

Effect Of Community Activities In Control Of Vectors Of *Aedes Aegypti* Mosquito (4M) Towards Jentic Existence (CI) In Tlumpu And Tanjungsari Village Sukorejo Sub District Blitar City

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ABSTRACT

The increase and spread of dengue cases can be caused by changes in population density and mobility, climate change and surrounding environmental conditions. Data from the Ministry of Health shows an increase in dengue fever cases throughout Indonesia. DHF can be controlled by mosquito nest eradication (PSN) activities. The purpose of this study was to determine the effect of community activity in *Aedes Aegypti* (4M) mosquito vector control on larvae (CI) in Tlumpu Village and Tanjungsari Village, Sukorejo District, Blitar City. Analytical survey research method with cross sectional approach. The study population consisted of all family heads in Tlumpu Village totaling 1,252 families and Tanjungsari Village totaling 2,792 households. The sample in this study amounted to 93 families in the village of Tlumpu and 97 families in the village of Tanjungsari. The sampling technique used is Proportional Random Sampling. The free variable is community activity in controlling the *Aedes Aegypti* mosquito vector while the bound variable is larvae. Data was collected by questionnaire and tested by the Logistic Regression test. The results showed that the majority of respondents had a level of activity with sufficient categories, namely 59 respondents (60.8%) and most of the respondents in Tanjungsari Village had houses that were not larvae, 58 respondents (59.8%) out of a total of 97 respondents. Tlumpu village shows that the majority of respondents had a level of activity with sufficient categories of 57 respondents (61.31%) and according to observations of larva's existence showed that some respondents had houses with non-larva free categories, namely 52 respondents (55.9%) out of a total of 93 respondents . There is an influence of community activity in controlling the *Aedes Aegypti* mosquito vector against larvae in Tanjungsari Village and Tlumpu Village, Blitar City It is expected to submit inputs, criticisms and suggestions regarding various matters related to the activity of the community in controlling mosquito vectors to the existence of larvae so that improvements can be made.

Keywords : Community Activeness, Vector Control, Larval Existence

INTRODUCTION

Fever Dengue Hemorrhagic Fever is disease Which due to by dengue virus. DHF is transmitted through the bite of the *Aedes Aegypti* mosquito (infodatin, 2016). DHF can appear throughout the year and can attack all age

groups and is closely related to environmental conditions and community behavior (Ministry of Health of the Republic of Indonesia, 2016).

According to data from WHO (2015) it is estimated there are 390 million case dengue infection every years in the world . Moment This more of the 100 countries that are region endemic dengue fever, Wrong the only one region Asia Southeast. The Incidence Rate (IR) of DHF in Indonesia in 2012 was 37.11 per 100,000 population, increasing to 45.85 per 100,000 population, in contrast to the distribution of districts/cities affected by DHF cases, where in 2012 it was 83.9% increasing to 84.74% in 2014 (Ministry of Health of the Republic of Indonesia, 2016). The number of case fever dengue hemorrhagic disease in the city Blitar Keep going go on . Service Health City Blitar take notes Already There were 296 cases of dengue fever in Blitar City . Amount the case Keep going experience improvement . Findings 296 the dengue fever case spread across three sub-district in Blitar City . Findings the most cases of dengue fever in the District Sukorejo Blitar City consists of 7 sub-districts and only with a total of 1 21 cases (Blitar City Health Office, 2019). There is no vaccine/cure for dengue fever, so the only way to control it is by maintaining environmental cleanliness so that it does not become a breeding ground for *Aedes Aegypti* mosquitoes , in the form of mosquito nest eradication (PSN), fogging , abatization, and implementation of 4M (Draining, Covering, Burying and Monitoring Larvae Once a Week).

Blitar City Health Department at the moment This currently intensify program one House One mosquito larvae For control distribution fever bleeding . Besides that , the city government Blitar Also move apparatus civil state (ASN), employees private And society to do Work devotion in the environment each m inima l each a week once . The activities carried out by the Blitar City government are a form of integrated vector control in preventing Dengue Fever in Blitar City.

The success of PSN activities can be measured by the increase in the Larvae Free Rate (ABJ) obtained from periodic larval examinations (PJB). So that the area settlement safe from threat dengue fever disease then ABJ must attempted continously until time not determined , with mosquito nest eradication activities sustainable . According to the Larvae Free Figure in Sukorejo District, there are 5 sub-districts and 2 sub-districts with the category of not free from larvae. The category of free from larvae with a percentage of $\geq 95\%$ in Sukorejo District in January 2019, namely Pakunden Village 98.16%, Karang Sari 96.53%, Sukorejo 97.47%, Blitar 95.42%, Tlumpu 98.33% and the category of not free from larvae with a percentage of $<95\%$ in Tanjungsari Village 89.11% and Turi 94.33% (Sukorejo Health Center, 2019)

Based on the coverage of ABJ in the working area of Sukorejo Health Center, I as a researcher want to know the influence of community activity with the presence of larvae in controlling the *Aedes Aegypti* mosquito vector in Tlumpu and Tanjungsari Villages, Sukorejo District, Blitar City.

METHODS

Research Design

Types of research used in study This is a quantitative research with analytical survey research method to influence activity public in control vector mosquito *Aedes Aegypti* regarding the presence of larvae in the Village Tlumpu And The Tanjung Subdistrict Sukorejo, Blitar City . Type of study used in research This is studies Cross sectional . The statistical test used in this study is the Logistic Regression test at a deviation level of 5% ($\alpha=0.05$)

The population in this study was all families in Tlumpu Village 1,252 families and Tanjungsari Village 2,792 families. Using the Proportional Random Sampling technique, a sample of 93 families was obtained in Tlumpu Village and 97 families in Tanjungsari Village.

The dependent variable in this study is the presence of larvae (CI), while the independent variable used is community activity in controlling the *Aedes Aegypti* mosquito vector (4M).

RESULT

Activeness in controlling vectors in Tanjungsari Village

Table 1 Activity in Controlling *Aedes Aegypti* Mosquito Vectors in Tanjungsari Village, Work Area of UPTD Health Center, Sukorejo District, Blitar City in 2019

No	Activity	F	%
1	Not enough	11	11.3
2	Enough	59	60.8
3	Good	27	27.8
	Total	97	100

Based on table 1 , it is known that most respondents are active in controlling the *Aedes Aegypti* mosquito vector with a sufficient category, namely 59 respondents (60.8%) of the total 97 respondents.

The Presence of Larvae in Tanjungsari Village

Table 2 Presence of Larvae in Tanjungsari Village, Work Area of UPTD Health Center, Sukorejo District, Blitar City in 2019

No	The existence of larvae	F	%
1	No Free	58	59.8
2	Free	39	40.2
	Total	97	100

Based on table 2 , it is known that the majority of respondents have houses that are not free of mosquito larvae, namely 58 respondents (59.8%) of the total 97 respondents.

Activeness in Vector Control in Tlumpu Village

Table 3 Activity in Control of Aedes Aegypti Mosquito Vectors in Tlumpu Village, Work Area of UPTD Health Center, Sukorejo District, Blitar City in 2019

No	Activity	F	%
1	Not enough	11	11.8
2	Enough	57	61.3
3	Good	25	26.9
	Total	93	100

Based on table 3 , it is known that the majority of respondents are active in vector control with a sufficient category, namely 57 respondents (61.31%) of the total 93 respondents.

The Presence of Larvae in Tlumpu Village

Table 4 The Presence of Larvae in Tlumpu Village, Work Area of UPTD Health Center, Sukorejo District, Blitar City in 2019

No	The existence of larvae	F	%
1	No Free	52	55.9
2	Free	41	44.1
	Total	93	100

Based on table 4, it is known that the majority of respondents have a mosquito-free number with a non-free category, namely 52 respondents (55.9%) of the total 93 respondents.

DISCUSSION

A. Community Activeness in Vector Control

Based on the research results, it is known that most respondents in Tanjungsari Village are active in controlling the Aedes Aegypti mosquito vector with a sufficient category, namely 59 respondents (60.8%) of a total of 97 respondents and in Tlumpu Village most respondents are active in controlling the vector with a sufficient category, namely 57 respondents (61.31%) of a total of 93 respondents.

This activity is manifested in activities or actions of carrying out tasks and responsibilities both physically and non-physically (Noer 2009). Furthermore (Sarwono, 1997 in Noer 2009) states that active behavior can be seen while

passive behavior is not visible such as knowledge, perception and motivation in relationships with others. According to Green in Notoatmodjo (2012), activity is influenced by 3 factors, namely predisposition factors, enabling factors, and reinforcing factors. Predisposition factors are manifested in knowledge, attitudes, beliefs, convictions, values and so on. Respondent activity is also influenced by factors related to the respondent's condition, including age, gender, education and occupation.

The results of the study showed that most respondents were >35 years old. In this age group, a person will think and act including being active in eradicating the *aedes aegypti* vector. Based on gender, most respondents were male who worked outside the home so that vector eradication which is a household activity will be more the wife's responsibility. Most respondents had a high school education which is a middle education group, this affects the knowledge they have. Limited knowledge about dengue fever will affect attitudes and behavior in eradicating dengue mosquitoes. Most respondents' jobs are private which has limited time to do activities outside their workplace.

B. The existence of larvae

Based on the research results, it is known that most respondents in Tanjungsari Village have houses that are not free of mosquito larvae, namely 58 respondents (59.8%) of the total 97 respondents. Likewise, in Tlumpu Village, most respondents have houses in the non-free category, namely 52 respondents (55.9%) of the total 93 respondents.

Aedes aegypti mosquitoes in a place can be known by means of a larvae survey measured using the ABJ index and Container Index (CI). According to Purnama, Sang Gede (2015) the most efficient and effective DHF Vector Control is by breaking the chain of transmission through eradication of larvae. Eradication of Dengue Fever Mosquito Nests (PSN-DBD) in the form of 4 M activities. To obtain the expected results, these 4 M activities must be carried out widely/simultaneously and continuously/continuously.

The results of the study showed that most houses were not free of larvae. This can be seen from the results of the mosquito nest examination carried out in each house. In the results of the drum examination, some houses were found to have larvae. The drums that were examined generally hold water so that they become a breeding ground for *Aedes* mosquitoes. *Aegypti*, besides that during the examination The bathroom still contained larvae even though respondents said that the bathroom was drained at least once a week. The breeding of *Aedes* mosquitoes *Aegypti* from egg to adult mosquito is 7 days, if the respondent said that if the draining was done once a week, it would be impossible for there to be larvae in the bathtub.

C. The influence of community activity in controlling the *Aedes Aegypti* mosquito vector (4M) on the presence of larvae (CI) in the work area of the Sukorejo Health Center, Blitar City

There is an Influence of Community Activeness in Controlling the *Aedes Aegypti* Mosquito Vector on the Existence of Larvae in the Work Area of the Sukorejo Health Center, Blitar City, as shown by the analysis results (p value $0.003 < 0.05$, so H_0 is rejected).

According to Yulian Taviv (2010) the implementation of Mosquito Nest Eradication (PSN) activities is the activity that has the most influence on the presence of mosquito larvae in water reservoirs because it is directly related. Someone who practices PSN DBD means that they have carried out preventive practices which are aspects of health maintenance behavior and implementation of environmental health behavior (Soekidjo Notoatmodjo, 2012) Furthermore, according to Donatus Tefa (2017) stated that there is an influence of the impact of the role of the community in eradicating mosquitoes on the number of free larvae at the Tarus Village Health Center, Kuang Tengah District, Kupang Regency, NTT Province.

Periodic Larvae Inspection is conducted at least once a week to see the success of DBD PSN both in residents' homes and public places (Ministry of Health, 2011). PJB conducted once a week can affect ABJ (Luthfiana, et al. 2012).

Community activity can be categorized as good, sufficient and lacking. The results of the study showed that most community activity was in the sufficient category and there were also respondents with activity in the lacking category. According to the results of observations based on the container index, it shows that communities in the less active category have a high density of mosquito larvae, this indicates a high chance of dengue fever cases. The government policy stipulates the 1 House 1 Mosquito Net Movement (G1R1J) as an effort to eradicate mosquito nests that must be carried out by the community. The results of the study showed that the mosquito-free rate was still 40.1% in Tanjungsari Village and 44.1% in Tlumpu Village. This proves that the community has not fully implemented G1R1J.

CONCLUSION

1. Most of the respondents in Tanjungsari Village are active in controlling the *Aedes Aegypti* mosquito vector with a sufficient category, namely 59 respondents (60.8%), as well as in Tlumpu Village, most of the respondents are also active in controlling the vector with a sufficient category, namely 57 respondents (61.31%).
2. Most of the respondents in Tanjungsari Village have houses that are not free of mosquito larvae, namely 58 respondents (59.8%) and the same is true in

Plumpu Village, most of the respondents with the non-free category, namely 52 respondents (55.9%)

3. There is an influence of community activity in controlling the *Aedes Aegypti* mosquito vector on larvae-free rates in Plumpu Village and Tanjungsari Village in the Sukorejo Community Health Center Working Area, Blitar City (p value $0.003 < 0.05$ so H_0 is rejected).

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