RELATION BETWEEN KNOWLEDGE AND ATTITUDE REGARDING DHF WITH PSN BEHAVIOR AMONG THE COMMUNITY AROUND THE CAMPUS

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Article Info

Abstract

The city of Semarang as the capital of Central Java province is a DHF endemic city and has a high risk of dengue fever. Based on data from Central Java Provincial Health Office in 2015, DBD IR from 2012 to 2015 has increased. Dengue Hemorrhagic Fever (DHF) in the work area of Puskesmas Sekaran, Gunungpati in 2013 there are 7 cases of DHF patients, the highest number of Dengue fever is in Sukorejo Village with 6 patients then followed by Kelurahan Sekaran with 1 patient. The purpose of this study is to determine the relationship Knowledge and Public Attitudes about DHF with the Behavior Eradication Mosquito Nest (PSN) in the Village Sekaran Gunungpati District Semarang City. This type of research is observational analytics with cross sectional approach. The sample of this research is the community of Village Saving as many as 52 people. The research instrument used questionnaires and observation sheets. Data analysis using chi square test. The result of this research is that there is no correlation between knowledge about dengue behavior toward PSN behavior (p = 0,477) and there is no correlation between public attitudes about DBD on PSN behavior (p = 1,96). Conclusion from this research that there is no relation between knowledge and attitude of society about DBD to behavior of PSN DBD.

Introduction

Dengue Hemorrhagic Fever (DHF) is a desease caused by *Dangue* virus transferred by mosquito bite from *Aedes* genus, particularly *Aedes aegypti (Ae. aegypti)* and can causing mortality if does not seriously taken care of (Fauziah, 2012). The DHF disease is still an Indonesian community health problem since the wide range of infection, number of region or city (Karyanti, 2009; Rosanti, 2017). The infection of DHF could be caused by the factors supporting the transferring from vector to human. The host factor, the dengue virus, the sustainable environment and the vector which is *Aedes aegypti* mosquito are the determined factors of DHF incident (Arunachalam, 2010; Mangguang, 2015). Research result regarding DHF risk factors mentions that it also affected by nutrition factor (Kalayanarooj, 2005; Siyam, 2014).

Republic of Indonesia Ministry of Health (Kemenkes) data shows that in 2015, the number of DHF patients reported are 129,650 cases with mortality rate 1,071 patients (*IR/*

Incident Rate= 50,75 per 100.000 population and CFR/Case Fatality Rate= 0,83%). Compare to 2014 where there was 100,347 case and IR 39.80 so there was an increase in 2015. The target of Kemenkes Strategic Plan (Renstra Kemenkes) for IR of DHF in 2015 was <49 per 100.000 penduduk. So it was not achieved. Based on mortality rate, the highest is in East Java with 283, then Central Java with 255 and East Borneo with 65 (DKK Semarang, 2014).

Based on Central Java Province Health Office in 2015 DHF IR on Central Java Province is 43.01 per 100,000 population, the incident increases nearly three times compare to 2011 which is 15.3 per 100,000 population and City of Semarang is a region/city with third highest IR in the province 93.99 per 100,000 population. Semarang as the capital of Central Java Province is DHF endemic city and has high risk of DHF disease. DHF IR from 2012 to 2015 is increase. From Central Java Province Health Office in 2015 the IR is 93.99 per 100,000 population while in 2012 only 70.9 per 100,000 population.

One of endemic DHF subdistrict on Semarang is Subdistrict Sekaran. It consists of 7 Citizen Association (RW) and 29 Neighborhood Association (RT). The Dengue Hemorrhagic Fever (DHF) incident on Community Health Service Centre (Puskesmas) Sekarang work region is occured every year. The Subdistrict having high DHF case is Sukorejo then Sekaran. Subdistrict Sekaran is a potential DHF region since it highly populated, plenty of mosquito's broods and supported geographic condition.

The most proper way to eliminate DHF vector is known as Behavior Eradication Mosquito Nest/Pemberantasan Sarang Nyamuk (PSN). It is a way to control the vector as one of the effort to prevent the infection of DHF (Sandy, 2017). The PSN campaign is encouraged by the government through Ministry of Health with 3M motto which mean to clean the water reservoir regularly, to close the water containers properly and to burry the waste goods able to be used by mosquito as nest (Arsin, 2004).

The PSN program is joint responsibility of all community element. The community has important role in vector elimination which is main effort to disconnect the infection chain to prevent DHF incident in the future. The community is actively play a role in periodically mosquito's larva monitor and conduct a simultaneously PSN activity. The activity is done by all family members consists of father, mother and children. The PSN program is closely related with community knowledge, attitude and habit.

The PSN program has now developed to 3M plus in which the 3M activity is extended to change the water in the vase, bird drinking bowl or similar water container once a week, repair the clogged gutter, seal the holes on chopped bamboo/wood, pours larvacide, preserve the larva-eating fish, install the wire screen, arrange sufficient lighting and ventilation. 3M plus activity also extend to the usage of mosquito net when taking a nap, apply the medicine to prevent mosquito bite and avoid the habit of clothes hanging inside the house.

The PSN program has not reached optimal condition causing high DHF case, then this research is important to be conducted. Generally this research objective is to determine the relationship between knowledge and public attitudes about DHF with the behavior eradication mosquito nest (PSN) in Subdistrict Sekaran, District Gunungpati, City of Semarang.

Method

This research is observational analytics with cross sectional approach. The population is families living in Subdistrict Sekaran, District Gunungpati, City of Semarang consist of 7 RW and 29 RT with 1,910 families. The sample of this research is 52 samples. Sampling technique by using proporsionate cluster sampling. Data used is primary and secondary data where the instruments used are questionnaires and observation sheets. The data obtained is analyzed by univariate and bivariat analysis with chi square test (x^2).

Result and Discussion

Administratively, Sekaran is a sub district located on District Gunungpati, City of Semarang. It is on south of Semarang which is dominated with farming since the geographycal location that is on high ground near to Region of Semarang (Kabupaten Semarang). Nowadays, it is a fast developed sub district. The existance is very important because Sekaran becomes an education development centre with the build of Semarang State University within the area.

Area of Subdistrict Sekaran is 490.718 ha divided into 26 RT and 7 RW. Based on 2008 data, the population is 6,057 people. It is the most populated in District Gunungpati. Sekaran consists of four villages, which are Village Sekaran, Village Banaran, Village Bantar Dowo and Village Persen. Subdistrict Sekaran borders with Subdistrict Sukorejo on North, Subdistrict Srondol Kulon on East, Subdistrict Patemon on South and Subdistrict Kalisegoro on West.

This research objective is to analyze the relation between knowledge and public attitudes about DHF with the behavior eradication mosquito nest (PSN) in Subdistrict Sekaran (around the campus). Data taken by questionaire then be analyzed univariately and bivariately.

Based on table 1 can be seen that respondents that formally uneducated are 2 persons (3.84%), do not graduate from elementary school are 4 persons (7.69%), graduate from elementary school are 16 persons (30.76%), do not graduate from Junior High School are 3 persons (5.76%), and graduate from Junior High School are 27 persons (51,92%)

From table 1 can be seen that respondents working as trader are 13 persons (25%), Labor 15 persons (28.84%) and as private worker and enterpreneur each 12 persons (23.07%).

From table 1, can be seen that respondents having poor knowledge are 8 persons (15.4%),

Table 1. Respondents Distribution

Kategori	Persons	Persentage
Education		
No School	2	3.84
Elementary (Not Graduate)	4	7.69
Elementary School	16	30.76
Junior High (Not Graduate)	3	5.76
Junior High School	27	51.92
Job		
Trader	13	25
Labor	15	28.84
Private Worker	12	23.07
Enterpreneur	12	23.07
Knowledge		
Poor	8	15.4
Average	33	63.5
Good	11	21.2
Respondent's Attitude		
Negative	3	5.8
Positive	49	94.2
Respondent's Behavior		
Poor	15	28.8
Good	37	71.2

Source : Primary Data

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Tabel 2. Relation Between Community Knowledge Regarding DHF And PSN Behavior

No.	Knowledge	PSN Behavior				Total		p value	RP
		Poor		Good					
		Σ	%	Σ	%	Σ	%		
1.	Poor+Average	13	31.7	28	68.3	41	100	0.477	1.744
2.	Good	2	18.2	9	81.8	11	100		
	Total	15	28.8	37	71.2	52	100		

Source : Primary Data

average knowledge 33 persons (63.5%) and good knowledge 11 persons (21.2%).

Respondents attitude regarding PSN are displayed on table 1. It can be seen that respondents having negative attitude are 3 persons (5.8%) and positive attitude are 49 persons (94.2%).

From Table 1 can be seen that respondents having poor behavior are 15 persons (28.8%) and good behavior are 37 persons (71.2%).

To test the relation between community knowledge regarding DHF and PSN behavior by using Chi-square method.

Based on above table can be seen that of 41 respondents having poor and average knowledge, there are 13 respondents (31.7%) having poor PSN behavior and 28 respondents (68.3%) having good PSN behavior. While from 11 respondents having good knowledge, 2 respondents (18.2%) having poor PSN behavior and 9 respondents (81.8%) having good PSN behavior.

Based on research result, p value obtained is 0,477 (p>0,05) means Ho is received or can be said there is not relation between community knowledge regarding DHF with PSN behavior in Subdistrict Sekaran District Gunung Pati City of Semarang with prevalence risk 1.744 (theoritically is risk factor). This is not aligned with Nyoman at. al. which said there is relation between knowledge with PSN behavior with signification value (p) each is <0,0001. The research result connecting two variables or more, whether it is related or not is depend on place, year and subject of research. This research result is not aligned with Suryandono research (2009) that there is relation between family head knowledge regarding DHF with PSN Behavior on RW 1 Subdistrict Medono District West Pekalongan City of Pekalongan with contigency coefficient 0.361 (weak relation)

The research is aligned with Arsin (2004)starting here there is no relation between community knowledge and attitude with density of *Aedes Aegypti* larva on DHF endemic area in City of Makassar (p > 0,05). On the research, sample taken was 200 persons, sampling technique used is proportional random sampling, location was on DHF endemic area in City of Makassar, and method use was chi square test and multivariate with interaction test/Moderated Regression Analysis (MRA).

This reasearch indicate that community of Subdistrict Sekaran has had quite good knowledge regarding PSN and able to implement in daily life. According to Suryandono (2009), knowledge or cognitive is very important domain to form one attitude. With good knowledge on will act, do or behave good as well.

From experience and reasearch, are proven that behavior based on knowledge will be more sustainable compare to one that not. With the knowledge of respondent expected that it will implicate to more positive and sustainable behavior.

When family head found out and understood the importance of PSN in daily life to prevent the occurance of mosquito vector-caused by disease, then the family head will have good behavior to do prevention and has good behavior to do PSN. Notoadmojo theory mentions that knowledge is result of "know" and this is occured after the person sense certain object. The sensing is through human five sense with are sight, hearing, smell, taste and touch personally. From time of sense until result of knowledge is very much affected with intensity of attention and perception to the object. Most of human knowledge are obtained through eye and ear.

Table 3 Relation Between Community Attitude Regarding DHF With PSN

No.	Respondent Attitude	PSN Behavior				Total		p value	RP
		Poor		Good					
		Σ	%	Σ	%	Σ	%		
1.	Negative	2	66.7	1	33.3	3	100	1,96	2,513
2.	Positive	13	26.5	36	73.5	49	100		
	Total	15	28.8	37	71.2	52	100		

With the knowledge of respondents like the cause, symptoms, infection way, infecting mosquito and infection place and objective and benefit of PSN for family health, the hazards if does not do it, will encourage the respondents to improve the PSN behavior. By doing the PSN behavior, one has prevented which is the aspect of health maintenance behavior and environment health behavior.

Based on the interview and observation result, can be found out that the knowledge of most respondents are good and have support circumstance. It can be seen from the recapitulation of observation sheet about home condition, there are 45 respondents having clean house and the rest have dirty house, regularly clean the tub once every two weeks (34 respondents), do not close water container (22 respondents), carelessly waste empty cans (21 respondents), hanging clothes (41 respondents), do not use wire screen (35 respondents), poor house lighting (7 respondents), there still be mosquito's larvas (28 respondents) and do not use mosquito net (38 respondents).

Based on Table 3 can be seen that from 3 respondents having negative attitude, there are 2 respondents (66.7%) having poor PSN behavior and 1 respondent (33.3%) having good PSN behavior. While from 49 respondents having positive attitude, there are 13 respondents (26.5%) having poor PSN behavior and 36 respondents (73.5%) having good PSN behavior.

Based on reseach result, the p value obtained is 1,96 (p>0,05) means Ho is accepted or can be said that there is not relation between community attitude regarding DHF with PSN behavior on Subdistrict Sekaran District Gunungpati City of Semarang with prevalence risk 2.513 (risk factor). Theoritically, The variable of community knowledge regarding

DHF is the risk factor or supporting factor to PSN behavior. This research is not aligned with Suryandono (2009), mentioning that there is relation between family head attitude to DHF with PSN behavior on RW 1 Subdistrict Medono District West Pekalongan City of Pekalongan with contigency coefficient 0.321 (weak relation). This is affected by the difference of conducted research.

Above result is aligned with previous research conducted by Hardayati (2011), stating there is not relation between attitude of community behavior analysis on larva free indicator and Dengue Hemorrhagic Fever on District Pekanbaru, City of Riau (p = 0,226). On research by Hardayati (2011), the number of sample used was 100 persons, research's location on Subdistrict Simpang Empat and Tanah Datar District Pekanbaru Kota. Data collected in the reseach such as larva existance, community behavior on PSN and community socio economic condition like: education, job, economic status, knowledge, attitude, means and infrastucture and coaching exposure.

Based on research result can be found out that community of Subdistrict Sekaran able to respond the PSN program quite well. An unoptimist attitude occures in one act. To actualize the attitude onto real action required supporting factor or possible condition, like facility and support from other side husband, wife, parents in law, children, etc. Integrated and comprehensive support are required to improve community behavior in sustainable DHF prevention and control (Siyam, 2013b).

Attitude is the most important concept in social psychology discussing good attitude whether as individu or group. Many study is conducted to form the description of attitude, the process of building it, or changing. Many study also done to attitude related with the

effect and role in character building and intergroup relation and taken choices based on environment and the effect on change (Puspitasari, 2015).

Based on the interview and observation result, can be found out that most respondents have had good knowledge with support circumstance. It can be seen from the recapitulation of observation sheet about home condition, there are 45 respondents having clean house and the rest have dirty house, regularly clean the tub once every two weeks (34 respondents), do not close water container (22 respondents), carelessly waste empty cans (21 respondents), hanging clothes (41 respondents), do not use wire screen (35 respondents), poor house lighting (7 respondents), there still be mosquito's larvas (28 respondents) and do not use mosquito net (38 respondents). Facilitation from related parties is required to make sure that the community able and willing to do PSN to reduce their risk of being infected by DHF (Siyam, 2013a).

From this research can be concluded that the behavior of community on Subdistrict Sekaran is highly determine health level of the community it self. Majority of behavior on researched place is cathegorized as quite good. Good community behavior will bring good effect to the health and so does the opposite if the community behavior is not good, then will bring negative effect to the health. As other disease, community behavior will also determine DHF incident in the community.

Conclusion

There is no relation between knowledge and community attitude regarding DHF with PSN on the community around the campus. The community has had good knowledge and attitude so need to be encouraged to be consistant in PSN activity.

The advice for the community is to conduct PSN simultanously. As for health attendant in charge to give support to the community so that able to do PSN activity simultanously.

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