

FACTORS ASSOCIATED WITH MOSQUITO BREEDING SITE ERADICATION (PSN)) IN THE WORKING AREA OF SAWAH LEBAR HEALTH CENTER BENGKULU CITY

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ABSTRACT

Dengue Hemorrhagic Fever (DHF) is a disease caused by the Arbovirus group. In some regions of Indonesia, DHF remains a health issue and a serious threat. Mosquito Breeding Site Eradication (PSN) activities are one of the efforts to prevent DHF. However, its implementation has not been optimal. This study aimed to determine the factors associated with Mosquito Breeding Site Eradication behavior in the prevention of DHF in the working area of Sawah Lebar Public Health Center, Bengkulu City. This research employed a quantitative method with a cross-sectional design and involved a total 95 respondents. The results showed that 65.3% of respondents had good knowledge, 86.3% had a positive attitude, 40% reported community leader support, and 23.2% had access to information. statistical analysis revealed significant associations between knowledge (p value = 0.000) and attitude (p value = 0.025) with PSN behavior, whereas no significant associations were found between community leader support (p value = 0.475) and information availability (p value = 0.258) with PSN behavior. The study concludes that knowledge and attitude are significantly associated with PSN behavior, while community leader support and information availability are not. It is recommended that the community use mosquito nets and apply abate powder as preventive measures against DHF

Keywords: Dengue Hemorrhagic Fever (DHF), Mosquito Breeding Site Eradication, Behavior.

INTRODUCTION

Dengue hemorrhagic fever (DHF) is an infectious disease caused by *the dengue* virus transmitted through the bite of *the aedes aegypti* mosquito. When the *Aedes aegypti* mosquito bites dengue virus dengue patients, it enters the mosquito's body. Dengue hemorrhagic fever (DHF) is characterized by fever, headache, joint or bone and muscle pain, rash, and leukopenia (Hidayani, 2020). The year 2019 was the year with the highest cases of dengue fever in the world. There are 31 million cases of dengue fever recorded in the United States, of which 25,000 are classified as severe cases. In 2020 dengue fever hit several countries with an increase in the number of cases in Bangladesh, Brazil, Ecuador, India, Indonesia, Maldives, Nepal, Singapore, Sri Lanka, Sudan, Thailand, Timor Leste, and Yemen (WHO, 2022).

In some parts of Indonesia, dengue fever is still a public health problem and a serious threat. In 2022, there were 143,266 cases of dengue fever in Indonesia with a total of 1,237 deaths. In 2023, dengue cases had decreased to 114,720 cases with a total of 894 cases

(Kementrian Kesehatan, 2024). Bengkulu City is one of the cities in Bengkulu Province with many dengue cases. In 2022, the incidence of dengue in Bengkulu City was 210 cases. The most cases were found in the Sawah Lebar Health Center Working Area with 38 cases (Dinkes Bengkulu, 2022)

There are various efforts to prevent dengue disease, ranging from limiting *agents* by eradicating mosquito larvae, controlling the environment by cleaning the environment, and changing *the behavior of the host* so that they want to live a clean and healthy life. The main prevention of dengue fever lies in eliminating or reducing the dengue mosquito vector, namely *Aedes aegypti* (Siswanto dan Usnawati, 2019). The role of the community in handling dengue is very important in suppressing dengue cases. Therefore, the Mosquito Nest Eradication program using 3M plus must be carried out continuously throughout the year. However, efforts to eradicate dengue mosquito nests carried out by the community have not been optimal. Many factors determine the behavior of a person or society, including knowledge, attitudes, beliefs, and traditions. To strengthen the formation of behavior, it is also supported by the availability of facilities, attitudes and behaviors of health workers (Irwan, 2017).

METHODS

This type of research is a quantitative research with a *cross sectional* design, which is a study that studies the relationship between risk factors or effects by approaching, observing or collecting data at the same time. This research was conducted for one month from March 1 to March 31, 2025.

The research was conducted in the Working Area of the Sawah Lebar Health Center, Bengkulu City with a total of 95 samples. The sampling technique in the study is *accidental sampling*. The data analysis techniques in this study are univariate analysis and bivariate analysis.

RESULTS AND DISCUSSION

Result

Based on Table 1, the distribution of respondent characteristics is known with a total of 95 people, where 58.9% of respondents are women, 56.8% are university, 27.4% work in the private sector, and 23.2% of respondents are not working or housewives (IRT).

Table 1
Respondent Characteristics

Variable	N(%)
Gender	
Male	41.1
Femela	58.9
Education	
No School	1.1
Elementary School	2.1
Junior high school	6.3
High school	33.7
College	56.8
Jobs	
Others	11.6
Housewives	23.2
Merchant	4.2
Labor	7.4
Self-employed	7.4
Private	27.4
Civil servants	18.9

Based on table 2, it is known that the results of the study using chi square show that there is a relationship between knowledge (p value = 0.000) and attitude (p value = 0.025) and mosquito nest eradication behavior. This study also showed that there was no relationship between community leader support (p value = 0.475) and information availability (p value = 0.258) and mosquito nest eradication behavior.

Table 2
Bivariate Analysis Results

Variable	Behavior		P-value
	Good	Not Good	
Knowledge			
Poor	2	14	0,00
Enough	10	7	
Good	52	10	
Attitude			
Poor	5	8	0,025
Good	59	23	
Community Leader Support			
Not Supported	40	17	0,475

Support	24	14	
Availability of Information			
Not Available	47	26	0,258
Available	17	5	

Discussion

The results of this study show that there is a relationship between knowledge and the behavior of PSN dengue which is shown by the results of the *chi square* statistical test where the p value is 0.00. The results of this study are in line with the research conducted by Sutriyawan et al., (2022) where knowledge is related to PSN behavior. This research is also in accordance with the results of the research conducted Nabila et al., (2023). The majority of respondents who have good behavior are respondents with the category of good knowledge.

Knowledge occurs after doing sensing with the five senses about a certain object. The result of the senses will make humans know and with that knowledge a person has a basis to decide and act in dealing with problems (Pakpahan et al., 2021). Based on Lawrence Green's theory, knowledge is one of the predisposing factors of a person's behavior (Irwan, 2017). The results of this study show that knowledge is related to behavior. In this study, poor behavior was more common in respondents with less knowledge. In addition, the higher the respondent's knowledge, the more respondents have good mosquito nest eradication behavior.

Even though the respondents already have good knowledge, there are still respondents who do not carry out mosquito nest eradication behavior. Good knowledge is not always followed by good behavior. There are still other things that factor into a person's behavior. A person can also behave in a way that is contrary to his or her knowledge (Taniansyah et al., 2020).

Based on the results of the study, it was shown that of the 82 respondents who had a good attitude, there was a lack of behavior level of 23 respondents, good behavior as many as 59 respondents. From the results of the statistical test with *chi-square*, the resulting P value was $0.025 < 0.05$, where it can be concluded that there is a relationship between attitude and behavior of Dengue Hemorrhagic Fever (DHF) Mosquito Nest Eradication in the Sawah Lebar Working Area of Bengkulu City.

The results of this study are in line with the research conducted by Shofiyanah (2022) which states that the results of the *chi square test* obtained a value of $p = 0.02$ which means that there is a significant relationship between attitude and mosquito nest eradication behavior. This study is also in line with the previous research, the results of the analysis of the relationship between attitudes and mosquito nest eradication behaviors obtained a value of p-value (0.022) (Baequni & Karyadi, 2020).

Attitude is a reaction or response that arises when a person is faced with a stimulus. Attitudes arise through a process of evaluation in a person and then draw conclusions about the stimulus in good or bad grades. Attitude is important in daily life, because if an attitude has been formed in a person, then attitude will determine behavior towards something (Saifuddin

Azwar, 2022). The better a person's attitude, the better the dengue prevention measures carried out (Maksuk et al., 2023).

A good attitude will support good behavior. Respondents with a poor attitude were more likely to have a poor PSN than respondents with a good attitude (Baequni dan Karyadi, 2020). In line with opinion Espiana, Lestari, dan Ningsih (2022) Respondents who have a bad attitude tend to behave poorly.

Community leaders have a role in moving the community. Giving examples of the implementation of Mosquito Nest Eradication (PSN) by community leaders can increase public awareness to carry out PSN behavior (Irwan, 2019). From the results of a statistical test with *chi-square*, the P value produced was $0.475 > 0.05$, where the results of this study could not prove the relationship between the support of community leaders and the behavior of Dengue Hemorrhagic Fever (DHF) Mosquito Nest Eradication in the Sawah Lebar Pukesmas Working Area, Bengkulu City.

Hasil penelitian ini sejalan dengan penelitian sebelumnya yakni tidak terdapat adanya hubungan antara dukungan tokoh masyarakat dengan perilaku pemberantasan sarang nyamuk yang ditunjukkan dengan hasil *p value* $> 0,05$ (Baequni & Karyadi, 2020). This study is also in line with previous research that there is no relationship between the support of community leaders and mosquito nest eradication behavior which is shown with the statistical results *p value* = 0.339 (Nurmala & Baequni, 2020).

Hasil penelitian ini menunjukkan bahwa meskipun beberapa responden tidak mendapatkan dukungan tokoh masyarakat tetapi memiliki perilaku pemberantasan sarang nyamuk yang baik. Hal ini bisa didasari oleh faktor lain yang berhubungan seperti pengetahuan dan sikap. Responden yang memiliki pengetahuan dan sikap yang baik akan cenderung melakukan perilaku Pemberantasan Sarang Nyamuk dengan baik meskipun tidak mendapat dukungan dari tokoh masyarakat.

From the results of the statistical test with *chi-square*, the P value produced was $0.50 > 0.05$, where it can be concluded that there is no relationship between the availability of information and the prevention behavior of Dengue Hemorrhagic Fever (DHF) in the Working Area of the Sawah Lebar Pukesmas, Bengkulu City. This research is in line with the results of research conducted by Baequni dan Karyadi (2020). The results of this study are also in line with the research conducted by Adriansyah et al. (2022) In the study, a *p value* of 0.223 was obtained which showed that the availability of information and PSN behavior was not significantly linked.

The availability of information is a health education medium to convey health information by using tools to facilitate the acceptance of health messages for the community, and whether or not there are certain information media means obtained to support the emergence of a person's behavior in the health sector. In this study, the availability of information was categorized as one of the enabling *factors*. In theory, the easier it is for a person to access information about Mosquito Nest Eradication (PSN), the greater the likelihood of them behaving healthily. However, the results obtained in this study show that the low availability of information does not prevent the formation of good Mosquito Nest Eradication (PSN) behavior. This can be due to other factors related to behavior such as beliefs, values, and experiences.

This is also in line with the results of the research Fitriani, Harokan, dan Zaman (2024) where some respondents who have less information availability have good dengue prevention behavior. According to Fitriani, Harokan, dan Zaman (2024) There are other factors that also affect these conditions such as age, social conditions, economy, culture, and other variables.

CONCLUSION

There is a relationship between knowledge and attitude and mosquito nest eradication behavior. And there was no relationship between the support of community leaders and the availability of information with the behavior of mosquito nest eradication in the work area of the Sawah Lebar Health Center in Bengkulu City. It is hoped that community leaders will play a greater role in the prevention of dengue hemorrhagic fever.

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