful in entering the elimination category(Riskesdas, 2018).

The areas where there is a malaria epidemic in Papua Province are Keerom

Regency, Jayapura Regency, Mimika Regency, Sarmi Regency and Boven Digoel Regency. Nabire Regency has a malaria morbidity rate which is still quite high, the national APl (Annual Parasite Incidence) figure is 1 per 1000 population, while in Nabire Regency it is 17 per 1000 population. As a form of the Nabire Regency Government's commitment to controlling malaria in Nabire Regency, the Nabire Regency Government issued Nabire Regent Regulation number 48 of 2019 concerning the Malaria Control Center in Nabire Regency. Nabire Regent's Regulation number 48 of 2019 concerning the Malaria Control Center in Nabire Regency was issued to become the basis for the establishment of a Malaria Center in Nabire Regency, with the aim of realizing accelerated control of malaria in Nabire Regency, which has a target of Malaria-free Nabire by 2028 (P2PL Nabire, 2019).

Nabire Regency is one of the contributors to the malaria morbidity rate in Papua Province, the number of cases of malaria sufferers in Nabire Regency in 2020 was 2,359 malaria cases. Nabire District is the largest contributor to cases in Nabire Regency with a total of 1,082 cases. In 2021, there was an increase in malaria cases, reaching 2,456 positive cases of malaria, of which the largest number of cases were in Nabire District with a total of 1,248 positive cases. To reduce the high number of malaria cases, the Nabire District Government issued Regent Regulation number 48 of 2019 concerning the Malaria Control Center, but in its implementation there are obstacles faced by the Health Service, namely the lack of community support and the lack of supporting infrastructure in implementing malaria control policies(Nabire District Health Service, 2019).

One of those who are vulnerable to Malaria are children. The role of midwives is very necessary in early detection of children who suffer from malaria. If malaria in children is not treated immediately, it can cause various pathological conditions that can affect the child's growth and development. Malaria can cause several symptoms such as anemia, fever, hypoglycemia, acute pulmonary edema, kidney failure and can even cause death. The pathological conditions that arise are very dependent on immunity status, nutritional status and treatment of malaria(Natama et al., 2018).

Of the several Community Health Centers, Clinics and Hospitals in Nabire where there are still malaria cases, one of them is the BLU Regional General Hospital of Nabire Regency, due to the large population and in the Nabire District mentioned above there are still many cases of Malaria. The referral place in Nabire is the BLU of the Nabire Regency Regional General Hospital. There were 63 cases of children (0 months - 14 years) affected by malaria in 2020 and in 2021 there were 24 cases affected by malaria. BLU Nabire Regency General Hospital is the only referral facility in Nabire Regency with Type C services in accordance with the Decree of the Minister of Health of the Republic of Indonesia No: 1396/Menkes/SK/XI/2002 dated 18 November 2002. BLU RSUD has a building area of 34,800 M2 and has facilities for There were 282 beds for patients. BLU RSUD's vision is a referral center and quality and trusted health services in the Central Papua and Cendrawasih Bay regions. And the mission is to improve quality and patient safety, improve facilities and infrastructure to support health services, improve cross-program and cross-sector coordination relationships. With the motto Serve With Love. The BLU RSUD was first established in 1975 on Jalan Sam Ratulangi and then in 1986 it was moved to Jalan RE. Mathadinata Siriwini until now. BLU

RSUD has also carried out basic accreditation in 2019 so it is hoped that it can provide quality services. With the improving condition of BLU RSUD, it is hoped that the services provided will improve and be of better quality, especially the handling of babies and children infected with malaria, as well as other emergencies so that the safety and health recovery of babies and children can be realized (Nabire District Health Service, 2019).

METHOD

This type of research uses research techniques with quantitative descriptive methods. The population in this study were parents of children infected with malaria who were hospitalized or outpatient for 6 months from January – July 2023 at the BLUD of Nabire Regency Hospital, totaling 57 children, and the sample used was total sampling. Data analysis used frequency distribution.

RESULTS

Table 1. Frequency Distribution of Characteristics Based on Gender, Age, Symptom, initial complaint, Residential environment, Types of Malaria

Characteristics of Respondents	Category	f	%
Gender	Boys	33	57,9
	Girls	24	42,1
Total		57	100

Based on Table 1, The majority of respondents were Boys at 33 (57.5%).

Table 2. Frequency Distribution of Characteristics Based on Age

Characteristics of Respondents	Category	f	%
Age	0-5 years	37	64,9
	6-13 years	20	35,1
Total		57	100

Based on Table 2, The majority of respondents were 0-5 years at 37 (64,9%).

Table 3. Frequency Distribution of Characteristics Based on initial complaint

Characteristics of Respondents	Category	f	%
Initial Complaint	Seriouss	17	29.8
	moderate	40	70.2
Total		57	100

Based on Table 3, The majority of respondents were Initial Complaint were moderate at 40 (70,2%).

Table 4. Frequency Distribution of Characteristics Based on Type Of Malaria

Characteristics of Respondents	Category	f	%
Type Of Malaria	Tropika	22	38.6
	Tersiana	33	57.9
Total		57	100

Based on Table 3, The majority of respondents were Type of Malaria Tersiana 33(57.9%).

Table 5. Frequency Distribution of Characteristics Based on Residential Environtment

Characteristics of Respondents	Category	F	%
The habit of using mosquito nets	Yes	28	49,1
	No	29	50,9
Beach area house	Yes	28	49,1
	No	29	50,9

Open water reservoirs and sewers	Yes	50	87,7
	No	7	12,3
Bushes and Forests	Yes	37	64,9
	No	20	35,1
Total		57	100

Based on the Tabel 5, it was found that in the living environment of respondents infected with malaria, it was found that there were (50.9%) respondents who did not use mosquito nets when sleeping and lived in coastal areas, there were (87.7%) respondents who had open water reservoirs, ditches and sewers in their living environment, and There were (64.9%) respondents whose residence was close to forests and bushes.

DISCUSSION

1. Age of Children Infected with Malaria

The results of the study showed that of the 57 children who suffered from malaria, the results showed that the highest number of children infected with malaria was 0-5 years, 37 people (64.9%) and 20 people aged 6-13 years (35.1%). Compared to adults, children are more susceptible to disease because their immune systems are not yet fully formed. The most vulnerable children are toddlers in general and less than one year old in particular (Triasmara, 2013).

The research is in line with the results of I Wayan Gustawan's research at Dekai Papua Hospital (2018) that the most common age of children with malaria infection is 1-5 years. In endemic areas, children aged 1-5 years are at high risk for malaria infection due to lack of immunity. In the first two months of life, children may not contract malaria or its manifestations may be mild with low levels of parasitemia, due to passive immunity derived from maternal antibodies. The morbidity rate in older children is lower than in children aged 1-5 years. This is because the immunity of older children may have been formed due to reinfection (Sitta Dewi, Y., Gustawan, I. W., Utama, M. G. D. L., & Arhana, 2019).

Children under five years of age (including babies) are one of the groups most vulnerable to malaria. Of the 2391 toddlers examined by RDT at Riskesdas 2018, it showed that 20 toddlers tested positive for malaria (0.8%) with the species P. falciparum (0.7%) and a mix of P. falciparum and P. vivax (0.2%). (Riskesdas, 2018).

2. Gender of Children Infected with Malaria

The results of the study showed that of the 57 children who suffered from malaria, the results showed that the sex of the children infected with malaria was mostly boys, namely 33 people (57.9%) and girls (42.1%) or 24 people. This is because women's immune systems are stronger than men's. The results of this research are in line with Apriliani's research in 2021. The most common toddlers with malaria were 31 males (52.5%) and 28 females (47.5%). In accordance with Dr. Maya Saleh's research at the McGill University Health Center Research Institute, it was found that women have a higher immune system than men(Asrisal, Juliawati, 2018).

The results of this study are in line stated that there is a significant relationship between gender and the incidence of malaria, men are 1.00 times more likely to get malaria than women(Njim & Tanyitiku, 2019). The results of research stated that men are 1.5 times more at risk of contracting malaria than women(Jenkins et al., 2015).

3. Types of Malaria Suffered by Children

The results of the study showed that of the 57 children who suffered from malaria, the results showed that the most common type of malaria suffered by children was tertiary malaria, namely

(57.9%). Then in second place is tropical malaria (38.6%), tertiary (57.9%), and finally the mixed type of malaria (3.5%). Research conducted Type of malaria infections that were seen included falciparum 46(57%), mixed infection 26(32%) and vivax 9(11%)(Ahmed et al., 2011).

Geographically, Nabire district is still surrounded by forests and most of the area is coastal areas where air humidity is very influential in the breeding of malaria mosquitoes. Apart from that, there is a lack of public awareness about environmental cleanliness, so that cleaning around the house is rarely carried out so that mosquitoes can develop into malaria vectors.

This research is in line with the results of research conducted by Lambok Siahaan in North Sumatra in 2015 where the highest proportion of malaria-causing parasites found was Plasmodium vivax (68.9%). Plasmodium falciparum was found as a single infection in 13.3% and a mixed Plasmodium vivax infection in 17.8%. These results must be alerted to the possibility of severe malaria in children suffering from malaria. (Siahaan, 2022).

4. Initial Complaint

The results of the study showed that of the 57 children who suffered from malaria, the results obtained were that the initial complaints in children who suffered from malaria were mostly moderate complaints (70.2%) and severe complaints (29.8%). The most common signs and symptoms associated with malaria infection are fever, chills, respiratory distress, nausea, vomiting, indigestion and even seizures. This research is in line with research conducted in Jayapura district in 2016, the results of initial complaints were shivering in 44 people (74.6%), skin felt cold in 41 people (69.5%), body shaking in 32 people (54%), 44 people (74%) looked pale, 37 people (62.7%) experienced nausea, 40 people (67.8%) experienced vomiting, 45 people were lazy to eat (76.3%) and 37 people (62.7%) were lazy about drinking. The results of the initial complaint score were that there were 18 people (30.5%) initial complaints with good criteria and 41 people (69.5%) with poor criteria(Asrisal, Juliawati, 2018).

The symptoms of tertian malaria are fever appearing every third day, the germination period is usually 12-17 days, even up to 9 months, generally characterized by symptoms of headache, nausea, vomiting, and body lethargy. At first the fever is irregular, the fever starts regularly every 48 hours, the fever appears during the day or evening, body temperature can reach 41º C which is a fever in malaria. When palpation of the spleen feels soft (during the second week of illness), the client's condition worsens, dizziness and drowsiness due to brain problems. The symptoms of tropical malaria are headache, nausea, cold arms and legs, as well as back pain, nausea and vomiting, and possibly diarrhea. The mild fever is also not very obvious and the sufferer does not appear sick. If this disease is not treated, it generally lasts continuously and the symptoms appear increasingly intense(Babalola et al., 2020).

5. Habits and Living Environment of Children Infected with Malaria

The results of the study showed that of the 57 children who suffered from malaria, the results showed that the habits and environment where the children who suffered from malaria lived, the environment where the respondents who were infected with malaria lived, there were (50.9%) respondents who did not use mosquito nets when sleeping and lived in coastal areas, there were (87.7%) %) respondents who have open water reservoirs, ditches and sewers in their area of residence, and there are (64.9%) respondents who live close to forests and bushes.

Using mosquito nets when sleeping at night can reduce the risk of contact between humans and mosquito vectors. The

use of mosquito nets while sleeping is an effective effort to prevent and avoid contact between Anopheles mosquitoes and healthy people while sleeping at night. A mosquito net that is not damaged or has no holes can prevent or prevent someone from being bitten by mosquitoes. Apart from using anti-mosquito medication, it is necessary to prevent the incidence of malaria, especially in malaria endemic areas by using mosquito nets (Lewinsca et al., 2021).

In line with research which states that there is a relationship between mosquito nets and the incidence of malaria, people who do not use mosquito nets have a 2.8 times greater risk of contracting malaria compared to people who use mosquito nets. Not using a mosquito net carries a risk of 2,777 times greater than using a mosquito net (Lubis et al., 2021).

The breeding place for mosquitoes that transmit malaria (Anopheles) is in puddles of water, either fresh water or brackish water depending on the type of mosquito, such as Anopheles sundaicus and Anopheles subpictus live in brackish water, Anopheles aconitus lives in rice field water, Anopheles maculatus lives in water. clean mountains. In coastal areas, most mosquito breeding sites occur in ponds that are not well managed, illegal logging of mangrove forests is a potential habitat for the breeding of An mosquitoes. sundaicus and many rivers covered with sand (lagoons) which are breeding places for An. sundaicus mosquitoes. The results of research by Junaidi (2016) show that the presence of standing water is associated with the incidence of malaria with a value of OR=4.026, indicating that residents whose homes have stagnant water have a 4.026 times greater risk of contracting malaria compared to people who have no standing water around their homes. In their life cycle, mosquitoes need water, even with very little water, mosquitoes can use it as a breeding place. So the presence of puddles of water at this distance will bring humans closer to malaria mosquito vectors so that the risk of contracting malaria in people who live near puddles of water is higher than for people who live far from puddles(Sepriyani et al., 2019).

CONCLUSIONS

It was found that the highest number of children infected with malaria was 0-5 years old with a percentage (64.9%), the highest number of children's gender was male (57.9%), the type of malaria that infects children was tertian malaria with a percentage of (57.9%), the highest initial complaint when children are hospitalized is moderate, namely (70.2%), and the environment where children infected with malaria live is coastal/beach areas (50.9%) and nearby houses. with forests/bushes (64.9%) and the habit of not using mosquito nets when sleeping (64.9%).

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