Original Article

Analysis Of Behavior The Eradication Of Family Mosquito Nest With Larva Mosquito Free Number

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ABSTRACT

Background: Many people are still not aware of the cleanliness of the environment and the slow pace of the government in anticipating and responding to the spread of dengue cases. The aim of the study was to have a relationship between the behavior of eradicating mosquito nests and larvae in Paleleh Village, Paleleh District, Buol District, Central Sulawesi Province.

The design used in the study was cross sectional. Population is all families. The sample size was 168 respondents using Purposive Sampling techniques. Independent variable research is behavior. The dependent variable is the larva mosquito free number. Data was collected using a questionnaire, then the data were analyzed using the Spearman Rho test, with a significance level of $\alpha \leq 0.05$.

The results showed that most respondents had sufficient mosquito nest eradication behavior as many as 106 respondents (63.1%), free larvae as many as 138 respondents (82.1%), statistical test results obtained p = 0,000 with a = 0.05, there is a significant relationship in the variable of eradicating mosquito nest behavior in the presence of larvae, with a correlation coefficient of 0.773 which means having a strong relationship.

Flicking eradication behavior has an impact on the existence of larvae in the family so that sufficient behavior needs to be continuously improved in order to be good.

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Introduction

Healthy living is something that should be applied by everyone, considering that the benefits will be very much, starting from the concentration of work, health and intelligence of children to family harmony. Creating a healthy life is very easy and

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inexpensive, considering the costs that must be spent for treatment if experiencing health problems are quite expensive (if and eni rahmawati.2012)

Every human who lives in this world needs a clean and healthy environment in order to provide comfort in life. Therefore, humans must care for the environment by maintaining, maintaining and creating a good living environment. Behavior is a manifestation of one's actions based on understanding and willingness to face something. Whereas the environment is a vehicle where creatures can survive and reproduce (atikah and eni rahmawati 2012).

To realize a healthier nation, people are invited to commit to healthy living through clean and healthy living behaviors. Clean and Healthy Life Behavior is an effort to provide learning experiences or create a condition for individuals, families, groups and communities, by opening lines of communication, providing information and conducting education, to increase knowledge, attitudes and behavior, through a leadership approach (Advocacy), Social support and Empowerment. So that family and society can help themselves and play an active role in health activities in the community. Thus the community can recognize and overcome its own problems, especially in their respective settings, and the community / can implement healthy ways of life by maintaining, maintaining and improving their health. (Atikah and eni rahmawati 2012)

Households are the smallest unit in the environment. Clean and healthy behavior should be applied and implanted in all family members. The role of the family in a house holds the main key to improving the quality of health from an early age. Because if the family is healthy, it will also form a healthy society. For that, Healthy must be started from within the house itself (then and eni rahmawati.2012).

Many diseases that arise due to negligence of the importance of maintaining environmental cleanliness. One of them is Dengue Hemorrhagic Fever (DHF) or also called Hemorrhagic Fever (DHF). This disease is caused by the dengue virus which is transmitted through the bite of the Aedes Aegypti and Aedes mosquitoes Albopictus. Both types of mosquitoes are found in almost all corners of Indonesia, except areas that have a height of more than one thousand meters above sea level. Almost every year in Indonesia there are people who are infected with dengue. (Anggraeni, DS 2011).

This proves that some people are still not aware of the cleanliness of the environment and the slow pace of the government in anticipating and responding to the spread of dengue cases. Communities are often wrong in diagnosing dengue with other diseases such as flu or typhus. This is due to viral infection that causes DHF to be asintomatic or unclear symptoms. DHF patients usually or often show symptoms of cough, runny nose, vomiting, nausea and diarrhea. From these various problems the community should already know about the importance of protecting the environment from mosquito nesting sites and need to eradicate mosquito nests in order to avoid various diseases caused by mosquitoes (Anggraeni, DS2011).

By applying it first in the household environment, it will automatically be easier to apply to a wider environment, namely the community. Because healthy conditions can be achieved by changing behavior from unhealthy to healthy behavior, and creating a healthy environment in the household. Therefore, health needs to be maintained, maintained and improved by every member of the household and struggled by all parties as a whole (totality). (Anggraeni, DS2011).

Free larva numbers are said to be low if they are not found larvae in the surveyed area. And it is said to be high if many are found larvae. The larva-free number (ABJ) is an indicator of the success of fogging and early prevention of dengue fever. (Anggraeni, DS2011).

DHF can appear throughout the year and can affect all age groups. The emergence of this disease is related to environmental conditions and community behavior

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(Ministry of Health, Republic of Indonesia, 2016).

According to WHO data (2014) Dengue hemorrhagic fever was first reported in Southeast Asia in 1954, namely in the Philippines, then spread to various countries. Before 1970, only 9 countries experienced dengue outbreaks, but now DHF is an endemic disease in more than 100 countries, including Africa, America, the Eastern Mediterranean, Southeast Asia and the Western Pacific having the highest rates of dengue cases.

The number of cases in America, Southeast Asia and the Western Pacific has surpassed 1.2 million cases in 2008 and more than 2.3 million cases in 2010. In 2013 there were reported as many as 2.35 million cases in America, of which 37,687 cases were severe dengue . The development of dengue cases at the global level is increasing, as reported by the World Health Organization (WHO), which is from 980 cases in nearly 100 countries in 1954-1959 to 1,016,612 cases in nearly 60 countries from 2000-2009 (WHO, 2014).

DHF is commonly found in tropical and sub-tropical regions including in Indonesia, Dengue Hemorrhagic Fever (DHF) was reported first in Surabaya in 1968 where as many as 58 people were infected and 24 of them died (Depkes RI, 2015).

The Indonesian Ministry of Health (2016) noted that in October there were 3,219 cases of dengue in October with 32 deaths, while in November there were 2,921 cases with 37 deaths, and December 1,104 cases with 31 deaths. Compared to 2014 in October there were 8,149 cases with 81 deaths, November 7,877 cases with 66 deaths, and December 7,856 cases with 50 deaths.

In 2014 DHF cases in Central Sulawesi 1,307.9 died, hammer 579 cases, parigi moutong 75 cases and in 2015 DHF cases in Central Sulawesi 1,579.11 died, hammer 650 cases / 3 died, buol 231 cases 1 died, sig 103 cases 1 died, poso 179 cases 2 died, parimo 16 cases 2 died, morowali 81 cases, tojo una 32 cases, north morowali 26 cases, pride 21 cases, donggala 18 cases, bangkep 2 cases and in 2016 dengue cases in Central Sulawesi 2,273.22 died (city of hammer 635 cases), (Central Sulawesi Health Office 2017). The head of the disease control and environmental health department of the Sulawesi health office is still pious, revealing that in the last three years DHF cases are still the highest in hammer cities three years in a row from 2014, 2015, and 2016 cases in hammer cities are always the highest compared to districts (Central Sulawesi Health Office 2017).

In 2014 1,157 DHF cases in Central Sulawesi, nine people died, of that number, 579 dengue cases were in the hammer city with 1 person died, while in the regency, the highest in Buol was 194 cases, followed by toli-toli 142 cases and district parigi mouton 75 cases (Central Sulawesi Health Office 2017).

For 2015 the number of dengue cases died in Central Sulawesi increased with patients reaching 1,579 cases, died 11 sufferers with hammer city details 650 cases with sufferers died 3 people, Buol district 231 died 1 person and toli-toli 220 cases with 2 sufferers died world then followed by Sigi district as many as 103 cases with 1 person died, poso 179 cases died 2 people, morowali 81 cases, tojo una 32 cases, morowali north 26 cases, for 21 cases, donggala 18 cases and proud of islands 2 cases, while in the proud district of the sea no dengue cases were found (Central Sulawesi Health Office 2017).

So every year it increases, for example in 2016 dengue cases increased to 2,273 people who died 22 people, for the most cases of patients remained in the hammer city as many as 635 people, but if the sufferers died most in kabupatyen toli-toli xdan banngai each 6 patients died the world, if the city hammers 2 people die (Central Sulawesi Health Office 2017).

While for 2017, the head of the midwife stated that he had not received data on DHF patients because they were still in the program manager, but referring to the previous years, almost every year the DBD sufferers were always there (Central Sulawesi Health Office 2017).

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According to Soedarto (2012) Indonesia is an endemic area of DHF and has an epidemic once in 4-5 years. Environmental factors with the large number of puddles of clean water that are a hotbed for mosquitoes, high population mobility and rapid transportation between regions, causing frequent occurrence of dengue hemorrhagic fever. Indonesia is included in one of the countries that is endemic to dengue hemorrhagic fever because the number of sufferers continues to increase and the spread is increasingly widespread (Sungkar et al., 2010).

Method

design used in the study was *cross sectional*. Population is all families. The sample size was 168 respondents usingtechniques Purposive Sampling. Independent variable research is behavior. The dependent variable is a free wiggle number. Data was collected using a questionnaire, then the data were analyzed using thetest *Spearman Rho,* with a significance level of $\alpha \leq 0.05$.

Results

Table 1. Distribution of Frequency Characteristics of Respondents by Gender to respondents in Paleleh Village, Paleleh District, Buol District, Central Sulawesi Province on July 17 to August 17, 2018 (n = 168)

No	Gender	Frequency	Percentage
1	Male	76	45.2
2	Women	92	54.8
	Total	**168**	**100**

The results of the study showed that most of the respondents were female as many as 92 respondents (54.8%).

Table 2. Distribution of Frequency of Characteristics of Respondents by Age on respondents in Paleleh Village, Paleleh District, Buol District, Central Sulawesi Province on 17 July-17 August 2018 (n = 168)

No	Age	Frequency	Percentage
1	<25 years	11	6.5
2	25-35 year	62	36.9
3	> 35 years	95	56.5
	Total	**168**	**100**

The results of the study showed that most of the respondents aged> 35 years were 95 respondents (56.5%).

Table 3. Distribution of Frequency Characteristics Respondents based on education on respondents in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on July 17-August 17 2018 (n = 168)

No	Age	Frequency	Percentage
1	SD	13	7.7
2	School	55	32,7
3	SMA	92	54.8
4	PT	8	4.8
	Total	**168**	**100**

The results of the study showed that most respondents had high school education as many as 92 respondents (54.8%)

Table 4. Distribution of Frequency Characteristics of Respondents based on Employment on respondents in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on July 17-August 17 2018 (n = 168)

No	Job	Frequency	Percentage
1	Private	38	22,6
2	Self Employed	59	35,1
3	Retirees	8	4.8
4	Civil Servants	8	4.8
5	IRT	55	32.7
	Total	**168**	**100**

The results of the study showed that the majority of respondents worked as many as 59 respondents (35.1%).

Table 5. Distribution of Frequency Characteristics Respondents are based on routine activities in the family / community in an effort to eradicate mosquito nests on respondents in the village of Paleleh, Paleleh District, Buol District, Central Sulawesi Province on 17 July-17 August 2018 (n = 168)

No	routine activities in the family / community in efforts to eradicate mosquito breeding	Frequency	Percentage
1	None	136	81.0
2	Ada	32	19.0
	Total	**168**	**100**

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The results of the study showed that more than half of the respondents had no routine activities in the family / community in an effort to eradicate mosquito nests by 136 respondents (81%).

Table 6. Frequency Distribution of Respondents based on mosquito nest eradication behavior on respondents in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on July 17 - August 17, 2018 (n = 168)

No	Mosquito nest eradication behavior	**Frequency**	**Percentage**
1	Less	30	17.9
2	Enough	106	63,1
3	Good	32	19,0
	Total	**168**	**100**

The results of the study showed that most respondents had sufficient mosquito nest eradication behavior as many as 106 respondents (63.1%).

Table 7. Respondent Frequency Distribution based on larvae presence in respondents in Paleleh Village, Paleleh District, Buol District, Central Sulawesi Province on 17 July-17 August 2018 (n = 168)

No	Numbers Free FlickingFlick-	**Frequency**	**Percentage**
1	Nofree	30	17.9
2	Free jentik	138	82.1
	Total	**168**	**100**

The results showed that more than half of the respondents had 138 larvae free of charge (82.1%),

Table 8. Cross tabulation between sexes with larvae in respondents in Paleleh village, Paleleh district, Buol province Central Sulawesi on 17 July - 17 August 2018 (n = 168)

Gender	Existence_File			
	Not larva		free Flicking	
	∑	%	∑	%
Male	12	7.1	64	38.1
Female	18	10.7	74	44
Total	**30**	**17.9**	**138**	**82.1**

The results of the study showed that at most 74 respondents (74%) had female larvae who were free of larvae.

Table 9. Cross Tabulation between Gender and Mosquito Nest Eradication Behavior in Respondents in Paleleh Village, Paleleh District, Buol District, Central Central Sulawesi Province on 17 July - 17 August 2018 (n = 168)

Gender	Behavior					
	Less		Enough		Good	
	∑	%	∑	%	∑	%
Men	12	7.1	52	31	12	7.1
Women	18	10.7	54	32.1	20	11.9
Total	30	17.9	106	63.1	32	19

The results of the study showed that most respondents had female gender with Adequate mosquito nest eradication behavior was 54 respondents (32.1%).

Table 10. Cross tabulation between age and larvae in respondent in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on 17 July - 17 August 2018 (n = 168)

Age	Number larva			
	free Not larva		free Flicking	
	∑	%	∑	%
<25 year	2	1.2	9	5.4
25-35 years	9	5.4	53	31.5
> 35 years	19	11.3	76	45.2
Total	30	17.9	138	82.1

The results of the study found that most respondents had ages > 35 years with free larvae as many as 76 respondents (45.2%)

Table 11. Cross Tabulation between age and behavior of mosquito eradication in the sub-district village respondents paleleh paleleh Buol Central Sulawesi province on 17th July-August 17, 2018 (n = 168)

Age	Behavior					
	Poor		Fair		Good	
		Σ%		Σ%		Σ%
<25 year	2	1.2	7	4.2	2	1.2
25-35 years	9	5.4	42	25	11	6.5
> 35 years	19	11.3	57	33.9	19	11.

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						3
Total	30	17.9	106	63, 1	32	19

The results of the study showed that most respondents aged> 35 years with adequate mosquito nest eradication behavior as many as 57 respondents (33.9%).

Table 12. Cross tabulation between education and larvae in respondents in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on 17 July - 17 August 2018 (n = 168)

Education	Number free larva			
	Not free larva		Free larvae	
	∑	%	∑	%
SD	0	0	13	7.7
SMP	13	7.7	42	25
SMA	17	10.1	75	44.6
PT	0	0	8	4.8
Total	30	17.9	138	82.1

The results of the study showed that most respondents had high school education free of flirting 75 respondents (44.6%).

Table 16. Cross Tabulation between Education with mosquito eradication behavior of the respondents in the sub-district village paleleh paleleh Buol Central Sulawesi province on 17th July- August 17, 2018 (n = 168)

Age	Behavior					
	Poor		Fair		Good	
		Σ%		Σ%		Σ%
SD	0	0	11	6.5	2	1.2
SMP	13	7.7	30	17.9	12	7.1
SMA	17	10.1	58	34.5	17	10.1
PT	0	0	7	4.2	1	0.6
Total	30	17, 9	106	63,1	32	19

The results of the study showed that most respondents had high school education with sufficient mosquito breeding behavior as many as 58 respondents (34.5%).

Table 13. Cross Tabulation between Occupations and Flirth Existence of respondents in Paleleh Village, Paleleh District, Buol District, Central Sulawesi Province on July 17 - August 17, 2018 (n = 168)

Job	Figures			
	free of larvae		Free of larvae Free larvae	
	∑	%	∑	%
Private	6	3.6	32	19
Self Employed	10	6	49	29.2
Retired	1	0.6	7	4.2
PNS	0	0	8	4.8
IRT	13	7.7	42	25
Total	30	17.9	138	82.1

2. Cross Tabulation between Variables

Table 14. Cross Tabulation The larvae nesting eradication behavior in respondents in Paleleh village, Paleleh District, Buol District, Central Sulawesi Province on July 17-August 17 2018 (n = 168)

Behavior	NumberFlicking-free			
	Not free of flicking		Flick-free	
	∑	%	∑	%
Less	30	17.9	0	0
Enough	0	0	106	63.1
Good	0	0	32	19
Total	30	17.9	138	82.1

The results of the study found that most respondents have sufficient mosquito nest eradication behavior freely larvae of 106 respondents (63.1%).

Table 15.Test Results

Spearman's rho	*CorrelationCoefficient*	*N*
0,000	0.773	168

The results of the statistical test obtained p = 0,000 with a = 0.05, which means that H0 is rejected and H1 is accepted so that it can be interpreted as having a significant relationship to the mosquito nest eradication variable with Numbers flick free, with a correlation coefficient of 0.773 which means having a strong relationship.

Discussion

Based on the results of the research results, it was found that most respondents had free larvae, this indicates that many respondents who had been free of larvae indicated that efforts in eradicating private households had been carried out well. But there are still some families that are not free of larvae, this can threaten the family of dengue fever outbreaks. Based on observations, many families have

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not taken precautions in an effort to prevent mosquito larvae from developing around the home environment that threatens the family. Community participation or cadres need to be involved in fixing this, as well as health workers in the area.

The results of the study showed that most respondents had enough mosquito nest eradication behavior with 106 larvae (63.1%). The statistical test results obtained p = 0,000 with a = 0,05, which means that H0 is rejected and H1 is accepted so that it can be interpreted to have a significant relationship to the mosquito nest eradication variable with larvae, with a correlation coefficient of 0.773 which means having a strong relationship.

Prevention can be done by draining Tandon. A good drain method is to brush or scrub the inner walls of the water reservoir flat, flat and up and down. That is to say that the mosquito eggs that attach can be released and not hatch larva. Cover the reservoir closely so that the stored water has no larvae (barrels, drums, etc.) Cover the reservoir so that it is not filled with water (Jaya, 2013). For example bamboo pillars can be covered with sand or soil to the brim. Whereas for tires, batteries, etc., it can be covered with plastic so that it does not concede water or put in a sack to prevent mosquitoes from being touched. Used goods that can hold water and will not be used again should be removed easily by burying it into the ground (Jaya, 2013). Examples of used items that need to be buried: glass, buckets, broken plates, cans etc. How to avoid mosquito bites Using mosquito nets when sleeping Use drugs that can prevent mosquito bites, such as insect repellent. Avoid the habit of hanging clothes in the room. Seek lighting and good ventilation. Repair damaged channels and gutters. Spread larvacide (larvae powder) in a place that is difficult to drain. Plant mosquito repellent plants, such as lavender (Jaya, 2013).

Based on the results of the study, it was found that most respondents had enough mosquito breeding behavior to flick freely. There is a significant relationship to the variable of eradicating mosquito nest behavior in the presence of larvae, by having a strong relationship. This shows that eradication behaviors need to be improved for prevention efforts related to the existence of mosquito larvae. Environmental factors with the large number of puddles of clean water that are a hotbed for mosquitoes, high population mobility and rapid transportation between regions, causing frequent occurrence of dengue hemorrhagic fever. Effective prevention-prevention in eradicating mosquito larvae. Healthy conditions can be achieved by changing behavior from unhealthy to healthy behavior, and creating a healthy environment in the household. Therefore health needs to be maintained, maintained and improved by every member of the household and struggled by all parties as a whole.

Conclusion

1. The results of the study found that most respondents had sufficient mosquito nest eradication behavior as many as 106 respondents (63.1%).
2. The results showed that more than half of the respondents had 138 larvae free of charge (82.1%),
3. the statistical test results obtained p = 0,000 with a = 0.05, which means that H0 is rejected and H1 is accepted so that it can be interpreted to have a significant relationship to Behavior eradication of mosquito larvae nesting variable, with a correlation coefficient of 0.773 which means having a strong relationship.

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