The Influence of Knowledge, Motivation, and Attitude Toward The Behavior of Housewife to Eradicate of Aedes Aegepty Mosquito Nest (PSN)

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Abstract

Semarang city is the region with the highest dengue hemorrhagic fever cases in central java province. Eradication of aedes aegepty mosquito nest is one of the efforts considered appropriate in the prevention and eradication of dengue hemorrhagic fever. The active participation of housewives is necessary, the participation of housewives depends on the knowledge, motivation, and attitudes of the community towards the disease and its prevention. The purpose of this research is to analyze the influence of knowledge, motivation, and attitude toward the behavior of housewife to eradicate aedes aegepty mosquito nest (PSN). This research methos is quantitative with cross sectional design.Population of all housewives in Bulustalan Village Semarang, the sample amounted to 90 samples using purposive sampling technique. The results showed that there was an influence between knowledge on the behavior of mosquito nest eradication (p = 0,000). There is an influence between motivation to the behavior of mosquito nest eradication value (p = 0.012). There is an influence between attitudes toward the behavior of mosquito nest eradication value (p = 0.000). Logistic regression results showed that the more dominant knowledge influenced the behavior of mosquito nest eradication (p = 0,008) and Exp (B) value 4,365. The conclusion of housewife who has knowledge, motivation, and good attitude affect the behavior of housewife to eradicate aedes aegepty mosquito nest (PSN)

INTRODUCTION

Dengue fever is an acute illness caused by a viral infection carried by Ae.aegypti mosquitoes and Aedes albopictus females that commonly attack in summer and rainy season (Ayun, 2017). Prevention of dengue virus transmission depends on mosquito vector control, in most dengue endemic countries carrying out an anti-dengue campaign involving media (Wong & Abubakar, 2013). To achieve the best results in dengue hemorrhagic fever control, the active participation of housewives is essential for an organized vector control strategy. The participation of housewives depends on the knowledge, motivation, and attitudes of the community itself on the disease and its prevention (Joseph et al, 2015).

Indonesia as one of the tropical countries in the world with high enough air humidity triggers the breeding of mosquitoes such as aedes aegypti which is one of the dengue hemorrhagic fever vectors. From 1986 to 2009, WHO recorded Indonesia as the country with the highest dengue hemorrhagic fever case in Southeast Asia and the second highest in the world after Thailand (Lontoh, 2016). In Indonesia in 2013 with the number of dengue hemorrhagic fever patients as many as 112.511 people and total of cases died as many as 871 people, in 2014 as many as 71.668 people and 641 of them died, in 2015 as many as 129.179 people and 1.240 of them died, in 2016 201.885 people and 1.585 of them died, and in the year 2017 as many as 59.047 people and 444 of them died (Depkes RI, 2018).

The eradication of the aedes aegepty mosquito nest (PSN) is one of the efforts that is considered appropriate in the prevention and eradication of dengue hemorrhagic fever, because the eradication of aedes aegepty mosquito nest (PSN) can break the transmission chain by controlling the vector (Asniati et al, 2008).

Eradication of aedes aegypti mosquito nest (PSN) is a shared responsibility of all elements of society. One of the smallest elements is the family level. In the family, housewives positioned as care giver means they are in charge of guarding, caring for, treating family members when sick. Mothers are part of the community that has a major contribution and influence to the family and the environment itself, whereas with the dual task of housewives it is not easy for them to prevent the disease, so the dengue fever prevention measures are still not optimal and the awareness is still lacking (Dewi et al, 2017).

Good housewife behavior will have a good impact on health, and vice versa. Research conducted by Hardayati (2011), states that community behavior will greatly determine the level of health of the community itself. This is evidenced from the results of research that still found about 43% of people Pekanbaru City behave less well in the PSN-DBD.

Many factors influence the eradication behavior of aedes aegypti mosquito nest (PSN) seen from previous research. This is in accordance with research R.A. Wigati (2012), which states that the knowledge factor has a significant relationship to the behavior of the community in the use of mosquito repellent in Kutowinangun where p value 0,003 (p <0,05).

According to research of Impartina (2014), the result of statistical analysis shows that motivation has significant correlation to DHF disease prevention behavior in Karangcangkring village Kedungpring Lamongan, with p value = 0,005.

Another factor that affects housewives in eradicating aedes aegepty mosquitoes nest (PSN) is the attitude. This is in accordance with Mohamad et al (2014) study, in Malaysia showing there is a relationship between attitude (p = 0,004) with practice of eradicating aedes aegepty mosquito nest (PSN). So it can be concluded that attitude is a factor that plays a role in health behavior.

Preliminary study results, various efforts have been made to overcome dengue hemorrhagic fever problems in Bulustalan region such as the implementation of epidemiological investigation. In the Bulustalan area there is a family group that diligently eradicates aedes aegepty mosquito nest (PSN). Conversely, there

are family groups that are not diligent in eradicating aedes aegepty mosquito nest (PSN), so the value of larvae free number (ABJ) is low.

Based on the above phenomenon, the authors are interested to conduct research on "the influence of knowledge, motivation, and attitude toward the behavior of housewife to eradicate mosquito aedes aegepty nest (PSN)."

METHODS

This research is a type of quantitative research using cross sectional design. The population in this study were all housewives in Bulustalan District Semarang. The sample was 90 samples by using purposive sampling technique. The research variables include knowledge, motivation, attitude and behavior of eradicating aedes aegepty mosquito nest (PSN).

The research was conducted in February 2018 in Bulustalan District Semarang. The data were collected by using questionnaires. The data analysis used frequency distribution for univariate analysis, using spearman rank for bivariate analysis and using multiple logistic regression for multivariate analysis.

RESULTS AND DISCUSSION

This study aims to analyze the influence of knowledge, motivation, and attitudes on the behavior of housewives to eradicate aedes aegepty mosquito nest (PSN). The results will be described as follows:

Univariate Analysis
Knowledge

Table 1. Frequency Distribution Based on Knowledge

Knowledge	Total	Percentage
Low	38	42.2
Medium	33	36.7
Good	19	21.1
Total	90	100

Based on table 1. it is known that knowledge of respondents mostly with low

knowledge category is amounted to 38 respondents (42,2%), while for the category of medium knowledge that is amounted to 33 respondents (36,7%) and for the category of good knowledge that amounted to 19 respondents (21,1%). Most respondents do not know correctly about the causes and symptoms of dengue hemorrhagic fever, the characteristics and aedes aegepty mosquito cycles, and procedures for eradicating mosquito breeding, it can be caused because there are still many respondents who do not have good information about mosquito dengue hemorrhagic fever.

This is because the mother's knowledge is influenced by various factors, one of which is information from the media information. Knowledge of a person is influenced by several factors such as information resources, environment, and education. The more people get information both from the family environment, neighbors, print media and health care workers can affect a person's level of knowledge (Dyah *et al*, 2017).

Knowledge or awareness is vital in the prevention and control of dengue fever. Low knowledge of dengue hemorrhagic fever is a major risk factor in the prevention of dengue fever. A recent study found that low knowledge of signs and symptoms, transmission of dengue fever, and prevention practices may increase the spread of dengue among Malaysians (Chandren *et al*, 2015).

Motivation

Table 2. Frequency Distribution Based on Motivation

Motivation	Total	Percentage
Very Low	10	11.1
Low	33	36.7
High	34	37.8
Very High	13	14.4
Total	90	100

Based on Table 2. it is known that most of respondents have high motivation that is 34 respondents (37,8%), for low motivation that is 33 respondents (36,7%), while for motivation is

very low that is 10 respondents (11,1%) and for very high motivation 13 respondents (14,4%). Respondents mostly get encouragement from outside and inside the respondent to eradicate mosquito breeding. The high motivation of respondents to the prevention and prevention of dengue fever will reduce the risk of dengue hemorrhagic disease.

This is in line with the opinion of Indra (2016), that someone who has bad motivation tends to behave badly, especially in maintaining health, and vice versa, people with good motivation tend to behave well in maintaining health.

Establishing good behavior requires motivation in a person. Motivation is said to be strong if in a person has a positive desire to have high expectations and have high confidence that he will succeed in achieving goals and desires (Impartina, 2014). The presence of high motivation can provide energy in a person to make eradication of mosquito nests better (Puspitasari, 2015).

Attitude

Table 3. Frequency Distribution Based on Attitude

Attitude	Total	Percentage
Very Low	14	15.6
Low	20	22.2
High	34	37.8
Very High	22	24
Total	90	100

Based on table 3. it is known that most respondents have high attitudes that is a number of 34 respondents (37.8%), for low attitudes are a number of 20 respondents (22.2%), while for very low attitude that is 14 respondents (15.6%) and for the very high attitude of 22 respondents (24%). Respondents mostly have a good attitude by closing the water reservoir, using abate powder, cleaning the shelter before the larvae, doing the PSN for the family to avoid mosquito bites, and if there are containers inundated directly do 3M.

Attitude is an organization of opinion, a person's beliefs about objects or situations are relatively steady, accompanied by a certain feeling and provide a basis for the person to make a response or behave in a particular way he chose. Attitude is a reaction or a person's response to a stimulus or object it receives. Attitudes contained in the individual will give the color or style of behavior or the actions of the individual concerned (Ahmat Sigit, 2014).

Behavior

Table 4. Frequency Distribution Based on Behavior

Behavior	Total	Percentage
Very Low	9	10
Low	27	30
High	38	42.2
Very High	16	17.8
Total	90	100

Based on Table 4. it is known that most of the respondents have high behavior that is 38 respondents (42,2%), for low behavior that is 27 respondents (30%), while for very low behavior that is 9 respondents (10%) and for behavior very high number of 16 respondents (17,8%). Respondents mostly have good behavior by closing water reservoirs, using abate powder, cleaning shelters before larvae, doing PSN to avoid family mosquito bites, and if there is a container inundated directly do 3M.

Behavior is any activity or activity of a person either observable or unobservable in relation to the maintenance and improvement of health, including the prevention of health problems (Alma, 2014).

Eradication of aedes aegepty mosquito nest (PSN) is done by all parties in the community. PSN with 3 M will be more effective if done simultaneously, routinely, and continuously by looking at the potential that is in the community (Laksmono et al, 2008).

Behavior eradication of aedes aegepty mosquitoes (PSN) is the most effective, efficient, and economical way to eradicate dengue hemorrhagic fever vector since dengue fever drug and vaccine has not been found (Stoler et al, 2011).

Bivariate Analysis

The Influence of Knowledge on Behavior Eradication of Aedes Aegypti Mosquitoes Nest (PSN)

Table 5. Cross-tabulation Knowledge of Behavior

Frequency Of Respondents		Behavior				Total		Correlation Coeficient	p-value
		Low		High					
		N	%	N	%	N	%		
Knowledge	Low	25	65.8	13	34.2	38	100		
	High	11	21.2	41	78.8	52	100	0.410	0.000
Total		36	40	54	60	90	100		

Based on the spearman rank correlation test table with the above merger alternative is obtained p-value 0.000, because p-value 0.000 <α (0,05) Ha is accepted and it can be concluded that there is influence of knowledge on housewife behavior doing eradication of nest mosquito aedes aegepty (PSN) in Bulustalan Semarang. This indicates that the higher the level of knowledge, the higher the behavior of housewives to eradicate aedes aegepty mosquito nest (PSN).

The existence of these effects can be explained that knowledge or cognitive behavior is a domain that is very important in shaping one's actions. In order for the community to have less knowledge then the local government has an important role in facilitating the community, the effort can be done by giving counseling about the dangers of Dengue Hemorrhagic Fever (Waliana, 2014). Health education can to increase knowledge and awareness of the community to promote the prevention of dengue hemorrhagic fever (Singh, 2013).

Having good knowledge will influence the mindset to obtain information related to the prevention of DHF. Thus, with the knowledge enhancement program tends to have an impact to reduce the incidence of dengue fever (Willy *et al*, 2017).

Knowledge is a predisposing factor to achieving positive behavior. Knowledge of a particular object is very important for behavior change which is a very complex process. Knowledge-based behavior will be better than behavior that is not based on knowledge. WHO also reveals that a person behaves certain caused by thoughts and feelings in the form of knowledge, perceptions, attitudes, beliefs, and judgments of a person against the object (Supriyanto, 2011). Knowledge will encourage the participative role of local communities in the management of integrated vector control (Mburu *et al.*, 2017).

This is in line with result of research of Isa *et al* (2013), obtained result that there is correlation between dengue knowledge level with dengue prevention behavior with value r = 0326 and p value 0.01 or p <0,05.

The Influence of Motivation on Behavior Eradication of Aedes Aegypti Mosquitoes Nest (PSN)

Table 6. Cross-tabulation Motivation of Behavior

Frequency Of Respondents		Behavior				Total		Correlation Coeficient	p-value
		Low		High					
		N	%	N	%	N	%		
Motivation	Low	23	53.5	20	46.5	43	100		
	High	13	27.7	34	72.3	47	100	0.255	0.012
Total		36	40	54	60	90	100		

Based on the spearman rank correlation test table with the above merger alternative result obtained p-value 0,012, because p-value 0,012 <α (0,05) hence accepted and can be concluded that there is influence of motivation to behavior of housewife doing eradication of nest mosquito aedes aegepty (PSN) in Bulustalan Semarang. This shows that the higher the level of motivation, the higher the behavior of housewives to eradicate aedes aegepty mosquito nest (PSN).

The existence of these influences can be explained that motivation is said as energy to generate an inner drive (drive arousal). Motivation is a condition that moves a person to be able to achieve the purpose of his motives, with a high motivation can provide energy in a person

to make eradication of mosquito nest better (Puspitasari, 2015).

Motivation is a driving factor for someone to act, the stronger the impulse is, the easier it is for a person to move. Lack of motivation of a person or society on the prevention and prevention of dengue fever will cause the greater the possibility of dengue hemorrhagic disease (Nian *et al*, 2016).

Motivation of individuals or groups is very influential to do something, thus a positive motivation can motivate individuals in conducting eradication activities of mosquito larvae so that the incidence of DHF can be reduced. The emergence of one's motivation is influenced by various factors. The high positive motivation of the community about prevention of DHF, the higher the awareness to participate in preventing DHF where in this case the government also acts as facilitator and motivator (Merry *et al*, 2012).

This is in line with the results of Merry *et al* (2012) research, there is a motivational relationship with the mother's behavior in PSN DBD in Pegirian Village with p value 0,000 or p <0,05.

The Influence of Attitude on Behavior Eradication of Aedes Aegypti Mosquitoes Nest (PSN)

Table 7. Cross-tabulation Attitude of Behavior

Frequency Of Respondents		Behavior				Total		Correlation Coeficient	p-value
		Low		High					
		N	%	N	%	N	%		
Attitude	Low	23	67.6	11	32.4	34	100		
	High	13	23.2	43	76.8	56	100	0.403	0,000
Total		36	40	54	60	90	100		

Based on the spearman rank correlation test table with the alternative of merging the above cells obtained p-value 0.000, because p-value 0,000 <α (0,05) Ha is accepted and it can be concluded that there is influence attitude toward housewife behavior eradicate nest mosquito aedes aegepty (PSN) in Bulustalan Semarang. This indicates that the higher the attitude, the higher the behavior of housewife to eradicate the auges mosquito aegepty (PSN).

The existence of this influence can be explained that one of the main components in attitude is the tendency to act. This can be applied to this research, where the supportive attitude about DHF incidence can increase the tendency to perform dengue fever prevention measures (DHF) which will ultimately have an impact on the decrease of the incidence of dengue hemorrhagic fever (DHF) (Simson, 2017).

A person's attitude will influence the behavioral tendency to act. People who disagree with mosquito nest eradication efforts are more likely to be indifferent to environmental hygiene and the 3M program (draining, closing and burying water reservoirs). Attitude is a closed reaction that can not be seen directly. Attitudes can only be interpreted from visible behaviors. The function of attitude is not yet an act, but is a predisposition of behavior. If the situation allows, then attitude will be realized in the form of action (Purnama, 2013).

This is in line with the results of the study Elsinga *et al* (2017), there is a significant relationship between attitudes on mosquito breeding site control with p value 0.001 or p <0.05.

Multivariate Analysis

Table 8. Multivariate analysis result of variable of knowledge, motivation, and attitude toward housewife behavior to eradicate aedes aegepty mosquito nest (PSN)

Variable		B	P-Value	Exp (B)	95%	
					Lower	Upper
Step 1	Knowledge	1.474	0.008	4.365	1.468	12.982
	Motivation	1.218	0.022	3.381	1.196	9.557
	Attitude	1.397	0.013	4.042	1.336	12.227

Based on table 8. it can be seen that there are three independent variables in this research that is knowledge, motivation, and attitude, from three variables that more dominant variable have influence on housewife behavior to eradicate aedes aegepty mosquito breeding in Bulustalan Semarang that is knowledge with p value 0,008

and Exp (B) 4,365 which means that housewife who has good knowledge have the possibility to behave well in eradicating aedes aegepty mosquito nest (PSN) four times bigger compared with knowledge of housewife that less good.

Knowledge of dengue fever and ways to prevent disease is one of the important aspects of a strategy to improve disease prevention, and to improve education as a method to promote the practice of disease prevention that must be implemented (Mayxay *et al.*, 2013). According to a study by Begonia *et al* (2013), good knowledge of dengue hemorrhagic fever vector prevention practices is one of the better predictors of dengue hemorrhagic fever prevention practices.

According to Benthem *et al* (2002), taking dengue fever prevention measures is higher in people who have knowledge of dengue than people without knowledge of dengue. This suggests that knowledge of the disease may improve taking dengue hemorrhagic fever prevention measures.

Learning what people know and do today in preventing dengue can help us in vector control strategies in the future. Having a good knowledge of the community can reduce mosquito larvae in their homes, reduce adult mosquitoes and reduce dengue related deaths by recognizing warning signs on sick family members (Paz-soldán *et al.*, 2015).

CONCLUSION AND RECOMMENDATION

Based on the results of research and discussion it can be concluded that there is influence of knowledge on the behavior of eradication of mosquito aedes aegepty nest (PSN) with p value = 0.000. There is influence of motivation toward behavior of eradication of mosquito aedes aegepty (PSN) with p value = 0,012. There is influence of attitude toward behavior of eradication of mosquito aedes aegepty (PSN) with p value = 0,000. The more dominant knowledge variable influenced the behavior of eradicating aedes aegepty mosquito nest (PSN) with p value 0,008 and Exp (B) 4,365.

Recommendation to increase knowledge of housewife about dengue hemorrhagic fever continuously and expected to give real support to housewife to be more active in carrying out activities of eradicating aedes aegepty mosquito in the environment, so that environment remain healthy and clean.

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