Influence of Community Knowledge and Attitude with Dengue Fever Prevention Behavior (DHF) in the Padang Cermin Health Center Working Area

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Abstract: Dengue Hemorrhagic Fever (DHF) is a type of acute febrile illness caused by one of the four serotypes of the virus again with the genus Flavivirus known as the dengue virus which is characterized by bleeding fever 2 to 7 days without clear cause weakness, lethargy, anxiety, heartburn accompanied by signs of bleeding in the skin in the form of bleeding spots. The purpose of this study was to determine the effect of community knowledge and attitudes on dengue prevention behavior in the working area of the padang cermin health center. This type of research uses quantitative research with a cross sectional approach. The study population was the head of the family in the health center working area with a sample of 145 families selected by purposive sampling using a questionnaire. The results showed that there was an influence of knowledge obtained a value of knowledge (r=0.604; P Value 0.001 <0.05) attitude (r=0.732; P value 0.001 <0.05) with dengue prevention behavior. The results of hypothesis testing are that there is a positive relationship between knowledge and attitude with dengue prevention behavior. Suggestions from researchers, namely, the need to increase public knowledge by the Puskesmas through socialization and education activities to prevent dengue hemorrhagic fever routinely once a month, promotion to the community can be done with social media such as WhatsApp, Instagram and Facebook so that information can reach the community more quickly.

Keywords: Attitude; Knowledge; Prevention of DHF

Introduction

Dengue hemorrhagic fever occurs in tropical and subtropical areas, data from around the world shows that Asia ranks at the top and ranks first in the number of patients suffering from DHF (Asidik et al., 2021). The World Health Organization (WHO) has declared Indonesia as the country with the highest cases in Southeast Asia so that it becomes one of the public health problems caused by increasing the number of patients and the distribution area also increases along with increasing mobility and population density and also the lack of community behavior to break the chain of transmission of the dbd virus (Tika et al., 2019).

DHF is a type of acute febrile illness caused by one of the four serotypes of the virus again with the genus Flavivirus known as the dengue virus which is characterized by a bloody fever of 2 to 7 days without a clear cause of weakness, lethargy, anxiety, pain uku hai accompanied by signs of bleeding in the skin in the form of bleeding spots (Ariani, 2017). Aedes aegypti mosquitoes only live at temperatures between 80C and 37C. The breeding places of this mosquito vary such as clean stagnant water, bathtubs, drinking water reservoir tanks, empty tubes, drinking water plastics, old tires, stagnant water in flower pots and other artificial containers (Adnan et al., 2019).

Indonesia in recent years, namely in 2019, there has been an increase in the number of cases. With up to

138,127 incidents (IR/pain rate = 51.48 per 100,000 population and CFR = 0.67%) (Kemenkes R1, 2019). This number increased compared to the previous year with a caseload of 65,602 and an RR of 24.75 per 100,000 provincial population since the highest DHF incidence in 2019 was in North Kalimantan at 239. Per 100,000 population, East Kalimantan at 180.66 per 100,000 population and Bali had 114.8 per 100,000 people (Sutrisyawan et al., 2022).

DHF is one of the public health problems in Indonesia in general and Lampung Province in that cases tend to increase and spread more widely and have the potential to cause outbreaks (Saghawari et al., 2019). The morbidity rate (IR) during 2010-2020 tended to fluctuate. The morbidity rate of DHF in Lampung Province in 2020 was 70.4 per 100,000 population and the larva-free rate (ABJ) was less than 95%.

According to data from the Ministry of Health in 2019, the number of dengue cases in Indonesia was 138,127 cases with the number of patients who died with a total of 919 patients (Fauzi, 2021). This number increased compared to 2018, which amounted to 65,602 cases with the number of patients who died as many as 467 patients. In 2022, it was found that on June 17, 2022, dengue cases in Indonesia reached 45 thousand with 432 deaths and on July 9, 2022, the cases reached 52 thousand with 448 deaths (Health & Indonesia, 2019).

Based on previous research, behavioral factors that can affect the incidence of DHF in endemic areas of Semarang city are community behavior (Husna et al., n.d.). That is still lacking in draining water reservoirs, closing water reservoirs, burying used goods, sowing Abate powder, the habit of hanging clothes, closing water containers, frequency of draining containers> 1 time a week, installing wire gauze at home, the habit of using anti-mosquito lotion, good PHBS and doing the whole series of DHF prevention practices well (Anggraini et al., 2021).

Based on the results of pre-survey observations conducted at the puskesmas padang cermin, there is still a lack of community behavior in efforts to prevent DHF (Janati et al., 2022). There are still used goods around people's homes such as: used cans, used tires, and plastic waste and stagnant water in the gutter of the house as well as a lack of public awareness of 3M (burying, draining, closing) and PSN (Mosquito Nest Eradication) if 3M and PSN the community want to take an active role, then health workers can anticipate reducing the spread of DHF (Puskesmas Padang Cermin, 2022).

The number of cases increased in 2014 by 23 cases, in 2015 by 30 cases, and in 2016 by 43 cases. The number of cases until April 2017 was recorded at 8 cases for and the outbreak of mobility fever affects dengue fever and population flow and the existence of uncontrolled urbanization, no community involvement in dengue control, no quality of human resources, lack of cross-program and cross-sectoral cooperation and commitment in fighting dengue fever, climate change tends to increase the number of dengue vector habitats for dengue fever (Arikhman, 2020).

One of the risk factors for the spread of dengue is the lack of awareness of community behavior to take community action in an effort to prevent the spread of dengue, such as destroying mosquito nests (Sahrial et al., 2022). The success of the dengue prevention program is influenced by public awareness of the development of disease vectors, namely the Aedes aegypti mosquito, and the implementation of preventive measures by destroying mosquito nests in the environment (Made Sushmita et al., 2019).

Prevention and control of dengue fever in Indonesia has been carried out in recent years. Mosquito Nest Eradication (Pemberantasan Sarang Nyamuk (PSN) 3M Plus by involving all levels of the PSN program, the most popular of which is the 3M Plus behavior of recycling used goods (Ramadhani et al., 2019). This activity is also supported by the behavior of sprinkling with abate powder, used to repel insects, planting plant trees to repel mosquitoes, raising fish to eat larvae and using mosquito nets when going to bed. The program requires the participation of all levels of society (WHO, 2019). This activity is believed by the community to be able to suppress mosquito breeding if carried out correctly and stably. The success of this activity can be measured by the larval free rate (abj). The government says the maggot free rate should be higher than 95% (Sutrisyawan et al., 2022).

Based on previous research, in essence, the transmission of DHF is inseparable from knowledge, education and behavior as well as the environmental conditions where the community lives (Rismawati et al., 2017). For example, education greatly influences a person in making decisions, an educated person when encountering a problem will try to think as well as possible in solving the problem for that knowledge is needed in efforts to prevent DHF behavior (Fahdi et al., 2019).

According to Suoth et al. (2019) in his research, knowledge and attitudes affect DHF prevention measures. From the results of the study, respondents who had poor knowledge had a 3,765 times chance of taking poor preventive measures and respondents who had poor attitudes also had a 4,500 times chance of taking poor preventive measures (Astuti et al., 2020).

Based on the above background, the researcher is interested in conducting research aimed at finding the effect of community knowledge and attitudes on dengue

prevention behavior in the durian village working area of the padang mirror health center in 2023.

Method

This type of research is quantitative research with a cross sectional approach conducted to answer questions from research. The research was conducted from December 2022 to February 2023 in the Padang Cermin Health Center Working Area with a large population of 541 families and the sample obtained was 145 families of respondents. The sampling technique used purposive sampling, which is a sampling technique with certain considerations according to the characteristics desired and determined by the researcher (Batubara et al., 2023)

In this study, researchers selected samples according to the inclusion criteria set by researchers such as the head of the family who is at least 18 years old, the head of the family who is domiciled for a long period of at least 2 years in the work area. If the head of the family is not at home, it can be replaced with another family member who is at least 18 years old. If the house is inhabited by more than 1 family, the respondent of the house is one of the representatives of the house. This research was conducted in the Padang Cermin Health Center Working Area. This study was conducted using a questionnaire sheet that had previously been tested for validity and reliability at the Padang Cermin Health Center with community respondents who were not included in the research sample.

Data analysis included frequency distribution and bivariate analysis. Univariate analysis was conducted to describe the characteristics of respondents, knowledge, attitudes and behavior of the community in preventing DHF in the form of frequency distribution tables described in the mean median and mode. Bivariate analysis was conducted using product moment correlation test to determine the influence of knowledge and attitude of the community with dengue hemorrhagic fever (DHF) prevention behavior.
Research design and method should be clearly defined.

Result and Discussion

Table 1 shows that the age of the respondents is mostly 36-45 years old, which is 49 household heads (33.8%), while the least is in the age group <26 years old, which is 2 household heads (1.4%). Table 2 shows that the most common gender is female as many as 102 household heads (70.3%) and male gender is only 43 respondents (29.7%). Based on Table 3, 65 household heads (44.8%) had a primary school education, while 4 household heads (2.8%) had no school education.

Table 4 shows that the most common occupation of the head of the family is housewife (83 household heads) (57.2%) while the least occupation is trader (3 household heads) (2.1%).

Table 1. Frequency Distribution of Respondent Characteristics Based on Age

Age	N	Percentage
<26 year	2	1.4 %
26-35 year	30	20.7 %
36-45 year	49	33.8 %
46-55 year	31	21.4 %
56-65 year	27	18.6 %
>65 year	6	4.1 %
Total	145	100%

Table 2. Frequency Distribution of Respondent Characteristics Based on Gender

Gender	N	Percentage
Male	43	29.7 %
Female	102	70.3 %
Total	145	100%

Table 3. Frequency Distribution of Respondent Characteristics Based on Education

Education	N	Percentage
Not in School	4	2.8 %
Graduated elementary school	65	44.8 %
Junior high school graduate	42	29.0 %
High school graduate	26	17.9 %
Higher Education	8	5.5 %
Total	145	100%

Table 4. Frequency Distribution of Respondent Characteristics Based on Occupation

Jobs	N	Percentage
Farmers	20	13.8%
Fisherman	18	12.4%
Labor	8	5.5 %
Merchant	3	2.1 %
PNS	6	4.1%
IRT	83	57.2%
Self-employed	7	4.8%
Total	145	100%

Based on Table 5, it can be seen that the average respondent's knowledge has a value of 5.29 and 50% have a value of 5 down and 50% have a value of 5 up. The level of variation in knowledge value is 2.555 with the lowest knowledge value of 1 and the highest knowledge value of 10. And it is believed by 95% that the average knowledge of respondents has a value between 4.87 to 5.71. This calculation shows that the mean and median are not much different. This indicates that the knowledge variable scores tend to be normally distributed.

Table 5. Frequency Distribution of Community Knowledge in Preventing Dengue Fever (DHF)

Variable	N	Mean	Median	Mode	SD	Min	Max	95 % CI
Knowledge	145	5.29	5.00	5	2.555	1	10	4.87 – 5.71

Table 6. Frequency Distribution of Community Attitudes in Preventing Dengue Fever (DHF)

Variable	N	Mean	Median	Mode	SD	Min	Max	95 % CI
Attitude	145	28.46	28.00	28	3.701	20	37	27.85 – 29.06

Table 7. Frequency Distribution of Community Behavior in Preventing Dengue Fever (DHF)

Variable	N	Mean	Median	Mode	SD	Min	Max	95 % CI
Behavior	145	27.83	28.00	29	4.792	17	40	27.04 – 28.61

Based on Table 6, it can be seen that the average respondent's attitude has a value of 28.46 and 50% have a value of 28 down and 50% have a value of 28 up. The level of variation in attitude values is 3.701 with the lowest attitude value of 20 and the highest attitude value of 37. And it is believed by 95% that the average attitude of respondents has a value between 27.85 and 29.06. This calculation shows that the mean and median are not much different. This indicates that the attitude variable scores tend to be normally distributed.

Based on Table 7, it can be seen that the average respondent behavior has a value of 27.83 and 50% have a value of 28 down and 50% have a value of 28 up. The level of variation in behavioral values is 4.792 with the lowest behavioral value of 17 and the highest behavioral value of 40. And it is believed by 95% that the average behavior of respondents has a value between 27.04 to 28.61. This calculation shows that the mean and median are not much different. This indicates that behavior variable scores tend to be normally distributed.

Table 8. Effect of Community Knowledge with Dengue Fever Prevention Behavior (DHF) in Durian Village, Padang Cermin Health Center Working Area

Variable	Behavior		
Knowledge	N	Pearson Correlation	P value
	145	0.604	0.001

Based on the results of data analysis Table 8 shows that the effect of community knowledge with dengue prevention behavior there is a correlation coefficient (r) of 0.604 with a significance of 0.001. This means that there is a positive correlation between knowledge and DHF prevention behavior with a strong level of relationship and the correlation is significant because (P value 0.000 < 0.05 so that P value < α and Ha is accepted).

The results of knowledge analysis with DHF prevention behavior have a correlation coefficient (r) = 0.604 with a significance of 0.000. This means that there is a positive correlation between knowledge and DHF prevention behavior with a strong level of relationship because it is close to 1, and the correlation is significant because (P Value 0.000 <0.05).In accordance with the results of the analysis of the coefficient of knowledge with DHF prevention behavior is positive, the correlation of the two variables is unidirectional, meaning that the higher the knowledge of the community, the higher the DHF prevention behavior. Vice versa, the lower the knowledge of the community, the lower the DHF prevention behavior. This is in line with research conducted by Dewi et al. (2019) which argues that the level of knowledge of the head of the family can also be influenced by education, a person's education, it is known that the characteristics of respondents based on education are obtained more than half of the respondents have an elementary school level of education (44.8%). The low knowledge of the head of the family shows that the head of the family still does not know that what happens in the future has an impact on death.

The results of this study are in line with the theory Notoadmojo (2018) which states that knowledge can influence a person because knowledge supports a person to carry out behavior. Knowledge is the result of a person's sensing of an object. Knowledge or cognitive is a very important domain for the formation of a person's actions. According to Green et al. (1991) behavior is influenced by 3 main factors, namely: predisposing factors consisting of community knowledge and attitudes towards health, traditions and beliefs about matters relating to health, the value system adopted by the community, education level, socio-economic level and so on, enabling factors consisting of the availability of facilities and infrastructure or health facilities and reinforcing factors consisting of these include attitudes and behavior factors of community leaders, religious leaders and health workers must also have an active role in realizing community behavior.

According to the researcher's analysis, respondents who have an individual level of knowledge are obtained from the results of knowing something, through observation and understanding of an object. In addition, there are other factors that influence knowledge, namely internal (physical and mental) and external (education, mass media information, economic, social, and experience). Other factors that cause the lack of

knowledge of family heads are due to the low education they have. And there is still a lack of education about the dangers of dengue fever for families and can cause death. The researcher argued that the respondents' poor behavior regarding dengue prevention was caused by their low knowledge of dengue prevention. A person's level of knowledge can affect a person's understanding of efforts to improve health status. Good behavior about DHF is due to knowledge that will bring an important role that can raise awareness in a person to behave according to their knowledge.

Table 9. Influence of Community Attitude with Dengue Fever Prevention Behavior (DHF) in Durian Village, Padang Cermin Health Center Working Area

Variable	Behavior		
Knowledge	N	Pearson Correlation	P value
	145	0.604	0.001

Based on the results of data analysis Table 9 shows that the effect of community attitudes on dengue prevention behavior there is a correlation coefficient (r) of 0.731 with a significance of 0.000. This means that there is a positive correlation between knowledge and DHF prevention behavior with a strong level of relationship and the correlation is significant because (P value $0.000 < 0.05$ so that P value $< \alpha$ and Ha is accepted).The results of attitude analysis with DHF prevention behavior have a correlation coefficient value (r) = 0.732 with a significance of 0.000. This means that there is a positive correlation between knowledge and DHF prevention behavior with a strong level of relationship because it is close to 1, and the correlation is significant because (P Value $0.000 < 0.05$). In accordance with the results of the analysis of the coefficient of attitude with DHF prevention behavior is positive, the correlation of the two variables is unidirectional, meaning that the higher the attitude of the community, the higher the DHF prevention behavior. Vice versa, the lower the attitude of the community, the lower the DHF prevention behavior. Attitude will affect a person's behavior, this is in line with research conducted by Espiana et al. (2022) which says that some families still have a negative attitude, which may be due to a lack of understanding, such as emptying the bathtub once a month or drying the bathtub when dirty, littering, and hanging lots of clothes on casters. Fever is very common, so families are unable to remove dengue nets properly.

Attitude is an important determinant of behavior. A person's attitude will describe the person's behavior. Based on a person's attitude, people will be able to predict how the person will respond to the problem or situation they are facing. Therefore, in a normal ideal situation, a person can see from his attitude a picture of the possible actions or behaviors that will be taken in response to the problem. It is believed that attitudes can be used as a result of evaluation of attitude objects, which are expressed in cognitive, emotional (emotion) and behavioral processes. As can be seen from the definition above, attitudes usually consist of cognitive components (concepts usually associated with dialogue and learning), behavior (tendency to influence appropriate and inappropriate responses), and emotions (leading to consistent responses). There are still families who have a negative attitude towards mosquito nest eradication, therefore health workers must use easy-to-understand and good ways to provide direction or information to the community in order to develop a positive attitude in the community. Families and communities need to routinely carry out mutual cooperation activities to form positive community attitudes towards dbd mosquito nests.

In accordance with the theory Green et al. (1991) states that attitude is a factor that plays a role in health behavior. The more positive a person's attitude or view towards something, the better the action taken in that case. Some factors that influence attitude formation include personal experience, other people who are considered important, and cultural influences. If the individual is completely free from all pressures or obstacles that can interfere with the expression of his attitude, it can be expected that the form of behavior that appears as a form of actual expression. The emergence of willingness or will is an advanced form of awareness and understanding of the object, in this case the practice of dengue prevention.

Will or will is the tendency to take an action. This theory states that attitude is an indication of action. Attitude is a reaction or response that is still closed and a person to a stimulus or object. The manifestation of attitude cannot be seen immediately, but can only be interpreted first and closed behavior. Attitude is not yet an action or activity, but is a predisposition to the action of a behavior. Attitude is a readiness to react to objects in a certain environment as an appreciation of the object. Researchers argue that family heads who have a positive attitude will tend to behave well. Family heads who have a negative attitude but have good behavior about DHF prevention, this is due to the emergence of willingness or will from respondents because they are aware and understand the importance of taking DHF prevention measures. Family heads who have a positive attitude may have a negative behavior about DHF prevention, this is because there is no desire to take preventive measures due to a lack of understanding of the importance of PSN DHF.

Conclusion

Based on the results of the analysis and discussion of the research, conclusions can be drawn regarding the influence of community knowledge and attitudes on dengue hemorrhagic fever (DHF) prevention behavior in the Padang Cermin Health Center working area in 2023 as follows: Knowledge has a strong and positive influence with a value of r = 0.604 and Attitude has a strong and positive influence with a value of r = 0.732 with dengue hemorrhagic fever prevention behavior in the working area of the Padang Cermin Health Center P value 0.001 < 0.05 so that the P value < α which indicates that the variables of knowledge and attitude with dengue prevention behavior have a strong relationship and a positive relationship direction. The meaning of a positive relationship direction is that the higher a person's knowledge and attitude, the higher the prevention of dengue. Vice versa, if knowledge and attitude are low, dengue prevention will be low.

Author Contributions
Chanita Sari Manulang role in this research is to compile the background and find problems that occur, design research methods, analyze, process and present data, discuss research results and findings. While the role of Samino, Khoidar Amirus and Fitri Eka Sari is to provide input, direction and improvement in this research.

Conflicts of Interest
Because this research is independent, there is no conflict of interest to anyone.

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