

RELATIONSHIP BETWEEN HEALTH BEHAVIOR AND THE EVENT OF DENGUE HEAVENLY FEVER (DHF)

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ARTICLE INFO

Keywords:

Health Behavior, Dengue Hemorrhagic Fever (DHF).

ABSTRACT

The incidence of Dengue Hemorrhagic Fever (DHF) in the working area of the Cepiring Health Center in 2008 was recorded as 91 cases with 2 deaths. The purpose of this study was to determine what health behaviors were associated with the occurrence of Dengue Hemorrhagic Fever (DHF) in the working area of the Cepiring Health Center. This type of research is an analytical survey research using a case-control approach. The instruments used in this study were 1) questionnaires, 2) data on patients with dengue fever at the Cepiring Health Center and DKK Kendal. From the results of the study, it was found that the significant factors were: cleaning water reservoirs (p value = 0.044, OR = 2.513), closing water reservoirs (p value = 0.002, OR = 4,333), draining water reservoirs (p value = 0.004, OR=3.857), burying used goods (p value=0.014, OR=3.095),

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1 INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is one of the general public health problems in Indonesia, since 1968 the number of cases has tended to increase and its spread has grown wider. This situation is closely related to the increase in population mobility in line with the increasingly smooth transportation links and the widespread spread of the Dengue virus and its mosquito-borne mosquitoes in various regions in Indonesia (Ministry of Health, 2005: 1). This disease is one of the infectious diseases that can cause outbreaks, so in accordance with Law no. 4 of 1984 concerning infectious disease outbreaks and Minister of Health Regulation no. 560 of 1989, every patient including a suspect of DHF must be reported at the latest within 24 hours by a health service unit (hospital, health center, polyclinic, medical center, private practice doctor, and others) (Depkes RI, 2005: 1). Indonesia has a great risk of contracting dengue hemorrhagic fever because the dengue virus and the mosquito that transmits it, namely *Aedes aegypti*, is widespread in all rural and urban areas, both in homes and in public places, except for areas with a height of more than 1,000 meters. from sea level. The tropical climate also supports the development of this disease, the physical environment (rainfall) which causes high humidity levels, is the right potential for the development of this disease. This mosquito breeds in water reservoirs or reservoirs, such as bathroom tubs, drums, jars and used goods can accommodate rainwater both at home, school, and other public places (Depkes RI, 1999: 1). Indonesia has a great risk of contracting dengue hemorrhagic fever because the dengue virus and the mosquito that transmits it, namely *Aedes aegypti*, is widespread in all rural and urban areas, both in homes and in public places, except for areas with a height of more than 1,000 meters. from sea level. The tropical climate also supports the development of this disease, the

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physical environment (rainfall) which causes high humidity levels, is the right potential for the development of this disease. This mosquito breeds in water reservoirs or reservoirs, such as bathroom tubs, drums, jars and used goods can accommodate rainwater both at home, school, and other public places (Depkes RI, 1999: 1). Indonesia has a great risk of contracting dengue hemorrhagic fever because the dengue virus and the mosquito that transmits it, namely *Aedes aegypti*, is widespread in all rural and urban areas, both in homes and in public places, except for areas with a height of more than 1,000 meters. from sea level. The tropical climate also supports the development of this disease, the physical environment (rainfall) which causes high humidity levels, is the right potential for the development of this disease. This mosquito breeds in water reservoirs or reservoirs, such as bathroom tubs, drums, jars and used goods can accommodate rainwater both at home, school, and other public places (Depkes RI, 1999: 1). except for areas whose altitude is more than 1,000 meters above sea level. The tropical climate also supports the development of this disease, the physical environment (rainfall) which causes high humidity levels, is the right potential for the development of this disease. This mosquito breeds in water reservoirs or reservoirs, such as bathroom tubs, drums, jars and used goods can accommodate rainwater both at home, school, and other public places (Depkes RI, 1999: 1). except for areas whose altitude is more than 1,000 meters above sea level. The tropical climate also supports the development of this disease, the physical environment (rainfall) which causes high humidity levels, is the right potential for the development of this disease. This mosquito breeds in water reservoirs or reservoirs, such as bathroom tubs, drums, jars and used goods can accommodate rainwater both at home, school, and other public places (Depkes RI, 1999: 1).

Based on the data obtained, Central Java Province is one of the areas that are prone to contracting this disease, this can be seen from the number of cases of dengue hemorrhagic fever that occurs from year to year continues to increase. The number of dengue cases in Kendal Regency based on health data sources from the Kendal Regency Health Office in 2008 in Kendal Regency reached 903 cases with 23 mortality rates (IR = 9.65 and CFR = 2.54%), in 2007 there were 382 cases with 19 cases. mortality rate (IR = 4.13 and CFR = 4.97 %), in 2006 there were 153 cases with 8 deaths (IR = 1.67 and CFR = 5.23 %), in 2005 there were 211 cases 3 deaths (IR = 2.33 and CFR = 1.42 %), while in 2004 there were 203 cases with 6 deaths (IR = 2.26 and CFR = 2.95 %). From the data, it can be seen that the largest number of cases occurred in 2008 with 903 cases with 23 deaths (Kendal Health Office, 2008). Meanwhile, from the health data source of the Kendal District Health Office in 2008 regarding the incidence of dengue hemorrhagic fever, the working area of the Cepiring Health Center was the area with the highest number of cases of dengue fever between Kaliwungu and Patebon with the incidence of dengue hemorrhagic fever in 2008 amounting to 91 cases with 2 figures. mortality (IR = 12.55 and CFR = 2.1 %), in 2007 there were 32 cases with 1 mortality rate (IR = 6.52 and CFR = 3.12 %), in 2006 there were 31 cases with 2 deaths (IR = 6.32 and CFR = 6.45%), in 2005 there were 12 cases (IR = 2.45), and in 2004 there were 16 cases (IR = 3.26). The largest number of cases occurred in 2008 (Kendal Health Office, 2008). Behavior is the second largest factor after environmental factors that affect the health of individuals, groups, or communities[1]. From years of experience in the implementation of this education, both developed and developing countries have encountered various obstacles in order to achieve their goals, namely realizing healthy living behaviors for their people. The biggest obstacle felt is the supporting factor (enabling factor). From existing studies, it is revealed that although public awareness and knowledge is high about health, the practice of public health or healthy living behavior is still low.[2] [3]. From a preliminary survey conducted on 30 respondents, it was found that 19 respondents (65%) in the working area of the Cepiring Health Center did not implement the "3M Plus" program properly, due to lack of practice on health behavior.[4] [5].

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by the dengue virus and is transmitted through the bite of the *Aedes aegypti* mosquito[6]. This disease is an acute febrile illness

caused by 4 serotypes of dengue virus and is characterized by four main clinical symptoms, namely high fever, hemorrhagic manifestations, hepatomegaly, and signs of circulatory failure until the onset of shock (dengue shock syndrome) as a result of excessive plasma leakage. can cause death[7]. Causes of Dengue Hemorrhagic Fever[8]. This virus requires an intermediary to enter the human body. The intermediary/vector of this virus is the *Aedes aegypti* or *Aedes albopictus* mosquito. The figures of the two types of *Aedes* are almost similar, but the one that transmits the most dengue fever is *Aedes aegypti*. The body of this mosquito is smaller than a house mosquito[9]. The characteristic of this type of mosquito is that the body and legs of the mosquito have black and white stripes. Female mosquitoes suck blood in order to get the protein to ripen their eggs, until they are fertilized by male mosquitoes. Mosquitoes get the dengue virus from patients with Dengue Hemorrhagic Fever, Dengue fever, or people who don't look sick but have Dengue virus (carrier) in their bloodstream. When a mosquito bites a person, the dengue virus will be carried in with the blood it sucks into the mosquito's body[10]. The virus in the mosquito's body will reproduce without the mosquito becoming sick with dengue fever. Within 7 days, the dengue virus has spread to all parts of the mosquito's body, including its salivary glands. If this mosquito bites another person, the dengue virus will also move along with the mosquito's saliva into the person's body. The nature of mosquito bites felt by humans is no different from other mosquito bites. That is, no more pain, no more itching, no more leaving a special mark[7] [11].

2 METHOD

2.1 Research variable

The independent variables in this study were the habit of cleaning water reservoirs, closing water reservoirs, draining water reservoirs, burying used goods, and throwing garbage in its place or burning it, the habit of hanging clothes, the habit of using mosquito nets, the habit of using mosquito repellent lotion, the habit of sowing Abate powder in water reservoirs, and the habit of keeping larvae-eating fish. The dependent variable in this study was the incidence of dengue hemorrhagic fever. Confounding variables are Knowledge, Attitude, Education, Ethnicity, *Aedes aegypti* Mosquito, Health Services, Economic Status, Environment, Dengue Virus, Body Endurance and Age.

2.2 Population and Sample

The population in this study were all patients with Dengue Hemorrhagic Fever registered in medical records in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency in 2008 which were 91 people. The case population was people with DHF in January–December who were registered in medical records and resided in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency in 2008 with a total of 91 people. The control population was people who did not suffer from DHF in January–December who were registered in medical records and resided in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency in 2008.

2.3 Sample

The sample cases of this study were patients with DHF from January to December who were registered in medical records and resided in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency in 2008 with a total of 40 people. The control sample in this study were patients with dengue fever in January – December who were registered in medical records and resided in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency in 2008 with a total of 40 people.

The inclusion criteria are

1. Suffering from DHF recorded in medical records
2. Subjects aged 15 years at the time of the study
3. Domiciled in the working area of the Cepiring Health Center, Cepiring District, Kendal

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4. Subject agrees to take part in the study

The exclusion criteria are

1. Changing places when doing research
2. Subjects refused to participate in the study

2.4 Research Instruments

Research instruments are tools used for data collection. The instrument used in this study was a questionnaire. The questionnaire is defined as a well-structured, matured list of questions, in which the respondent only needs to provide answers. This questionnaire is used to determine the health behavior of respondents.

2.5 Validity and Reliability Test

2.5.1 Validity

Validity is the extent to which the instrument measures what it should measure, according to what the researcher actually intended (Bhisma Murti, 1995: 49). To find out whether the questionnaire that has been compiled is able to measure what we want to measure, it is necessary to test the correlation between the score (value) of each item (question) and the total score of the questionnaire.

2.5.2 Reliability

Reliability is an index that shows the extent to which a measuring instrument can be trusted or reliable. This means showing the extent to which the measurement results remain consistent when two or more measurements are made of the same symptom using the same measuring instrument. Symptoms, modes of transmission, methods of prevention, and treatment of Dengue Hemorrhagic Fever (DHF).

People's attitudes about Dengue Hemorrhagic Fever (DHF) are the same, they think that Dengue Hemorrhagic Fever (DHF) is dangerous because it can cause death. The education level of patients with Dengue Hemorrhagic Fever (DHF) is the same, on average they are still in junior high school and below. The economic status of patients with Dengue Hemorrhagic Fever (DHF) in the working area of the Cepiring Health Center is the same, namely from the middle to lower economic status. The immune system of patients with Dengue Hemorrhagic Fever (DHF) in the working area of the Cepiring Health Center at that time was the same, namely in a weak condition so that they were susceptible to dengue virus. The average age of patients with Dengue Hemorrhagic Fever (DHF) is 15 years.

3. RESULTS AND DISCUSSION

3.1. Univariate Analysis

Univariate analysis was carried out on each variable from the results of the study using a list of frequency distributions and percentages of each variable and equipped with a table.

1. Habit of Cleaning Water Reservoir

The habit of cleaning water reservoirs referred to in this study were respondents who cleaned water reservoirs at least once a week. Based on the results of research on the habit of cleaning water reservoirs are as follows:

Table. 1 Distribution of Habits for Cleaning Water Reservoirs

NO	Habit	Cleaning the Water Reservoir	Frequency	Percentage (%)
1	Bad		43	53.8
2	Well		37	46.3
Amount			80	100

Based on table 1, it can be seen that most of the respondents who did not clean up 43 people (53.8%) in water reservoirs, while 37 people (46.3%).

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2. Habit of Closing Water Reservoir

The habit of closing the water reservoirs as referred to in this study is the respondents who close the water reservoirs tightly. Based on the results of research on the habit of closing water reservoirs are as follows:

Table. 2 Distribution of Habits of Closing Watersheds

NO	Habit of Closing Water Reservoir	Frequency	Percentage (%)
1	Bad	38	47.5
2	Well	42	52.5
	Amount	80	100

Based on the table. 2 it can be seen that most of the respondents who closed the water reservoirs were 42 people (52.5%) while the respondents who did not closed the water reservoirs were 38 people (47.5%).

3. Habit of Draining Water Reservoir

The habit of draining water reservoirs referred to in this study are respondents who drain water reservoirs at least once a week.

Table. 3 Distribution of Habits of Draining Water Reservoirs

NO	Distribution of Habits Draining Place Water reservoirs	Frequency	Percentage (%)
1	Bad	39	48.8
2	Well	41	51.3
	Amount	80	100

Based on table 3, it can be seen that most of the respondents who drained the water reservoir were 41 people (51.3%) while the respondents who did not drain the water reservoir were 39 people (48.8%).

4. The Habit of Burying Used Items

The habit of burying used goods as referred to in this study are respondents who bury used goods such as used cans, mineral water bottles, used plastic, etc. Based on the results of research on the habit of burying used goods are as follows:

Table. 4 Distribution of Burying Used Goods

NO	Distribution of Burying Used Goods	Frequency	Percentage (%)
1	Bad	41	51.3
2	Well	39	48.8
	Amount	80	100

Based on table 4, it can be seen that the majority of respondents who did not bury used items were 41 people (51.3%) while 39 people (48.8%).

5. The habit of throwing garbage in its place and burning it

The habit of throwing garbage in its place and burning it as intended in this study is the respondent who throws garbage in its place and burns it after it is full. Based on the results of research on the habit of throwing garbage in its place and burning it are as follows:

Table4.5 Distribution of the habit of throwing garbage in its place and burning it

NO	The habit of throwing garbage in its place and burning it	Frequency	Percentage (%)

1	Bad	35	43.8
2	Well	45	56.3
Amount		80	100

Based on table 4.2, it can be seen that most of the respondents who disposed of their garbage in its place and burned it were 45 people (56.3%) while the respondents who did not throw their garbage in its place and burned it were 35 people (43.8%).

6. Hanging Clothes

The habit of hanging clothes as referred to in this study is the respondents who hang clothes for a long time. Based on the results of research on the habit of hanging clothes are as follows:

Table. 6 Distribution of the Habit of Hanging Clothes

NO	Habit of Hanging Clothes	Frequency	Percentage (%)
1	Bad	43	53.8
2	Well	37	46.3
Amount		80	100

Based on the table. 6 it can be seen that the majority of respondents who hang clothes are 43 people (53.8%) while respondents who do not hang clothes are 37 people (46.3%).

7. Habit of Using Mosquito Net

The habit of using mosquito nets in this study are respondents who use mosquito nets when sleeping either in the morning, afternoon, or evening. Based on the results of research on the habit of using mosquito nets are as follows:

Table. 7 Distribution of Habits of Using Mosquito Nets

NO	Habit of Using Mosquito Net	Frequency	Percentage (%)
1	Bad	59	73.8
2	Well	21	26.3
Amount		80	100

Based on table 7, it can be seen that most of the respondents who did not use mosquito nets were 59 people (73.8%) while the respondents who used mosquito nets were 21 people (26.3%).

8. Habit of Using Anti-Mosquito Lotion

The habit of using anti-mosquito lotion which is intended in this study is the respondent who uses anti-mosquito lotion at bedtime and goes out of the house in the morning, afternoon, or evening. Based on the results of research on the habit of using mosquito repellent lotion are as follows:

Table. 8 Distribution of Habits of Using Anti-Mosquito Lotion

NO	Habit of Using Anti-Mosquito Lotion	Frequency	Percentage (%)
1	Bad	60	75
2	Well	20	25
Amount		80	100

Based on table 8, it can be seen that the majority of respondents who do not use mosquito repellent lotion are 60 people (75%) while respondents who use mosquito repellent lotion are 20 people (25%).

9. Habit of Sowing Abate Powder in Water Reservoir

The habit of sowing Abate powder in water reservoirs as referred to in this study are respondents who sow Abate powder in water reservoirs. Based on the results of research on the habit of sowing Abate powder in water reservoirs are as follows:

Table 9. Distribution of Abate Powder Sowing Habits in Water Reservoirs

NO	Habit of Sowing Abate Powder in Water Reservoir	Frequency	Percentage (%)
1	Bad	60	75
2	Well	20	25
	Amount	80	100

Based on table 9, it can be seen that most of the respondents who did not sow Abate powder in water reservoirs were 60 people (75%) while the respondents who sowed Abate powder in water reservoirs were 20 people (25%).

10. Habits of Raising larvae-eating fish

The habit of keeping larvae-eating fish in this study is the respondents who keep larvae-eating fish in water reservoirs. Based on the results of research on the habits of maintaining larvae-eating fish are as follows:

Table. 10 Distribution of Habits of Caring for larvae-eating fish

NO	Habits of Raising larvae-eating fish	Frequency	Percentage (%)
1	Bad	65	81.3
2	Well	15	18.8
	Amount	80	100

Based on table 10, it can be seen that most of the respondents who do not keep larvae-eating fish are 65 people (81.3%) while the respondents who keep larvae-eating fish are 15 people (18.8%).

3.2. Bivariate Analysis

To test the relationship between the independent variables and the dependent variable, the Chi-square test was used and to determine the magnitude of the risk factors, the Odds Ratio (OR) analysis was used. The relationship between the habit of cleaning water reservoirs and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency.

Table. 11 The relationship between the habit of cleaning water reservoirs and the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
No	26	65.0	17	42.5	0.044	2,513	1.019-6,198
Yes	14	35.0	23	57.5			
Amount	40	100.0	40	100.0			

Relationship between the habit of closing water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency.

Table. 12 The relationship between the habit of closing water reservoirs and the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Closing the landfill							

	N	%	N	%			
No	26	65.0	12	30.0	0.002	4,333	1.696-11.069
Yes	14	35.0	28	70.0			
Amount	40	100.0	40	100.0			

The relationship between the habit of draining water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency

Table. 13 The relationship between the habit of draining water reservoirs and the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Draining the landfill							
No	26	65.0	13	32.5	0.004	3,857	1,526-9,750
Yes	14	35.0	27	67.5			
Amount	40	100.0	40	100.0			

Relationship between the habit of burying used goods and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency.

Table 14 The Relationship between the Habit of Burying Used Items and the Incidence of Dengue Hemorrhagic Fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Burying Used Items							
No	26	65.0	15	37.5	0.014	3,095	1.243-7.706
Yes	14	35.0	25	62.5			
Amount	40	100.0	40	100.0			

Relationship between the habit of throwing garbage in its place and burning it with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table. 15 Relationship between the habit of throwing garbage in its place and burning it with the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Burying Used Items							
No	22	55.0	13	32.5	0.043	2,538	1.023-6,298
Yes	18	45.0	27	67.5			
Amount	40	100.0	40	100.0			

The relationship between the habit of hanging clothes with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table. 16 Relationship between the habit of hanging clothes with the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Hanging Clothes							
No	11	27.5	26	65.0	0.001	4,896	1.892-12.669
Yes	29	72.5	14	35.0			
Amount	40	100.0	40	100.0			

The relationship between the habit of using mosquito nets and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table. 17 Relationship between the habit of using mosquito nets and the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Using Mosquito Net							
No	36	90.0	24	60.0	0.799	1,138	0.420-3.084
Yes	4	10.0	16	40.0			
Amount	40	100.0	40	100.0			

The relationship between the habit of using anti-mosquito lotion and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table. 18 The Relationship between Habit of Using Anti-Mosquito Lotion and the Incidence of Dengue Hemorrhagic Fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Using Mosquito Net							
No	30	75.0	29	72.5	0.002	6,000	1,787-20,147
Yes	10	25.0	11	27.5			
Amount	40	100.0	40	100.0			

The relationship between the habit of sowing abate powder in water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table. 19 The relationship between the habit of sowing abate powder in water reservoirs and the incidence of dengue hemorrhagic fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
Using Mosquito Net							
No	31	77.5	29	72.5	0.606	1,307	0.473-3.609
Yes	9	22.5	11	27.5			

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Amount	40	100.0	40	100.0
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The Relationship Between Habits of Raising Larvae-Eating Fish and Dengue Hemorrhagic Fever In The Working Area of Cepiring Public Health Center, Cepiring District, Kendal Regency.

Table 4.20 Relationship between the Habit of Raising Larvae-Eating Fish and the Incidence of Dengue Hemorrhagic Fever

Independent Variable	Dependent variable				p value	OR	95%CI
	Case (DHF Positive)		Control (DHF Negative)				
	N	%	N	%			
No	33	82.5	32	80.0	0.775	1,179	0.383-3.630
Yes	7	17.5	8	20.0			
Amount	40	100.0	40	100.0			

Table. 21 Results of the Relationship Between Health Behavior and the Incidence of Dengue Hemorrhagic Fever (DHF) in the Working Area of the Cepiring Public Health Center, Cepiring District, Kendal Regency

NO	Health Behavior	p Value	OR	95%CI
1.	Cleaning Place	0.044	2,513	1.019-6,198
2.	Closing Place	0.002	4,333	1.696-11.069
3.	Draining Place	0.004	3,857	1,526-9,750
4.	Burying Stuff	0.014	3,095	1.243-7.706
5.	Throwing Trash on	0.043	2,538	1.023-6,298
6.	Hanging Clothes	0.001	4,896	1.892-12.669
7.	Using Mosquito Net	0.799	1,138	0.420-3.084
8.	Using Anti Lotion	0.002	6,000	1,787-20,147
9.	Sowing Abate Powder	0.606	1,307	0.473-3.609
10.	Keeping Fish Eaters	0.775	1,179	0.383-3.630

3.3. discussion

1. The relationship between the habit of cleaning water reservoirs and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency.

Based on the results of bivariate analysis, it is known that respondents who did not clean water reservoirs in the case group were 65.0% larger than the control group 42.5%, while respondents who cleaned water reservoirs in the case group were 35.0% smaller. when compared to the control group 57.5%. The results of this study are in accordance with the theory that the eradication of mosquito nests is carried out simultaneously and continuously to eradicate breeding places for *Aedes aegypti* mosquitoes that do not breed, one of which is cleaning the water storage area by draining the water and brushing the walls once a week.

2. Relationship between the habit of closing water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency.

Based on the results of bivariate analysis, it is known that the percentage of respondents who do not close water reservoirs in the case group is 65.0% greater than the control group, 30.0%, while the percentage of respondents who close the water reservoir in the case group is 35.0% more. small when compared to the control group 70.0%. One of the water reservoirs for daily needs is a jar (barrel).

3. The relationship between the habit of draining water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency

From the results of bivariate analysis, it is known that respondents who do not drain water reservoirs in the case group are 65.0% larger than the control group 32.5%, while respondents who drain water reservoirs in the case group are 35.0% smaller. when compared with the control group 67.5%. that the breeding place for the *Aedes aegypti* mosquito is in the form of puddles of water that are accommodated in containers called containers and not in puddles of water directly on the ground. Places used to hold water for daily needs include drums, jars, bathtubs, toilet bowls, buckets and so on.

4. Relationship between the habit of burying used goods and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Health Center, Cepiring District, Kendal Regency

Based on the results of the research conducted, it was found that respondents who did not bury used items in the case group were 65.0% larger than the control group 37.5%, while respondents who did not bury used items in the case group were 35. .0% smaller than the control group 62.5%. The results of this study are in accordance with the theory put forward by the Indonesian Ministry of Health (1995: 3), which states that one way to prevent and eradicate the *Aedes aegypti* mosquito is to bury or get rid of used goods and other waste that can accommodate rainwater so that it does not serve as a breeding ground for mosquitoes.

5. Relationship between the habit of throwing garbage in its place and burning it with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency

From the results of univariate analysis, it is known that respondents who do not dispose of waste in its place and burn it in the case group are 55.0% greater than the control group 32.5%, while respondents who dispose of waste in its place and burn it in the case group are 45, 0% smaller than the control group 67.5%. Garbage is anything that is no longer wanted. Some of this waste is easy to decompose and some is difficult to decompose. The effect of waste on health can be grouped into direct and indirect effects. The direct effect is the effect caused by direct contact with the waste. For example, toxic waste, corrosive waste to the body, and carcinogenic. Indirect effects can be felt by the community due to the process of decay, and garbage disposal. Another indirect effect, for example in the form of vectors that can breed in waste, one of which is the *Aedes aegypti* mosquito so that the transmission of dengue disease is wider (Soemirat Slamet, 2002: 155).

6. The relationship between the habit of hanging clothes with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency

From the results of univariate analysis, it is known that respondents who do not usually hang clothes in the case group are 27.5% smaller than the control group 65.0%, while respondents who usually hang clothes in the case group are 72.5% larger than the control group. with the control group 35.0%. According to the theory that the *Aedes aegypti* mosquito usually perches or rests in the house, especially in a dark place or hanging clothes.

7. The relationship between the habit of using mosquito nets and the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency.

Based on the results of bivariate analysis, it is known that respondents who do not use mosquito nets in the case group are 75.0% larger than the control group 72.5%, while respondents who use mosquito nets in the case group are 25.0% smaller than the control group. 27.5% shows that respondents who do not use mosquito nets have a 1.138 times greater risk of suffering from DHF

than respondents who use mosquito nets while sleeping, but because the 95%CI includes number 1, the variable not using mosquito nets is not necessarily a risk factor for the onset of DHF.

8. The Relationship between the Habit of Using Anti-Mosquito Lotion and the Incidence of Dengue Hemorrhagic Fever in the Work Area of the Cepiring Health Center, Cepiring District, Kendal Regency

Based on the results of univariate analysis, it is known that respondents who did not use mosquito repellent lotion in the case group were 90.0% greater than the control group 60.0%, while respondents who used mosquito repellent lotion in the case group were 10% smaller than those in the control group. control group 40.0%. These substances are broadly divided into two categories, natural and chemical repellents. Essential oils and plant extracts are staples of natural repellents. Chemical insect repellents can provide protection against *Aedes aegypti*, *Aedes albopictus*, and *Anopheles* species mosquitoes for several hours. This is in accordance with the theory of Hendrawan Nadesul (2004: 43), that another way to avoid mosquito bites is to cover the skin with mosquito repellent (repellent).

9. The relationship between the habit of sowing abate powder in water reservoirs with the incidence of dengue hemorrhagic fever in the working area of the Cepiring Public Health Center, Cepiring District, Kendal Regency

Based on the results of univariate analysis, it is known that respondents who did not sow Abate powder in water reservoirs in the case group were 77.5% greater than the control group 72.5%, while respondents who sowed Abate powder in water reservoirs in the case group were 22.5% smaller than the control group 27.5%. shows that respondents who do not sow Abate powder in water reservoirs have a 1.307 times greater risk of suffering from DHF than respondents who sow Abate powder in water reservoirs but because 95%CI includes number 1, the variable does not sow Abate powder in water reservoirs. is certainly a risk factor for dengue disease.

10. The Relationship Between Habits of Raising Larvae-Eating Fish and Dengue Hemorrhagic Fever In The Working Area of Cepiring Public Health Center, Cepiring District, Kendal Regency

Based on the results of univariate analysis, it is known that respondents who do not keep larvae-eating fish in the case group are 82.5% larger than the control group 80.0%, while respondents who keep larvae-eating fish in the case group are 17.5% smaller than those in the control group. with a control group of 20.0%, it shows that respondents who do not keep larvae-eating fish have a 1.179 times greater risk of suffering from DHF than respondents who keep larvae-eating fish, but because the 95%CI includes number 1, the variable not keeping larvae-eating fish is not necessarily an indicator. risk factors for dengue fever.

4. CONCLUSION

Based on the results of research on Health Behavior with Dengue Hemorrhagic Fever (DHF) in the Working Area of Cepiring Health Center, Cepiring District, Kendal Regency in 2009, it can be concluded as follows: There is a relationship between cleaning water reservoirs, closing water reservoirs, draining water reservoirs, burying used goods, throwing garbage in its place and burning it, hanging clothes, and using mosquito repellent lotion with the incidence of Dengue Hemorrhagic Fever (DHF) in the Working Area of the Cepiring Health Center, Cepiring District, Kendal Regency in 2009; There is no relationship between using mosquito nets, sowing Abate powder, and raising larvae-eating fish with the incidence of Dengue Hemorrhagic Fever (DHF) in the Work Area of the Cepiring Health Center, Cepiring District, Kendal Regency in 2009.

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