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## ERADICATING MALARIA AND SIMULATING THE CORRECT USE OF MOSQUITO NET FOR STUDENTS IN BIAK DORMITORY JAYAPURA CITY

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### ABSTRACT

**Introduction:** Malaria is a disease caused by the Plasmodium parasite. This disease is transmitted through the bite of a female Anopheles mosquito which is infected with this parasite and attacks all humans. How to prevent it by avoiding or reducing malaria mosquito bites is not doing activities outside the house at night, sleeping under a mosquito net, smearing the body with anti-mosquito bite material, installing screens on ventilation, cleaning mosquito breeding areas, clearing bushes or shady trees around the house or by doing 3M (burying, draining and covering). The aim of this service is to increase Malaria knowledge among students and train students on how to use mosquito nets correctly at the Biak Dormitory, Jayapura City.

**Methods:** Malaria eradication action methods, namely lectures conducted by providing information about the correct use of mosquito nets and simulations, namely practicing how to use and care for mosquito nets correctly, the activity was carried out at the Biak Dormitory located in Padang Bulan, Jayapura City on November 29 2023. There were 13 participants involved in this activity who had the status of active students at several universities. high in Jayapura City.

**Results:** The results of the action to eradicate Malaria with the correct use of mosquito nets before giving students knowledge material were still lacking at 38.4% or there were still 5 students. After receiving the material, student knowledge increased 100% or all students already had correct knowledge about Malaria.

**Conclusion:** The real action carried out by students at the Biak Dormitory is an effort to eradicate Malaria at the right target, because students can disseminate information about malaria prevention locally and can help with the Malaria Elimination program by 2030.

### KEYWORDS

Eradicating; malaria; mosquito net; prevent.

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## 1. INTRODUCTION

Malaria is a disease caused by the Plasmodium parasite. This disease is transmitted through the bite of a female Anopheles mosquito infected with the parasite. Mosquito bites cause parasites to enter, settle in the liver and infect red blood cells (Subaidah et al., 2021). This disease can spread, reduce productivity, cause economic losses, and increase

infant, child and adult mortality. This disease is spread through the bite of Anopheles mosquitoes and can attack all groups. In Indonesia, malaria is an infectious disease that must be eradicated as soon as possible, and is an important part of health development (Sutarto, & B, 2018). Plasmodium lives and reproduces in human blood cells (Imansyas, 2011). Malaria disease in humans is caused by four

types of Plasmodium: Plasmodium vivax, Plasmodium malariae, Plasmodium falciparum, and Plasmodium ovale (Yunita et al., 2019).

The number of malaria cases in Indonesia increases from year after year and the areas that contribute most to malaria cases are in the eastern region, especially in Papua, West Papua, Maluku and NTT. Nearly 89% of malaria cases still occur in these areas. Based on the 2021 report, Papua Province is the largest contributor to malaria cases in Indonesia. As many as 81% of malaria cases in Indonesia come from 8 regencies and cities in Papua, namely Jayapura City, Jayapura Regency, Keerom Regency, Mimika Regency, Sarmi Regency, Mamberamo Raya Regency, Asmat Regency, Boven Digoel Regency, and Yapen Islands, so there is a need for accelerate efforts to reduce malaria cases as quickly as possible, especially in the 9 regencies/cities so that the malaria situation in Papua can be better controlled and managed towards eliminating malaria more quickly than stated. (Kementerian Kesehatan Republik Indonesia, 2023)

Data on the Top 10 diseases in November 2023 at the Emereuw Community Health Center, Malaria is in second place after ISPA with 135 cases. Within one month there are patients who are positive for malaria, therefore interventions need to be carried out at the household level and in risk environments such as schools, campuses and student dormitories in the PKM Emereuw area. (Emerauw, 2023). Research on Preventive Behavioral Factors Against Malaria Incidence in Papua, analysis of RISKESDAS 2010-2018 by Chinta Novianti Mufara shows that (AOR 1.820; 95% CI 1.732-1.913), mosquito repellent/insecticide spraying in 2013 (AOR 1.252; 95% CI 1.118-1.401), using Repellent (AOR 1.209; 95% CI 1.133-1.289), using mosquito netting (AOR 1.150; 95% CI 1.080-1.226) and using mosquito coils/electric/spray (AOR 1.145; 95% CI 1.081-1.212). So it can be concluded that the behavior of using mosquito nets, using repellent, using mosquito

netting and using mosquito repellent can prevent the transmission of malaria (Mufara et al., 2023).

One way to prevent and control malaria is to Mukin 2023 research, people already know and want to use mosquito nets as a way to prevent and control malaria, but the reality is that people still neglect to use mosquito nets because of the heat, tightness and smell that comes from the nets (Mukin et al., 2023) Based on a preliminary survey in November 2023 at the Biak Padang Bulan student dormitory students in the dormitory These people use mosquito nets when sleeping, but there. Based on a preliminary survey in November 2023 at Biak Padang Student Dormitory Month of Students in Dormitory. there are students who do not use mosquito nets when sleeping and based on observations around the dormitory, there are mosquito nets installed to protect plants and there are students who do not know how to use and care for mosquito nets. The importance of proper understanding of the use and care of mosquito nets for students, so that then students will become examples for society wherever they are in the future. The action to eradicate Malaria by using mosquito nets correctly is a real action in the dedication of knowledge and practice in society.

## 2. MATERIAL AND METHODS

The implementation of the Malaria Eradication Action activities used lecture methods and simulations on the use and care of mosquito nets at the Biak Numfor Address student dormitory district. Jl. Raya Sentani – Padang Bulan, Hedam Village, Jayapura City. Which will be held on November 29 2023 from 16.30 – 18.00 PM with 13 students from the total number of students and students in the Biak Numfor Regency student dormitory. In its implementation, there are several stages, namely:

1. Planning community service by looking at data on diseases that are the highest and require immediate treatment in the right groups and after receiving high malaria data at the Emereuw health

center in the adult group, the team prepares a service proposal that will be submitted to the boarding house.

2. Prepare malaria material in the form of a power point which includes understanding, causes, signs and symptoms, transmission, prevention, as well as preparing mosquito nets which will be simulated during the training
3. Coordinate with the leadership of the Biak student dormitory, by giving a permission letter to the dormitory, after getting approval, the team makes preparations
4. The activity was carried out by giving post tests to participants and providing material about malaria, followed by a simulation of the use of mosquito nets and ending with giving post tests to students.
5. Evaluation of activities is carried out by showing the results of pre and post tests which are an evaluation of the process of providing material activities. The results obtained were good because there was a change in knowledge and ability to install mosquito nets correctly
6. Report preparation is carried out by preparing all the results of activities and arranging them completely starting from the background of the problem to the final conclusion in the report for accountability.

### 3. RESULTS

Malaria eradication activities by using correct mosquito nets for students living in the Biak dormitory in Jayapura City. Before carrying out the activity, start by asking questions to the participants

Table 1. Pre and Post-Tes results of actions to eradicate malaria using correct mosquito nets for Biak students in Jayapura City

Knowledge	Before		After	
	N	%	N	%
Good	5	38,4	13	100
Lack	8	61,6	0	0
Total	13	100	13	100



Figure 1. Delivery of Material and Simulations



Figure 2. Group photo of 2020 FKM Students with Biak Dormitory Students

to ensure the knowledge that the participants have in this activity.

Table 1. shows that knowledge about malaria before being given action was still poor for 8 people (61.6%) and good knowledge for 5 people (38.4%). After taking action to increase malaria knowledge increased to 100%

### 4. DISCUSSION

Dissemination of information to students so that they can increase their knowledge about Malaria, its causes, impacts, factors that influence the incidence of Malaria and how to prevent it, namely by sleeping using the correct mosquito net (Kementrian Kesehatan RI, 2023) After two hours of delivering the material and continuing with a simulation of how to use a mosquito net correctly, the students' abilities began to show the appropriate actions that could be

taken to prevent the transmission of Malaria (Priyoto et al, 2024).

The research results show that Most respondents had suffered from malaria (60.4%). Related The majority of respondents' knowledge regarding the causes of malaria answered by mosquitoes (80.2%), but only 42.7% answered correctly anopheles mosquito bite. Student knowledge about the symptoms of malaria, namely high fever, sweating and sweating (67%), breeding sites Mosquitoes hold 13.5% of the air, how to prevent mosquito bites by using mosquito nets (80.2%), curing malaria by consuming medication and maintain personal and environmental health (75%) and time of mosquito bites are night and day (37.5%) (Suradji et al., 2023). This research states that students have the correct knowledge of how to prevent malaria by using mosquito nets, namely 80.2%, meaning that it is in line with the dedication carried out to prevent malaria by using mosquito nets. The use of mosquito nets is a real effort to eradicate malaria, but in reality there are still people who do not use mosquito nets, so this activity can influence the knowledge of the community.

Watunglawar research, which was conducted on 10 pregnant women with malaria, found that 3 pregnant women with malaria said that after using mosquito nets they did not feel the symptoms of malaria such as high fever and no mosquito bites after waking up in the morning, 2 of them said they routinely used mosquito nets when sleeping at night. because they don't want to get malaria and are afraid of something happening to the fetus, 5 of them said they still like to forget to use mosquito nets, they use them when they remember but when they're tired they go straight to sleep. Analyzing the effectiveness of using mosquito nets with insecticides on the incidence of malaria in pregnant women at the Sentani Community Health Center (Priyoto et al, 2024). These reasons are the same as those found during the initial survey carried out in the dormitory,

it turns out that there are still mosquito nets that are not used properly and are used to protect plants.

Apart from that, there are also people who are careless when sleeping and do not use mosquito nets because there are several problems experienced by people such as shortness of breath, strong odors on the mosquito nets or feeling hot. This has resulted in a continuous increase in cases. The role of community health center officers and village government should be more active and find solutions to address people who sleep without using insecticide-treated mosquito nets in an effort to handle malaria cases so that there is no increase in cases in the coming year (Mukin et al., 2023). As a prospective graduate of public health, it is our responsibility to try to convey to the public that they must sleep using mosquito nets. The dedication to eliminating mosquito nets is a real action to support the government's program to accelerate malaria elimination in 2023 (Suriyani et al., 2022).

The material about Malaria ended by providing post-test questions to measure changes in knowledge after being given intervention, and the results were very satisfying because 100% of students were able to answer each question correctly. A process that when done correctly will get good and correct results, this is shown by changes in the student's knowledge. According to Notoadmodjo in his book on Health Promotion and Behavioral Science, knowledge is the result of a person's knowledge after sensing, meaning that when a person experiences sensing, a person will experience additional information that can form an ability within the individual as a real experience. With this real experience, a person will behave well for himself and the people around him. Research shows that there is a relationship between extension and Respondents' knowledge about the incidence of malaria in Bontosunggu Village ( $p = 0.004$ ) This research shows that the counseling provided is able to increase a person's knowledge (Sartika et al., 2019).

Humans who get information from the outside world will influence these humans to behave according to the information they get. The transtheoretical model emphasizes the importance of increasing awareness when the client has no intention of making behavior changes or has just started doing so consider changing behavior. It is important to assess the reasons why someone wouldn't commit to change, such as the lack of knowledge, lack of skills, lack of resources and support, and lack of time. Raising awareness is vital to help the client is aware of a health or behavioral problem that needs to be addressed. Nurses can use tools in the form of literacy and audio visual tools according to the patient's culture and personal preferences (Notoadmodjo, 2012).

Rohmani's research in Central Mamberamo on malaria was carried out with assistance is provided Implementing malaria prevention does not only involve providing outreach increased knowledge. The community is given understanding and encouragement to do it Malaria prevention efforts such as using mosquito nets and using anti-malaria drugs mosquitoes at night (Rohmani et al., 2022).

The behavior of sleeping using a mosquito net is a behavior that needs to be carried out repeatedly among the people of Papua as a malaria endemic area, Jayapura City, in data that shows the number of Malaria is increasing, especially in the Emereuw Community Health Center in 2023, so that the action to eradicate Malaria is carried out by lecturers and students at the University's Faculty of Public Health. Cenderawasih is making real work in helping the government's work in the 2030 Malaria Elimination Program. Similar efforts were made by the West Papua Provincial Government to prevent malaria by distributing 195,450 mosquito nets to the community to accelerate the reduction of malaria (Widyawati, 2022).

## 5. CONCLUSION

Implementing a community service program in the form of an interactive talk show about language disorders in early childhood, there was an increase in participants' knowledge and attitude towards language disorders in early childhood. The suggestions for organizers of similar programs are that activities should be carried out face-to-face to be more effective. The action to eradicate Malaria by using the correct mosquito nets for students at the Biak Dormitory in Jayapura City can be concluded that: Knowledge about Malaria before taking action to eradicate malaria by using mosquito nets correctly. There were 5 students who had good knowledge or 38.5% of respondents After carrying out the activity, knowledge about Malaria changed to 100% good. Students are able to simulate installing mosquito nets, washing and drying mosquito nets correctly according to the mosquito net care instructions given during the simulation. Activities like this need to be carried out for people who have the potential to disseminate information to the wider community, for example school children, housewives and youth groups at mosques and churches.

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