The Relationship between Knowledge and the Role of Community Leaders on the Incidence of DHF

Deni Ardiansyah1, Khoidar Amirus1, Nova Muhani1, Samino1

1Public Health Study Program, Malahayati University, Bandar Lampung, Indonesia

Abstract: Lampung Province recorded 3,484 cases of Dengue Fever (DHF) or 435 cases in a month. Or there are 14 cases a day. South Lampung recorded 185 people who experienced DHF from January to August 2022. The purpose of this study was to determine the relationship between knowledge and the role of community leaders on the incidence of DHF in the working area of the Hajimena Health Center, South Lampung Regency in 2023. This type of research is quantitative with a cross sectional approach with a population of 96 respondents and the number of samples is the same as the population because it uses total sampling tactics because the population is less than 100 the entire population is sampled using univariate and bivariate analysis tests. To determine the frequency distribution of the dependent variable (DHF incidence) and to determine the relationship between the independent variables (knowledge and the role of community leaders). The results of univariate research are that there are 26 people who experience DHF, there are 55 respondents who have good knowledge and there are 42 respondents who have poor knowledge, and the role of community leaders is 65 respondents who play a good role and there are 32 respondents who do not play a good role. Bivariate results There is a significant relationship between the knowledge of community leaders on the incidence of DHF (pvalue = 0.011) and There is a significant relationship between the role of community leaders on the incidence of DHF (pvalue = 0.000) in the working area of the Hajimena Health Center in 2023. To improve the knowledge and role of community leaders in paying attention to the condition of the community environment and eradicating mosquito nests, support from health agencies such as health centers and health offices is needed.

Keywords: DBD; Knowledge; Role

Introduction

The World Health Organization (WHO) says the number of reported dengue fever cases increased more than 8-fold over the past 4 years, from 505,000 cases to 4.2 million in 2019. The number of reported deaths has also increased from 960 to 4032 during 2015. Not only is the number of cases increasing as the disease spreads to new regions including Asia, but explosive outbreaks are also occurring. The threat of a possible dengue outbreak is now in Asia. The Americas region reported 3.1 million cases, with more than 25,000 classified as severe. Despite this alarming number of cases, there were fewer deaths associated with dengue compared to the previous year. The number of dengue cases was a globally reported problem in 2019. Based on data from the Ministry of Health in 2020, Dengue Fever (DHF) cases in Indonesia until July reached 71,700 cases. There are 10 provinces that reported the highest number of cases, namely in West Java 10,772 cases, Bali 8,930 cases, East Java 5,948 cases, NTT 5,539 cases, Lampung 5,135 cases, DKI Jakarta 4,227 cases, NTB 3,796 cases, Central Java 2,846 cases and Yogyakarta 2,720 cases and Riau 2,255 cases. While in 2019 the number of cases was higher at 112,954. In addition, the number of deaths throughout Indonesia reached 459. However, the number of cases and deaths this year is still low compared to 2019. Likewise, the number of deaths this year amounted to 459, while in 2019 it was 751 (Berutu, 2022).
The Lampung Provincial Health Office (Dinkes) noted that from January - August 2022 there were 3,484 cases of Dengue Fever (DHF) or 435 cases a month. So if calculated, in one day there are 14 cases. DHF in Lampung region. Then followed by Central Lampung 326 people, Pesawaran 318 people, West Tulangbawang 255 people, Pringsewu 218 people, and East Lampung, there were 198 people. Then South Lampung recorded 185 people, Tanggamus 181 people, Tulang Bawang 160 people, Way Kanan 115 people, North Lampung 93 people, Mesuji 85 people, Metro 55 people, West Coast 54 people and West Lampung 34. While cases of death due to DHF from totaled 9 people (Jaya, 2022).

One of the environment-based diseases is Dengue Fever. Dengue hemorrhagic fever (DHF) is one of the most common health problems in the community that causes various health problems. It can occur every year and can affect all age groups. Dengue fever is an infectious disease that is currently a public health problem that often becomes an Extraordinary Event (KLB) because the spread of this disease is so fast and has the potential to cause death. This disease is caused by one of 4 different dengue viruses, which are transmitted through the bite of the aedes aegypti mosquito (Siswanto & Usnawati, 2018).

Basically, the transmission of DHF disease occurs due to the presence of sufferers and carriers of the dengue virus. The incidence of DHF occurs due to trigger factors such as education, socioeconomic conditions, knowledge, immunity, air humidity, rainfall, environmental sanitation conditions. The most influential transmission of DHF is seen from environmental factors which include the physical, chemical and biological environment. The environment plays a major role in the distribution of vector organisms of environment-based diseases. In addition to the condition of the physical environment, the condition of a house also affects the spread of DHF disease. The physical environment of a house that does not meet the requirements provides a great opportunity for the occurrence of DHF disease (Dinkes, 2020).

The physical environmental conditions of the house in question are powerful ventilation, humidity, and lighting. Ventilation is a house building which is in addition to being a place for air circulation and as a place for light to enter. In theory, an unhealthy house can cause various diseases if the house does not have adequate ventilation. The condition of the house with ventilation conditions that are not installed mosquito gauze will make it easier for mosquitoes to enter and bite humans in the house.6 Other uses of ventilation are to maintain body temperature stability, regulate room temperature and can also reduce humidity and as a place for lighting to enter the house (Meliani, 2020; Priyoto, 2018).

Based on data from the health profile of the Hajimena Health Center in South Lampung Regency, the Hajimena Health Center is included in the top 9 health centers with DHF endemic areas. DHF cases in the last three years in the work area of the Hajimena Health Center have shown a decrease in cases, in 2019 there were 48 cases of dengue hemorrhagic fever (1.46 per 1000 population) based on the age of the DHF sufferers, the majority of whom were dominated by those aged> 15 years with a total of 25 cases, the following year, 2020, experienced a decrease in DHF cases of 24 cases (0.72 per 100 population) based on the age of the DHF sufferers, the majority of whom were dominated by those aged 20-44 years with a total of 10 cases. In 2021, the number of DHF cases increased to 23 cases (0.69 per 1000 population) and based on the age of the DHF sufferers, the majority were dominated by the age of 5-9 years with a total of 8 cases and for the proportion of men with a total of 14 people and the proportion of women had a total of 9 people. The area with the highest number of DHF cases is Hajimena village with 15 cases in 2021. During the last three years, there were no deaths caused by DHF. DHF cases in 2022 from January to October reached 74 cases. (Hajimena, 2021).

Based on the results of the pre-survey by conducting an interview with the disease control program holder (P2) of the Hajimena South Lampung Health Center, as for the explanation of the results of the interview, the areas that have a large number of DHF cases are Hajimena village and Pemanggilan village, and as for the efforts made in this case the dengue prevention and control program includes the implementation of mosquito nest eradication (PSN), simultaneous movements (GERTAK), the formation of larva monitors (JUMANTIK), socialization related to dengue, IEC on the importance of visiting health facilities immediately for examination if signs of dengue are found. signs of dengue. The existence of dengue hemorrhagic fever cases in the Hajimena Puskesmas working area is due to the lack of awareness of the community regarding mosquito nest eradication (PSN) so that the implementation of dengue prevention and control programs is less than optimal and the lack of role of community leaders in the prevention of dengue hemorrhagic fever (DHF) and causes a lack of action in the PSN program such as implementing 3M Plus in the community environment. So I suspect that the cause of the DHF problem arises because there is knowledge and the role of community leaders who are the cause of DDB, therefore I will examine whether it is true that the
problem is caused by the knowledge and role of community leaders.

The formation of dengue hemorrhagic fever (DHF) prevention behavior in the community requires several behavior change factors, one of which is in the driving factor in which there is a role of community leaders. Community leaders have a very important role in implementing prevention and control programs in the community. Community leaders who play a role as community mobilizers in the PSN program, the active involvement of community leaders can have a good impact on the application of the community regarding the prevention and control of DHF through PSN, and vice versa, if community leaders do not play an active role in the PSN program, the community will be less active in implementing the PSN program (Meliani, 2020).

The role of community leaders in community life is very important, because they are considered all-knowing people and have a great influence on their environment. Community leaders also have a wealth of knowledge about their environment related to dengue prevention, therefore community leaders become examples or role models for others because of the mindset built through their knowledge to prevent dengue incidents so that the community is seen as someone who is smart and wise in eradicating mosquito nests. In addition, the role of community leaders is also as educators who must be able to communicate, invite and convey ideas about how important it is to implement 3M Plus to prevent DHF. The role of community leaders is also as a mobilizer to coordinate and increase community participation in their neighborhood in DHF prevention efforts for the sake of equitable health for many people. The role of community leaders is also as motivators to encourage the community in a persuasive or persuading way so that this community realizes how important it is to implement 3M Plus in preventing DHF. The role of community leaders is also as role models because the actions of community leaders in everyday life will be assessed by their citizens and will become a guide or role model for the community.

Based on the background that has been described, the researcher intends to conduct a study on the relationship between knowledge and the role of community leaders on the incidence of DHF in the working area of the Hajimena Health Center, South Lampung Regency in 2023.

Method

This type of research is quantitative research with a cross sectional approach (Sugiyono, 2020). The research was carried out in February-April 2023 at the Hajimena Health Center, South Lampung. The total population and sample were 96 respondents using total sampling techniques. The research used a questionnaire sheet which had previously been tested for validity and reliability in the Kaliasin South Lampung Community Health Center working area. Data analysis uses univariate analysis and bivariate analysis. Univariate analysis to determine the frequency distribution of dengue fever incidence variables, knowledge and role of community leaders. Bivariate analysis used the chi-square test to determine the relationship between knowledge of the role of community leaders and the incidence of dengue fever at the Hajimena Natar Community Health Center, South Lampung.

Result and Discussion

Univariate

The results of the frequency distribution analysis of DHF incidence variables, knowledge and the role of community leaders in the Hajimena Health Center working area are in the following table:

Table 1. Frequency distribution of DHF incidence in the working area of Hajimena Health Center, South Lampung

<table>
<thead>
<tr>
<th>Incidence of DHF</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No DHF</td>
<td>71</td>
<td>73.2</td>
</tr>
<tr>
<td>DHF</td>
<td>26</td>
<td>26.8</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>55</td>
<td>56.7</td>
</tr>
<tr>
<td>Bad</td>
<td>42</td>
<td>43.3</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Role</td>
<td>32</td>
<td>33.0</td>
</tr>
<tr>
<td>Play a role</td>
<td>65</td>
<td>67.0</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Based on the table 1, it can be seen that of all respondents or 97 respondents in the Hajimena Health Center Working Area who experienced No DHF as many as 71 people or 73.2% were greater than those affected by DHF as many as 26 people or 26.8%.

Based on the table 1, it can be seen that of the 97 respondents in the Hajimena Health Center Working Area who had good knowledge, 55 respondents (56.7%) were greater than those with poor knowledge as many as 42 people or 43.3%.

Based on the table 1, it can be seen that out of 97 respondents in the Hajimena Health Center Working Area who did not play a role were 32 people (33.0%).

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Smaller than those who play a role as many as 65 people or 67.0%.

Analisis Bivariate
Relationship between knowledge and DHF incidence

Table 2. Relationship between Knowledge and the incidence of DHF in the Working Area of Hajimena Health Center Lampung

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Incidence of DBD</th>
<th>Total</th>
<th>P Value</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No DBD</td>
<td>DBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Good</td>
<td>46</td>
<td>83.6</td>
<td>9</td>
<td>16.4</td>
</tr>
<tr>
<td>Bad</td>
<td>25</td>
<td>59.5</td>
<td>17</td>
<td>40.5</td>
</tr>
</tbody>
</table>

Based on the table 2, about the relationship between knowledge and the incidence of DHF in the Hajimena Health Center Working Area of South Lampung in 2023, it is known that of the 55 respondents who had good knowledge, 9 people (16.4%) suffered from DHF and 46 (83.6%) did not suffer from DHF. Meanwhile, of the 42 respondents who had poor knowledge, 17 people (40.5%) suffered from DHF and 25 (59.5%) did not.

The results of the chi square statistical test obtained a p value = 0.011, < α 0.05 can be concluded that there is a relationship between knowledge and the incidence of DHF in the working area of the Hajimena Health Center in 2023. Analysis of the relationship between the two variables obtained an OR value = 3.476 (1.353-8.927) meaning that respondents who have poor knowledge have a risk of 3.476 times experiencing DHF incidence compared to respondents who have good knowledge.

The results showed that 55 (56.7%) respondents had good knowledge in preventing DHF. The results of the chi square hypothesis test obtained a p-value of 0.011, it can be concluded that there is a relationship between knowledge and the incidence of DHF in the Hajimena Health Center area in 2023. In addition, the Odds Ratio (OR) value of 3.476 was obtained, meaning that respondents who have good knowledge in mosquito nest eradication have a 3.476 times risk of having good behavior in mosquito nest eradication compared to respondents who have less knowledge in mosquito nest eradication.

The results of respondents' answers related to knowledge found that there were several questions, namely what is the meaning of 3M Plus? There were still many respondents who answered incorrectly as much as 84.5%, what does PSN stand for? There were still many respondents who answered incorrectly as much as 53.6%, additional ways to prevent dengue fever are done besides the 3M method? respondents answered incorrectly as much as 51.5%, 3M Plus activities drain the bathtub is good? Respondents answered incorrectly as much as 52.6%, because most respondents did not participate in socialization about DHF that had been carried out by health workers, which in turn the respondents did not get the latest information about DHF such as the definition of 3M Plus which now has a new one, namely draining, covering and recycling, while respondents only knew the old 3M Plus definition of draining, covering and burying. Like draining a good bathtub, many respondents still know that it is enough to drain the bathtub once a month even though it is good to drain the bathtub once a week, as well as with other questions, respondents still do not understand about dengue prevention because they are less active in carrying out their role as community leaders.

According to the researcher's analysis, positive community knowledge about DHF and how to prevent it will encourage residents to carry out mosquito nest eradication in their daily lives, so that DHF can be prevented. Especially the knowledge of community leaders who have high knowledge in dengue mosquito nest eradication is expected to be able to provide good examples to residents who lack knowledge in eradicating dengue mosquito nests through 3M Plus activities (Rachmawati, 2019).

According to the theory (Notoatmojo, 2014) a person's level of knowledge also affects individual practice or behavior where the better the knowledge, the better the individual practice. The results of this study are in line with Notoatmodjo's (2014) theory, namely the results obtained good knowledge as many as 55 (56.7%) and poor knowledge as many as 42 (43.3%). The results of the chi square hypothesis test obtained a p-value of 0.011, it can be concluded that there is a relationship between knowledge and the incidence of DHF in the Hajimena health center area in 2023.

In previous research conducted by Dwi Erni Setyoastuti (2016), good knowledge resulted in correct
The relationship between the role of community leaders and the incidence of DHF in the Hajimena Health Center working area

Table 3. Relationship between the role of community leaders and the incidence of DHF in the Working Area of the Hajimena Health Center Lampung

<table>
<thead>
<tr>
<th>Role</th>
<th>Incidence of DHF</th>
<th>Total</th>
<th>P Value</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No DHF</td>
<td>DHF</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Play a role</td>
<td>58</td>
<td>89.2</td>
<td>7</td>
<td>10.8</td>
</tr>
<tr>
<td>No Role</td>
<td>13</td>
<td>40.6</td>
<td>19</td>
<td>59.4</td>
</tr>
</tbody>
</table>

Based on the results of the chi square statistical test obtained a p value = 0.000, < α 0.05 can be concluded that there is a relationship between the role of community leaders and the incidence of DHF in the working area of the Hajimena Health Center in 2023. Analysis of the relationship between the two variables obtained an OR value = 12.110 (4.217-34.774), meaning that respondents who did not play a role had a risk of 12.110 times experiencing DHF incidence compared to respondents who played a role.

The results showed that 65 (67.0%) respondents were community leaders who played a role in mosquito nest eradication. The results of the chi square hypothesis test obtained a p-value of 0.000, it can be concluded that there is a relationship between the role of community leaders and the incidence of DHF in the Hajimena Health Center Working Area in 2023. In addition, the Odds Ratio (OR) value of 12.110 was obtained, meaning that respondents who have good community leaders in mosquito nest eradication have a 12.110 times risk of having a good role in mosquito nest eradication compared to respondents whose community leaders do not play a role in mosquito nest eradication.

The results of respondents’ answers related to the role of community leaders found that there are several statements, namely do you invite the community to participate in eradicating mosquito nests? There were still many respondents who answered never as much as 32.0%, due to respondents who were less active in carrying out their role as community leaders and due to
several things such as work because most respondents worked as farm laborers so there was no time to invite the community to eradicate mosquito nests. And the question is, do you socialize mosquito nest eradication during village meetings? 30.9% of respondents answered never, because most respondents never actively participate in village meetings and never actively participate when there is a socialization about DHF. Respondents answered never by 30.9%, because the respondents were busy and less active in carrying out their role as community leaders so there was no time to coordinate their community to eradicate mosquito nests.

According to the researcher's analysis, community leaders can play a role in disseminating information on dengue fever control. In addition, a figure has a great influence in mobilizing the wider community, because the general public is more receptive to what is explained by their role models. In order to realize these conditions, community leaders need to have knowledge and a positive role in controlling dengue fever. Community leaders are more likely to invite the community to do community service together or clean up the entire neighborhood. But sometimes the socialization of cleaning to eradicate mosquito nests has not yet reached the community. A good suggestion from community leaders is for the Health Office to create a pilot area for successful mosquito nest eradication. There will be assistance for mosquito nest eradication in one area and after success will be given on a rolling basis to other areas. According to the theory Rahmalina (2016) role is a dynamic aspect of position (status). This means that someone has carried out their rights and obligations in accordance with their position, then that person has carried out their role. The results of this study are in line with Suhardono (2018), namely that it was found that those who played a role were 65 respondents (67.0%), and those who did not play a role were 32 respondents (33.0%). One of the main factors that influence role is knowledge, if there is good knowledge, the role obtained will also be good.

The results of this study are in line with research conducted by Bahtiar (2012), that negative and poor community leaders in mosquito nest eradication amounted to 72.5%. While positive and good community leaders in mosquito nest eradication amounted to 46.4%. These results illustrate that negative community leaders tend to show a lack of mosquito nest eradication. However, the relationship test showed a significant relationship (p-value = 0.017) between community leaders and mosquito nest eradication behavior.

The results of this study are in line with research conducted by Dwi Erni Setyoastuti (2016), which found that 27 (73.0%) respondents had poor community leaders in mosquito nest eradication and had poor behavior in mosquito nest eradication. The results of the chi square hypothesis test obtained a p-value of 0.001. So it can be concluded that there is a relationship between community leaders and mosquito nest eradication behavior (PSN) in the kayumanis village area of Bogor in 2016 (Setyoastuti, 2016).

The results of this study are in line with the research of Santosa and Budiyanto (2008) cited in Dwi Erni Setyoastuti (2016), which revealed that there is a significant relationship between leaders and behavior (p-value = 0.005) in the prevention of dengue fever. A high role but not based on a positive attitude, or just a positive attitude but has not been reflected in its role as a community leader driving mosquito nest eradication is a phenomenon that must be changed immediately for the better (Setyoastuti, 2016; Hastono, 2020).

Conclusion

Based on the results of the research conducted, it can be concluded that the incidence of dengue fever in the Hajimena South Lampung Community Health Center working area in 2023 will be 26 people (26.8%) and 71 people (73.2%) will not experience dengue fever. In 2023, there were 55 respondents who had good knowledge (45.7%) and 42 respondents (43.3%) had knowledge of community leaders in the Hajimena Health Center, South Lampung working area. The role of community leaders in the Hajimena South Lampung Health Center Work Area in 2023, there were 65 respondents who played a good role (67.0%) and 32 respondents (33.0%) played a bad role. There is a significant relationship between the knowledge of community leaders (pvalue=0.001) and the role of community leaders pvalue=0.000 with the incidence of dengue fever in the Hajimena Health Center working area in 2023.

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Author Contributions

Deni Ardiansyah 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 Khoidar Amirus, Nova Muhani and Samino is to provide input, direction and improvement in this research.

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

References