

# Community Engagement in DHF Prevention: An Analysis of Variances in Knowledge and Behavior

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## ABSTRACT

*Background: Dengue Hemorrhagic Fever (DHF) is a disease that originates from the Aedes aegypti mosquito, especially in tropical areas. The spread of DHF is increasing, this is indicated by the high prevalence of the disease and the rapid increase in the number of DHF cases in Indonesia. Dengue fever cases will become the center of attention for health in Indonesia in the coming years. Objective: To find out differences in knowledge and behavior of dengue prevention in the community. Methods: This study uses a quantitative method with a case control design. The sampling technique used was total sampling with a total sample of 44 respondents, 22 groups had suffered from DHF and 22 groups had never suffered from DHF. The research was conducted in Ngalian Village, Wadaslintang District, Wonosobo Regency. Results: This study has an average knowledge of DHF prevention in people who have had DHF 7.36 and people who have never had DHF 8.36 Behavior of DHF prevention in people who have had DHF 19.31, and people who have never had DHF 27, after being carried out includes differences in knowledge and differences in dengue prevention behavior in the community in Ngalian Village, Wadaslintang District, Wonosobo Regency with a p-value of 0.005 (knowledge) and a p-value of 0.000 (behavior). Conclusion: This study shows that there are differences between the knowledge and behavior of DHF prevention in people who have had DHF and those who have not had DHF.*

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## 1. INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is a disease that is currently a health problem and is widely spread throughout the world. In tropical and subtropical countries, cases of Dengue Hemorrhagic Fever (DHF) are almost found. This dengue incident occurs when the rainy season has arrived, so that it can increase the activity of spreading dengue, increasingly spreading to humans through the Aedes mosquito [1].

Based on data from the Ministry of Health, it shows that in Indonesia there were 73,518 dengue fever cases throughout 2021. With this number of cases, the incidence rate of dengue fever cases in Indonesia is 27 per 100,000 population. Meanwhile, cases of death due to dengue fever in 2021 reached 705 cases. This number also increased by 5.62% compared to the previous year when there were 747 deaths. Based on this data, serious case management is needed [2].

Factors that influence or are related to the incidence of dengue fever include health behavior which will remain consistent if the behavior is based on knowledge. But if the behavior is not based on knowledge, then the

healthy behavior will not last. If the community already knows the purpose and benefits of DHF prevention. Therefore, the community will strive to eradicate and prevent DHF [3]. Factors that influence knowledge are a person's education because education is a learning process for people to obtain information, experiences that have occurred, from the media we can get a lot of information to increase a person's knowledge, the surrounding environment can also influence a person's knowledge in terms of a good environment or even the environment is bad. Behavior is the result of the interrelation of external and internal stimuli which will provide external responses. Internal stimuli are stimuli related to physiological or psychological needs originating from a person. For example, when we see an increase in dengue cases, our response is to take preventative action [4].

Based on a preliminary survey conducted by researchers which was carried out in Ngalian Village, Wadaslintang District, Wonosobo Regency, the number of dengue fever cases that occurred in 2022 was 25 cases, of which 1 elderly person and 2 children were affected, in Ngalian Village, Wadaslintang District, Wonosobo Regency. spread across 7 hamlets in Ngalian Village. The aim of this research is to determine the differences in knowledge and dengue prevention behavior in the community in Ngalian Village, Wadaslintang District, Wonosobo Regency.

## 2. RESEARCH METHOD

The research method used in this study used a comparative design with control design is population of 44 people in Ngalian Village is included in 7 hamlets, the sample taken was 44 respondents using total sampling. This research was conducted in March - April 2023, there were valid questions is 12 knowledge questions and 10 behavioral questions to prevent dengue hemorrhagic fever. The analysis used univariate and bivariate with independent sample T-test.

## 3. RESULT

Table 1. Respondent characteristics in the village Ngalian, Wadaslintang District, Wonosobo Regency (n=44)

Characteristics	Frequency	Percentage
Gender		
Woman	26	60
Man	18	40
Age		
20-25	12	27
26-30	8	18
31-35	8	18
36-40	10	23
41-45	6	14
Work		
Housewife	6	14
Farmer	7	16
Self-employed	12	27
Employee	10	23
Student	5	11
PNS	4	9
Education		
Elementary school	10	22,7
Junior High School	13	29,5
Senior High School	12	27,3
Bachelor	9	20,5
Characteristics	Frequency	Percentage
Respondent status		
Have ever had dengue fever	22	50
Never had dengue	22	50

There were more female respondents compared to men, namely 26 respondents with a percentage of 60%, the category of respondents aged 20-25 years was more than other ages, namely as many as 12 respondents

with a percentage of 27%. In the job category, the majority of entrepreneurs are 12 respondents with a percentage of 27%. In the education category, it was found that the majority of community education in Ngalian Village, Wadaslintang District, Wonosobo Regency was junior high school with 13 respondents

Table 2. Knowledge of Dengue Prevention in the Community (n=44)

Knowledge	had suffered	never suffered
Range	6	5
Mean	7,36	8,36
Std.Deviation	1,67	1,49
Min-Max	4-10	6-11

Table 2 shows that the average result of knowledge in people who have ever been affected by DHF is Mean 7.36, the standard deviation is 1.67 with a minimum obtained of 4 and a maximum obtained of 10. Meanwhile the average result in people who have never been affected DHF is Mean 8.36, standard deviation 1.49, with the minimum obtained being 6 and the maximum obtained being 11.

Table 3. Behavior of Dengue Prevention in the Community (n=44)

Behavior	had suffered	never suffered
Range	8	11
Mean	19,31	27.04
Std.Deviation	2,33	3.65
Min-Max	15-23	21-32

Table 3 shows that the average behavioral results for people who have been affected are Mean 19.31, standard deviation 2.33 with the minimum obtained being 15 and the maximum obtained being 23. Meanwhile the average results for people who have never been affected by dengue namely Mean 27.04, standard deviation 3.65, with the minimum obtained being 21 and the maximum obtained being 32.

Table 4. Differences in knowledge of DHF Prevention village Ngalian Village, Wadaslintang District, Wonosobo Regency (n=44)

Knowledge	Mean ± SD	Mean Difference±SD	P
Had suffered	7,36 ± 1,67		
Never suffered	8,36 ± 1,49	1,00 ±0,18	0,005

This research which was carried out in Semarang and found that the case group and the control group who had knowledge of dengue prevention had a significant difference, namely with a p value of 0.005.

Table 5. Differences in DHF Prevention Behavior among People Ngalian Village, Wadaslintang District, Wonosobo Regency (n=44)

Behavior	Mean ± SD	Mean Difference±SD	P
Had suffered	19,31±2,33		
Never suffered	27,04 ± 3,65	7,73 ±1,32	0,000

Research conducted in Pekanbaru that the behavior in the study obtained a mean result in the case group of 49.61 and the mean control group of 44.15 based on these results obtained a p value of 0.000 This research was conducted in Sleman. In this study, the results of preventive behavior were obtained with a p value of 0.105 > 0.05, so this study had no significant difference in the significance of DHF prevention behavior in the case group and the control group so that This research is in contrast to the research conducted [5].

#### 4. DISCUSSION

Knowledge is everything that humans know based on experience and grows according to the process of experience that humans go through and regarding community knowledge (case and control groups) regarding dengue prevention carried out in Pekanbaru, namely that knowledge The results of dengue prevention carried out

showed that the case group had relatively low knowledge and the control group had quite high knowledge of dengue prevention [6].

Knowledge of dengue prevention in people who had been affected had lower knowledge compared to people who have never been exposed to dengue fever who have fairly good knowledge because information from the public does not yet know about dengue fever, and only know in general about dengue fever, not specifically about the causes of symptoms, methods of transmission, prevention methods, management and risk factors for dengue fever [ 7 ].

Respondents who have been exposed to dengue fever, most of them have negative behavior which can cause the growth of mosquitoes which can provide opportunities for the *Aedes aegypti* mosquito to lay eggs, and also damp house conditions and lack of lighting are also potential places for *Aedes aegypti* to breed [10].

## 5. CONCLUSION AND RECOMMENDATION

The results of this research were that the majority of respondents were women (60%), the majority were aged 20-25 years (27.3), the majority were entrepreneurs (27%) and the majority had junior high school education (29.3%), knowledge of dengue prevention among people who had been affected by dengue fever. namely Mean 7.36 and in people who have never been exposed to dengue fever, namely Mean 8.36. Behavior for preventing dengue fever in people who have been affected is Mean 19.31, and in people who have never been exposed to dengue fever, namely Mean 27.04. Differences in knowledge of dengue prevention. in communities with a p value of 0.005.

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