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CORRELATION BETWEEN DEMOGRAPHIC PROFILE WITH KNOWLEDGE AND ATTITUDE TOWARDS DENGUE PREVENTION IN KARANGTENGAH

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ABSTRACT

Dengue Hemorrhagic Fever (DHF) is a zoonosis caused by Aedes aegypti carrying Dengue Virus. West Java has the most DHF cases (20,85 cases per 100.000 people). Controlling the vector is the key to lower the incidence rate. Therefore, the quality itself depend on knowledge, attitude, and habit of household contributor. Housewives as the biggest household contributor play an important role to lower DHF rate. This study aimed to investigate the correlation between some women's predictors such as education, income, occupation, and knowledge and attitude to prevent DHF. This was a cross sectional study involving 60 housewives taken by cluster random sampling which were 17-65-year-old and lived in BTN Sabandar, Cianjur Regency as the biggest DHF cluster in Karangtengah Public Health Center scope area. A day door-to-door questionnaire was used to investigate the correlation between demographic profile towards knowledge and attitude to prevent DHF. All the subjects met the study criteria. Of 26 respondent (43.3%) had satisfactory knowledge (mean: 74.56%) and 26 respondent (43.3%) had positive attitude (mean: 82.83%) to prevent DHF. Based on Gamma correlation, there was a weak and insignificant correlation between occupation (r: -0.067, p: 0.610), income (r: 0.164, p: 0.210), dan education (r: 0.017, p: 0.899) towards knowledge, and also between occupation (r: 0.045, p: 0.734), income (r: 0.005, p: 0.968), and education (r: 0.185, p: 0.157) towards attitude. There is a weak and insignificant correlation between occupation, income, and education towards knowledge and attitude to prevent DHF.

Keywords*: Demographic profile; dengue hemorrhagic fever; knowledge and attitude*

INTRODUCTION

Dengue hemorrhagic fever (DHF) is a zoonotic disease besides malaria, filariasis, and chikungunya.[1] DHF is caused by *Aedes aegypti* as its vector carrying Dengue Virus. It can be found in tropical countries especially South East Asia and South America. Based on the World Health Organization (WHO), Indonesia is known to be the second most cases endemic country. In 2017, there were 68.407 DHF cases in Indonesia and 10.016 cases in West Java as the highest. DHF morbidity rate in West Java was 20,85 cases per 100.000 population while the death rate was 54 cases as the third most cases in Indonesia.[2] Based on the internal data of Karangtengah Public Health Center (*Pusat Kesehatan Masyarakat, Puskesmas*), there were 37 DHF cases that were reported on 2019. A cluster that has the most cases in Puskesmas Karangtengah scope area was BTN Sabandar, Sabandar Village.

The increase of DHF incidence rate are affected by multiple factors, such as the climate, rainfall, temperature, humidity, and the quality of vector control in the households.[3] The most important thing is to control the vector, as written in the Ministerial Health Regulation No. 25 in 2017.[1] The quality of the vector control depends on the people's habit. Thus, we have to evaluate the knowledge and attitude about DHF prevention.[4,5] It's found in the previous study that demographic profile has correlation to determine the knowledge and attitude to prevent DHF.[6–8]

Men are the majority population in Indonesia and Sabandar Village, but daily chores are mostly done by housewives, because they spare more time at home to control the vector. Women's standard in environmental hygiene is better than men.[9] Therefore, it's important for housewives to have a good understanding and attitude to prevent DHF. This study aimed to investigate the correlation between some women's predictors such as education, income, occupation and knowledge and attitude to prevent DHF. We hope that this study can be the source information to create intervention program to prevent DHF, so it could decrease its morbidity and mortality.

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METHODS

This was a cross sectional study conducted in September 2020 to productive age housewives who lived in BTN Sabandar, Karangtengah Sub-district, Cianjur Regency, West Java. The minimum sampling calculated was 57 respondents which were chosen by using cluster random sampling in every neighborhood (*Rukun Tetangga*, *RT*). Women who were 17-65 years old represented their family, while illiterate women were excluded from this study. A day door-to-door data collection was used with guidance by research team to minimalize bias. This study has been approved with ethical number 800/519-Peg/DPMPTSP/2020.

A high reliability validated questionnaire that had Cronbach's Alpha of 0,922 and 0,981 was used to measure the knowledge and perspective to prevent DHF.[10] There were 25 questions consisted of 15 questions to measure the knowledge which were scored based on the right answer into unsatisfactory (≤50%), enough (56%-75%), and satisfactory (76%-100%)[11], and another 10 questions to measure the perspective which were scored based on Likert scale into positive (score >$\bar{x}$) dan negative (score ≤$\bar{x}$).[12]

The data were analized into descriptive and analitic study using IBM SPSS version 25.0. Descriptive data were shown as table configuration of number and percentage, whereas some variables were analyzed with Gamma correlation statistics.

RESULTS

All the respondents correctly filled in the questionnaire and 60 respondents were involved in this study.

From Table 1, majority of the respondents were 36-45-year-old (17 people, 28.3%) with the average age was 42,6-year-old and the age range was between 20-64-year-old. Most of the respondents were unemployed (54 people, 90%) with the income lower than the regional minimum wage (46 people, 76.7%). In contrast, employed respondents (6 people, 10%) had upper income (14 people, 23.3%). Fewer respondents had low education level (6 people, 10%), others had completed high school (43 people, 71.7%) and diploma/university (11 people, 18.3%).

Table 2 shown that respondents had satisfactory knowledge about host, vector life cycle, and DHF prevention because all of them answered the questions correctly (60 people, 100%). They also had satisfactory knowledge about the typical DHF symptoms and larvicide due to only a respondent (1.7%) answered incorrectly. On the other hand, most of them didn't know about the etiology (38 people, 63.3%), clinical manifestation (43 people, 71.1%), and vector fly ability (45 people, 75%).

Table 1. Demographic profile and the results

No	Profile	Frequency	Presentation (%)
1	Age (mean: 42.6, range: 20-64 year-old)		
	17-25	4	6.7
	26-35	15	25
	36-45	17	28.3
	46-55	14	23.3
	56-65	10	16.7
2	Occupation		
	Unemployed	54	90
	Employed	6	10
3	Income		
	Lower (< Rp 2.543.987,00)	46	76.7
	Upper (≥ Rp 2.543.987,00)	14	23.3
4	Education		
	Low (completed elementary school)	6	10
	Middle (completed high school)	43	71.7
	High (completeddiploma or university)	11	18.3
5	Knowledge (mean: 74.56%)		
	Unsatisfactory	1	1.7
	Enough	33	55
	Satisfactory	26	43.3
6	Attitude (mean: 82.83%)		

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Negative	34	56.7
Positive	26	43.3
Total	60	100

On Table 3, the average of respondents' attitude to prevent DHF was 82.83%. Most of the respondents chose strongly agree and agree about draining, closing, and burying things that were potentials to be water reservoir. Meanwhile, 4 people (6.7%) were disagreed in breeding larva predator fish and 7 people (11.6%) were disagree in changing water inside the vase as the prevention of DHF.

The result of the questionnaire showed that a respondent (1.7%) had unsatisfactory knowledge about DHF, while 33 respondents (55%) and 26 respondents (43.3%) had enough and satisfactory knowledge with the average 74.56%. Therefore, 34 respondents (56.7%) had negative attitude and 26 respondents (43,3%) had positive attitude (above the average of 82.83%).

Table 2. Questionnaire Result of Knowledge to Prevent DHF

Questions about Knowledge	True	False
DHF definition	41 (68.3%)	19 (31.7%)
Etiology	22 (36.7%)	38 (63.3%)
Clinical manifestation	17 (28.3%)	43 (71.1%)
Typical DHF symptoms	59 (98.3%)	1 (1.7%)
Transmission vector	58 (96.7%)	2 (3.3%)
Vector fly ability	15 (25%)	45 (75%)
DHF host	60 (100%)	0 (0%)
Vector transmission timing	46 (76.7)	14 (23.3%)
Vector life cycle	60 (100%)	0 (0%)
Vector eradication	35 (58.3%)	25 (41.7%)
DHF prevention	57 (95%)	3 (5%)
Three main activities to prevent DHF	45 (75%)	15 (25%)
DHF prevention example	60 (100%)	0 (0%)
Bathtub draining frequency	37 (61.7%)	23 (38.3%)
Larvacide	59 (98.3%)	1 (1.7%)
Mean	74.56%	

Table 3. Questionnaire Result of Attitude to Prevent DHF

Questions about Attitude	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Draining the bathtub	30 (50%)	27 (45%)	1 (1.7%)	2 (3.3%)	0 (0%)
Brushing the baththub wall	29 (48.3%)	30 (50%)	1 (1.7%)	0 (0%)	0 (0%)
Closing the water reservoir	36 (60%)	22 (36.7%)	2 (3.3%)	0 (0%)	0 (0%)
Burying unused can	38 (63.3%)	22 (36.7%)	0 (0%)	0 (0%)	0 (0%)
Breeding larva predator fish	15 (25%)	33 (55%)	8 (13.3%)	4 (6.7%)	0 (0%)

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Changing water inside the vase	23 (38.3%)	28 (46.7%)	2 (3.3%)	5 (8.3%)	2 (3.3%)
Using abate powder	23 (38.3%)	34 (56.7%)	1 (1.7%)	1 (1.7%)	1 (1.7%)
Cleaning the clogged drainage ditch	26 (43.3%)	33 (55%)	0 (0%)	0 (0%)	1 (1.7%)
Using easily cleaned water drainage	26 (43.3%)	31 (51.7%)	2 (3.3%)	0 (0%)	1 (1.7%)
Cleaning the tree midrib	18 (30%)	24 (40%)	17 (28.3%)	0 (0%)	1 (1.7%)
Mean	82.83%				

As shown in Table 4, there was a negatively weak (r: -0.067) and insignificant (p: 0.610) correlation between occupation and knowledge. Likewise the income (r: 0.164, p: 0.210) and education (r: 0.017, p: 0.899) showed a positively weak and insignificant correlation.

As shown in Table 5, there was a negatively weak (r: 0.045) and insignificant (p: 0.734) correlation between occupation and attitude to prevent DHF. Likewise the income (r: 0.005, p: 0.968) and education (r: 0.185, p: 0.157) showed a positively weak and insignificant correlation.

As shown in Table 6, there were 14 respondents (23.3%) had satisfactory knowledge and attitude to prevent DHF, meanwhile 22 respondents (36.6%) had unsatisfactory knowledge and negative attitude to prevent DHF. There was a positively weak (r: 0.156) and insignificant (p: 0.156) correlation between knowledge and atittude to prevent DHF.

DISCUSSION

Knowledge is one of the predictors in a person's attitude and behavior. Level of education, occupation or daily activities, income, social status, and other factors played an important role in influencing a person's knowledge. These factors are usually linear with a person's knowledge, but a person's knowledge is not necessarily linear with that person's attitudes and behavior.[6,7]

In this study, the majority of respondents had completed high school and had satisfactory knowledge of DHF. Satisfactory knowledge of DHF at the level of high school education and above was also shown in similar studies conducted in Jayaraga[13] (Garut Regency) and Gajahmungkur[14] (Semarang City). Highly educated mothers tended to increase their participation in maintaining health due to more sources of information obtained. Meanwhile, a study in Paseban[15] (Central Jakarta) showed that knowledge of DHF was not influenced by the level of education due to social and economic conditions which played a bigger role in densely populated area.

There was also no significant correlation between occupation and knowledge in DHF prevention in this study. This was different from studies conducted in Bakunase[16] (Kupang City) and East Likupang[17] (North Minahasa Regency) which stated that there was a correlation between occupation and knowledge assuming that satisfactory knowledge and positive attitudes in preventing DHF were owned by respondents who worked as health workers. However, this study was similar to studies conducted in Paseban[15] (Central Jakarta), Gajahmungkur[14] (Semarang City), and Malalayang[18] (Manado City) which stated that there was no significant correlation between occupation and knowledge in preventing DHF assuming that the majority of respondents who were housewives had not received optimal exposure to information and counselling related to DHF.

Table 4. Gamma Correlation Analytic Results between Knowledge and Demographic Profile

Demographic Profile	Knowledge	
	Correlation Coefisien (r)	P-value
Occupation	-0.067	0.610
Income	0.164	0.210
Education	0.017	0.899

Table 5. Gamma Correlation Analytic Results between Attitude and Demographic Profile

	Attitude

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Demographic Profile	Correlation Coefisien (r)	P-value
Occupation	0.045	0.734
Income	0.005	0.968
Education	0.185	0.157

Table 6. Gamma Correlation Analytic Results between Knowledge and Attitude

Knowledge		Attitude		Correlation Coefisien (r)	p Value
		Negative	Positive		
Unsatisfactory	+	22	12	0.156	0.156
Enough Satisfactory		12	14		

This study also showed that the correlation between the amount of income was not significant with the knowledge and attitudes of housewives. This was as the same as a study conducted in East Likupang[17] (North Minahasa Regency). Dissimilar studies conducted in Pringsewu (Lampung Regency) and in Sleman Regency[19] stated that there was a significant relationship between income levels and knowledge and attitudes in preventing DHF. Income did not directly affect a person's knowledge, but sufficient income will affect a person's daily needs including information and medium to support knowledge and attitudes in preventing DHF.

In this study, satisfactory knowledge was obtained from respondents about the typical symptoms of DHF. This was due to the high number of cases and respondents' experiences when family members or people around them are diagnosed with DHF. Meanwhile, respondents did not know about the causes of DHF and mosquitoes as vectors, so the eradication of mosquito nests as the main strategy to reduce the number of DHF was still not going well.

CONCLUSION

In conclusion, most of the respondents at BTN Sabandar have satisfactory knowledge of DHF even though the majority of respondents' attitudes had not supported DHF prevention. Further studies on community behavior need to be done to complement this research and to determine the options for program intervention. The intervention program itself can be carried out in general by encouraging the eradication of mosquitoes as vectors without specific treatment needed due to the weak correlation between predictors of demographic characteristics and behavior or attitudes to prevent DHF.

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