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Factors Affecting Community's Behavior in Using Temephos in Banjarmasin City

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Abstract

Effort to control Ae. aegypti as the vector cause of DHF (dengue hemorrhagic fever) disease in Indonesia is very base of larvicides where in the year 1980, temephos 1% specified as Ae aegypti Eradication program in Indonesia, but up to now DHF still Become the health problem in Banjarmasin City , The aim of the research was to analyze factors affecting a community's behavior in using temephos in Banjarmasin City. The research used a mixed methods design with explanatory research. The methods of Obtaining the Data were interview and Focus Group Discussion (FGD) to community and in-depth interviews to program / policy holders. The result of the research indicate that age (p = 0.144), education (p = 0.144), social activity (p = 0.119), knowledge (p = 0.666) and experience (p = 0.058) do not influence the community's behavior in using temephos in Banjarmasin City. The most dominant predictor factor affecting the community's behavior in using temephos in Banjarmasin City is attitude (p = 0.027 Exp.B = 4.542). The resource person has good knowledge on DHF but his knowledge on temephos is still very low. Information on temephos is not Obtained from Officials or media but from private health sectors roomates freely sell temephos to community. There are still many health Officials Whose role is not in the center is still Considered as a side job, so counselor's task does not function properly.

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Community's information facilities to Obtain information related to dengue and temephos are television media, leaflets, banners and counseling methods with slides (power point) and return the sheet media. The availability of temephos as a facility to Prevent dengue in the department of health is very limited, so there are still many communities who do not obtain it.

Keywords: behavior; community; temephos; dengue hemorrhagic fever.

1. Introduction

One of the public health problem that tends to be widely spread, in line with the increasing flow of transportation and population density is a disease ofDengue Hemorrhagic Fever (DHF) [1]. World Health Organization (WHO) showed 2.5 billion people (2/5 of the world population) are at risk for the dengue virus [2].

Indonesian state is included in one of the countries with a category A for the occurrence of dengue disease. This shows that dengue cases in Indonesia has become a major problem and a major public health in the world that can cause illness and death in children and manula.2 dengue morbidity in Indonesia in 2011 amounted to 27.67 per 100,000 population and in 2012 increased to 37.27 per 100,000 population [3]. WHO data show the number of dengue cases in Indonesia continues to increase, so that WHO establish Indonesia as one of the country hyperendemic the number of provinces affected by dengue as many as 32 provinces of 33 provinsi [4].

Dengue cases always occur every year in the province of South Kalimantan and is almost always an increase in cases each year. In 2007, there were 808 cases of dengue fever with morbidity / IR = 20.24 per 100,000 population. In 2008 there was an increase of cases to 960 cases by IR = 2.59 per 100,000 population. In 2009 there was an increase in cases of very high into IR = 9710 cases with 225 per 100,000 population. In 2010, based on data summary health profile of the district / city, dengue fever cases has decreased sharply from the previous year of 677 cases with IR = 15 per 100,000 inhabitants, as many as 13 patients died (CFR 1.9%) [5].

In 2011 IR / 1000 population is 11.03. The incidence of DHF in South Kalimantan began to show a decline, though this disease need to be wary of considering the number of DHF cases still continue to go up and down and the area affected increasingly broad that it can be concluded that dengue is still a health problem in South Kalimantan province, where the prevalence of cases per year 0.26%. From 11 regencies / cities in South Kalimantan, Banjarmasin city among the most frequent KLB [6].

Dengue cases in the city of Banjarmasin endemisitasnya increasing. In 2011 there were 12 cases with 2 deaths, whereas in 2012 increased considerably to 67 cases with 3 kematian [7]. Safitri in the study stated that the District of North Banjarmasin is endemic DBD [6]. Ae control efforts. aegypti as the vector causing dengue disease in Indonesia is very dependent on larvicides. Since the 1970s temephos already in use. Then in 1980, temephos 1% designated as Ae eradication program. aegypti in Indonesia [8].

The spread of dengue fever in Indonesia is affected by multifactorial, ie people's behavior, environmental and demographic factors[4].The topography of the city and the nickname of a thousand rivers such as the floating city where the existing buildings in the city of Banjarmasin in general built on a swamp shows the environment is a

factor that is unlikely to change, so one way to control dengue cases in the city of Banjarmasin is through people empowerment, namely community. This study aimed to analyze the factors that influence people's behavior in using temephos in Banjarmasin.

2. Materials and Methods

This study used mixed methods approach to the design of the research is explanatory research.Penelitian was conducted in the District of North Banjarmasin City Banjarmasin.Penelitian conducted over 6 months (October 2014- March 2015).

Informants in this study are public and holders of programs / policies DBD. Data were collected by interview, FGD (Focus Group Discussion) and in-depth interviews (depth interview) using questionnaires, FGD guide and form guide penelitian.Data secondary depth interview questions were collected by conducting a literature study documents obtained by the study of literature / literature and of the report. Quantitative data were statistically processed while qualitative data is processed on a "content analysis"

3. Results and Discussion

3.1 Informants from the Community.

Bivariate analysis showed that age (p = 0.144) and education (p = 0.144) was not significantly related to people's behavior in using temephos in Banjarmasin (Table1). Multivariate analyzes were performed with logistic regression test. Based on the table 2 showed that social activity (p = 0.119), knowledge (p = 0.666) and experience (p = 0.058) had no effect on people's behavior in using temephos in Banjarmasin. The final result of analysis concludes that the most influential variable attitude towards people's behavior in using temephos in Banjarmasin (p = 0.027).

Results of a study of the age variable is not in line with research conducted by Al-Dubai *et al* (2013), which states that the practice was associated significantly with age and knowledge about dengue (p <0.05) and research by Naranon (2006), that the factors positively correlated with the behavior of dengue prevention and control (p <0.05) were age, knowledge about dengue and attitudes toward dengue [9,10]. However, in line with other studies related to the behavior of Agustiansyah and his colleagues in 2006, which states that there is no relationship Significant between age and maintaining betta fish behavior as the behavior in the control of dengue [11]. The behavior is caused by the maturing process that is more adult someone then he will be able to adapt to the environment [12,13].

The study of variable levels of education in line with [14], that pendididkan no significant effect on society towards PSN-DBD (p = 0.391) in Pekanbaru Riau [14]. However, in contrast to the opinion [13-15], that the dominant factors that influence positive behavior is the level of education .

Reference [16] concluded that the activities of the community (teaching) can provide knowledge in giving change in social behavior. Social activities carried out by members of the public will broaden the knowledge

and reduce the false perception in understanding something. Generally, someone with a lot of social activities tend to get a variety of information .

Results of data collection, obtained that most respondents have good knowledge about DBD.Ini indicates that basically respondents have enough understanding about dengue and how to alleviate it umum.Namun respondent knowledge of temephos very bad. Evident from the number of respondents who have heard / know about temephos which amounted to only 34 people. Most respondents have a poor knowledge (91.4%). However, respondents who have a good knowledge (8.6%, 12 persons), only 4 people in behavior using temephos to control dengue. Similarly, respondents who have a poor knowledge (127 people), only 11 are in use temephos behavior. This is because only a few of them have ever gained temephos, even some of them obtain temephos not of healthcare workers rather than private parties who sell freely and from areas outside the District of North Banjarmasin is the place where they previously lived. The fact mentioned above reinforces the results of a statistical test, ie no effect on behavior knowledge temephos use.

Table 1: Bivariate Analysis of Factors that Influence Behavior in Using Temephos Society.

Variables	Variablecategories	Category Behavior		n	Test Statistics
		Using Temephos	Not Using Temephos		
Age	<40 Years	13	80	93	p = 0.114
	≥ 40 Years	2	44	46	
Level Of Education	Not completed primary school	0	4	4	p = 0. 643
	SD	2	17	19	
	JSS	3	32	35	
	SLTA	6	38	44	
	Academy / PT	4	33	37	
Social Activities	<4x a month	2	51	53	p = 0.036
	≥ 4x a month	13	73	86	
Knowledge	Good	4	8	12	p = 0.026
	Parenthesis	11	116	127	
Experience	Yes	7	21	28	p = 0.013
	Not	8	103	111	
Attitude	Positive	5	9	14	p = 0.008
	Negative	10	115	125	

Source: Primary Data 2015

It is also evident from the results of the frequency distribution of respondents associated their knowledge about dengue control methods are chemically by using temephos. Only one of the respondents who are knowledgeable about the use of temephos, particularly concerning the frequency of re-sowing and sign temephos temephos expired. This result indicates that the people in the District of North Banjarmasin majority do not understand fully the use temephos. This has led to weak temephos use practices that ultimately have an impact on the high dengue cases in the region. It is also in accordance with the results of focus group has done that only 2 out of 16 resource persons who follow the implementation of FGD who has knowledge of temephos. Information about the temephos also not be obtained from health workers or health media, but from private parties who sell temephos free to the public. Moreover of the overall resource states fogging is most effective dengue control. From these statements it can be concluded that they do not understand the overall control of DHF.

This is in line with several studies that claim that there is no significant relationship between knowledge and practice in the control of dengue [16,17]. However, the results of these studies are not consistent with several studies that claim that the behavior or practices are significantly associated with knowledge about dengue [9-11,18-23]. Attitude is the most influential variable on people's behavior in using temephos in the District of North Banjarmasin. This shows that the attitude of the community will determine its behavior in using temephos. Some studies suggest that the attitude has a significant relationship to control the behavior of the larvae causes dengue disease, including the use of larvicides temephos [10,21].

Based on the results of the frequency distribution of respondents are still many respondents who have a negative attitude related to the use of temephos. In particular on the use temephos answer questions on drinking water reservoirs, temephos usage and dosage in case of sowing temephos as much as 1 table spoon pressed. This indicates still poor attitude of society in the region. Obviously this is very influential on behavior still endemisnya impact on dengue cases in the region.

The results are consistent with what is stated Green in the [13]; that a person's behavior is influenced by the knowledge, attitudes, beliefs and others [13]. Although a person's behavior is influenced by the attitude but not forever will automatically manifest in action. For the realization of an attitude can be a real strength necessary supporting factors, among others, the facilities, the support of other parties, as well as the experience and motivation environment [13,24].

3.2 Informants from holders of programs / policies

Role of Health Personnel

Educational background of health workers: the role of extension workers / health promotion in health centers in the District of North Banjarmasin no corresponding with the educational background they took, besides the extension task not as the main office / Functional them, so that they all have the task multiple (Table 2).

Training: none of extension workers / health promotion ever get or training in the field of education / health promotion, there is only routine meetings, such as the following statement:

"Never. I also do not know whether they have been held training or not "

"If the material about counseling technique is good and true, how mebuat media, and others do not exist anyway. Ordinary meeting "

(PHC Extension Workers)

Table 2: Regression AnalysisVariable Experience, Social Activities, Knowledge and Attitudes toward Temephos Usage Behavior in Society in the District of North Banjarmasin

	Variables	**B**	**SE**	**Wald**	**Sig.**	**Exp (B)**
Step 1 [a]	Experience	1,209	.624	3,750	.053	3,350
	Social	-1266	.815	2,414	.120	.282
	Knowledge	-.698	1,616	.187	.666	.498
	Attitude	1,744	1532	1,296	.255	5,721
	Constant	.370	2267	.027	.870	1448
Step 2 [a]	Experience	1,202	.623	3721	.054	3,325
	Social	-1270	.814	2436	.119	.281
	Attitude	1,156	.719	2583	.108	3177
	Constant	.171	2,211	.006	.938	1,186
Step 3 [a]	Experience	1152	.606	3606	.058	3,164
	Attitude	1,513	.685	4876	.027	4542
	Constant	-2605	1,395	3486	.062	.074

Source: Primary Data 2015

Constraints or obstacles in the implementation of the training: what they consider to be obstacles in the implementation of procurement training is because the task of educator / health promotion is not included in the functional position, in accordance with the following statement:

"The problem is if the training should be training, while the extension of its japung no (functional) and it is unlikely we are providing training, education and training must be professional if"

(Head of Health Promotion Section City Health Office Banjarmasin)

In his role on the field, is required specialized personnel health promotion in order as the spearhead of a liaison between the community and health centers.Community Health Extension Workers (PKM) in health centers for this is a second job, not as a main job (functional). The obstacles that do not necessarily work divided by the maximum because other work, this has resulted in health promotion activities by staff PKM is only done if there

is time that does not take the main job, table 3.

Tabel 3: Characteristics Power Extension / Health Promotion based health centers, Education and Primary Position

No	Name of health centre	Education	Main Position
1.	Alalak Selatan	Diploma 3 Nutrition	Nutritionist
2.	Alalak Tengah	Diploma 3 Nutrition	Nutritionist
3.	KayuTangi	Diploma 3 midwifery	Midwifery
4.	Sungai Jingah	Diploma 3 environmental health	Sanitarian

Source: Primary Data 2015

Facility Information

Sources of information: information tekait dengue and ways to overcome them by the public through direct extension methods and media. The media used are slides (power point), banners, leaflets and flip chart.

"If his media DBD there. That there tuh flip chart, leaflets. Do not make their own (media) but can be of service, there is also a kind of banners hung next clinic, regular counseling if ppt wrote the same use LCD continues to share the same leafletnya present society "

(PHC Extension Workers)

Implementation of the extension (place and time, resource persons, participants and evaluation): counseling conducted divided into two: the extension in space and outer space. Extension in space routinely carried on each health center on two working days (Monday and Thursday). While outdoor extension carried out each month. Place of execution is in homes, home cadre, village, kindergartens and schools. Conclusions are in accordance with the following statement:

"Through counseling hell wrote. Usually at home cadre, homes, village office, kindergarten, school. Kalo thank God for this year increased 25 times in a year, used 10 to 12 times only, because now there are additional funds of funds BOK. But overall it was not a special extension DBD wrote. If the theme depending on conditions. Nara source also depends on the theme. Tuh regular doctor if clinical or puskesmas head, but the reply of dengue usually the environmental health officers. If I nih aja cuman coordinator. Well if counseling in building our usually tell students internships.

(PHC Extension Workers)

There is a weakness that has never been done or feed back control to evaluate whether the information provided is up to the local community (residents they each).

"Never heck we do control, let alone most of the RT inactive. Setau me because they are too many other job "

(PHC Extension Workers)

Constraints or barriers: the clerk said that another obstacle in the delivery of information to the public is related facilities, one of which is the destruction of the loudspeakers, the lack leaflet obtained from the health department and not the availability of the envelope (to use personal funds to purchase).

"Leafletnya it well ?. It's just a little can of service, Yeah that's the problem, it leafletnya, I so need a copy of their own, continue to use my own funds. Kasian all right!. Continue again itukan if counseling, they can transport money. Well that envelope, I bought it jga use my money "

(PHC Extension Workers)

"The problem is that if the facilities here that wireless portable extension (loudspeakers) is broken, so it is hard to if you want panyuluhan. So it is not effective, because his voice is not good. Continue instance also busy clerk who counsel that fit the theme, be replaced at students intern "

(PHC Extension Workers)

Based on the observations of researchers to the means of information. Media that is still not effective due to the number and content of the media that is not yet complete. While Donggori (2012), concluded that there is a significant relationship between the mass media access to knowledge, and there is a significant relationship between the type of media with knowledge [25]. This is supported by research [26] that the media (the Internet) can help in health education efforts .

Mitigation Facility

The availability of prevention facilities DBD: DHF prevention facilities are available at each health center at (swing fog, temephos, malathion, solar), which differ only in number. Availability swing fog, malathion and diesel to be sufficient. However, availability is still very limited temephos.

"Facilities there swing dengue prevention fog, malathion, solar and abate. If for fogging enough, if there is fog swing is broken, we could borrow another kepuskesmas "

(DHF program officer holders PHC)

"Well obviously not enough. Temephosnya only 1 gallon of contents cuman 25 kg, while we mebawahi three urban villages "

(DHF program officer holders PHC)

"Each year can temephosnya approximately 8-15 gallons. If diliat of the number of puskesmas. Well obviously not mencukui. There are 26 health centers that we underline "

(Officers holder DBD program Health Service)

Attitude is a tendency to act (practice). Attitude is not necessarily manifested in action, because the necessary actions for the realization of other factors, namely, among others, lack of facilities or infrastructure [13]. Availability of facilities largely determines a person's behavior. Although both knowledge and attitude as well as other variables support and there is an intention to behave. However, all of these will not be realized without adequate infrastructure.

Evaluation or *Feedback:* Control or *feedback* has not been conducted to evaluate the system / mechanism for sharing / distribution temephos. So it can not be known with certainty whether temephos distributed passes cadre (jumantik) and the head of the neighborhood had them distributed to the public in its territory.

"Yeah. That's the problem. Control is never done, so do not know actually given to the public or not. Moreover, the chairman of RT many inactive "

(DHF program officer holders PHC)

Evaluation or assessment is an essential part of the management process. With the evaluation will be obtained feedback *(feedback)* on the implementation of a program or activity. Without the evaluation, it was difficult to determine the extent to which the objectives that have been planned by an organization have been achieved [27].

Kader jumantik: Another obstacle is the lack of inadequate number of cadres jumantik for each village. Especially for villages with a number of RT that much.1 village has three cadres jumantik, where one cadre in charge of watching the flick for 1-2 RT alone the number of homes that are monitored at 100-120 homes. While the number of households in the village in the district of North Banjarmasin ranged between 23-63 RT with house number 2522-6077.

"3 people that we are decisive. Same each clinic. Due to budget allocations so adjusted. 3 was clearly lacking. Because the house much in one village "

(Officers holder DBD program City Health Office)

Chairman of RT, RW, community leaders, religious leaders, cadres are *local stakeholders* jumantik or commonly referred to as local stakeholders. Their presence is very helpful in controlling a public health problem in the region, namely as a factor pemerkuat which serves as a positive factor affecting the behavior of the power level of the adoption process. In this case means health problem in question is the promotion of health for controlling dengue fever by using temephos [13,28].

The important role of stakeholders is because they are the ones who know for certain the conditions in the

region along with the characteristics of the characteristics of their citizens. Therefore, they can control the direction of information among communities in the region. Surely this will facilitate penyeberluasan temephos information or distribution to the public in its territory. That's why a partnership with *local stakeholders* is one important way in the success of a health promotion or social marketing [13].

The theory is also strengthened by several studies. Reference [29] states that the role of religious leaders and community leaders in disseminating PSN DBD which is incidental, because of the limitations of knowledge result in high dengue cases in the village of Simpang Tiga. The authors in [29], in research related to community-based approach program (CBEP) in the prevention and control of dengue in Thailand also concluded that by empowering the stakeholders in the community will have a positive influence on knowledge, perception, self-efficacy and larval survey practice in the community [30].

4. Conclusions

The results showed that age and education are not significantly related to people's behavior in using temephos in Banjarmasin. Social activities, knowledge and experience no effect on people's behavior in using temephos in Banjarmasin. The most dominant predictor of factors affect the behavior of respondents in using temephos in Banjarmasin is attitude. The role of health workers are still many who do not conform to the educational background to be taken. Means of the public in obtaining information related to dengue and temephos information is through the medium of television, leaflets, banners and through extension methods to the media *slides* (power point) and a flip chart. Temephos dengue prevention facilities are very limited in number so that there are still many people who do not obtain temephos. This study suggests evaluation and control or feedback on temephos distribution system and the improvement of health promotion programs related to health promotion, especially dengue. Then required also related innovations temephos distribution system to the public, for example through a special division month temephos by officers or taking temephos by society.

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