

THE CORRELATION BETWEEN THE ROLE OF HEALTH WORKERS WITH THE PREVENTION BEHAVIOR OF DENGUE HEMORRHAGIC FEVER IN THE COMMUNITY

Dewi Atikah*, Editha T. Puente, Anwar Fuad, Arif Henriawan, Asep Surayana

Professional of Nurse Study Program, Wijaya Husada Health Institute
Jl. Letjend Ibrahim Adjie, No. 180, Sindang Barang, Bogor, West Java, Indonesia
***corresponding author:** wijayahusada@gmail.com

ABSTRACT

Dengue Hemorrhagic Fever (DHF) is a mosquito-borne viral disease that has spread rapidly in all regions in recent years. In Indonesia, in general, people are still oriented towards disease treatment, not disease prevention, people's behavior is still not supportive towards healthy behavior. Behavior as a determinant of health is a form of a person's response to a stimulus. Behavior itself contributes to every health problem in this case the problem of Dengue Hemorrhagic Fever (DHF). Community behavior is influenced by several factors, one of which is the role of health workers. The purpose of this study was to determine the relationship between the role of health workers and the prevention behavior of dengue hemorrhagic fever in the community at the Pasir Mulya Community Health Center, Bogor City, in 2020. This type of research uses an analytical survey with a cross sectional approach. The population in this study was the community at the Pasir Mulya Health Center, Bogor City, as many as 6059 people. The samples in this study were 100 respondents using the Simple Random Sampling technique with the Taro Yamane formula. Univariate and bivariate data analysis using Cramer. Based on statistical tests of 100 respondents, there were 45 respondents (45.0%) with the role of health workers (not playing an active role) and dengue prevention behavior (negative). The results of the statistical test obtained a p value = 0.000, meaning a p value <0.05 so that H_a is accepted and H_o is rejected, meaning that there is a relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever in the community at the Pasir Mulya Health Center, Bogor City in 2020.

Keywords: Role of Health Workers, Prevention Behavior, Dengue Fever

INTRODUCTION

According to the World Health Organization Dengue Hemorrhagic Fever (DHF) is a mosquito-borne viral disease that has spread rapidly in all regions in recent years. Dengue virus is transmitted by female mosquitoes, especially from the *Aedes aegypti* species. Dengue hemorrhagic fever is widespread throughout the tropics, influenced by rainfall, temperature, humidity, and unplanned rapid urbanization.¹

The number of dengue cases reported to WHO has increased more than 15 times over the last two decades.¹

In 2019 there was a sharp increase in dengue cases, including the West Pacific region, Australia, Cambodia, China, Laos, Malaysia, the Philippines, Singapore and Vietnam. Dengue outbreaks have also been reported in Kango, Ivory Coast, Tanzania, in the African region; Several countries in the Americas-Brazil region, Colombia, Nicaragua and Honduras also experienced increases in numberscase. It is estimated that 500,000 people with severe dengue require hospitalization each year, and with an estimated 2.5% of cases of death each year.²

In Indonesia, dengue fever is a major public health problem. The number of sufferers and the area of distribution is increasing along with the increase in population density. In Indonesia dengue fever *dengue* was first discovered in the cities of Surabaya and Jakarta in 1968, where as many as 58 people were infected and 24 people died (Mortality Rate: 41.3%) and since then this disease has spread widely throughout Indonesia.³

Dengue fever occurs all year round in Bogor district considering that Bogor district is a cross-border area with endemic areas (DKI Jakarta, Tangerang and Bekasi), high population mobility, population density, and the average larvae-free rate is still below 95%. Based on the pattern of hospitalization in Bogor Regency, DHF is the third biggest disease, namely 16,810 cases for all age groups in Bogor Regency.⁴

At the Nanggung Health Center itself, there were approximately 49 DHF patients who were hospitalized in 2019. Ten of them lived in Parakan Muncang Village. The Pasir Mulya Health Center in Bogor City itself is one of the seven villages which are the working area of the Nanggung Health Center.⁵

In Indonesia, in general, people are still oriented towards disease treatment, not disease prevention, people's behavior is still not supportive towards health behavior.⁶ For example, in the case of dengue fever caused by the community not wanting to carry out M3-PLUS activities on a regular basis.⁷ To prevent DHF itself requires community contribution to behave healthily.⁶

Several programs for preventing and controlling dengue fever have been socialized by the Indonesian Ministry of Health, such as the Eradication of Mosquito Nests (PSN) by means of 3M Plus, namely: draining, closing and reusing or recycling used goods that have the potential to become mosquito breeding grounds. dengue fever. What is meant by Plus is: Raising betta fish, eating mosquito larvae in water pools, Sprinkling abate powder in ponds or water reservoirs, at least once every 2 months, using mosquito repellent, both mosquito coils, spray or electric, using preventative cream mosquito bites, installing wire mesh in window/ventilation holes to reduce mosquito entry into the house, not getting used to or avoiding hanging clothes.⁸

In order for the DHF prevention program to be carried out, the contribution of the whole community is needed for healthy behavior (health behavior), because health behavior itself influences the tendency of developing a disease. Sickness and death will be reduced if humans have behaviors that improve health such as doing 3M-PLUS activities regularly.⁶

Behavior as a determinant of health is a form of a person's response to a stimulus. Behavior itself contributes to every health problem in this case to the problem of dengue fever *dengue* (DHF), this is because all health problems always have a behavioral aspect as a risk factor. Community behavior itself is influenced by several factors, one of which is the role of health workers.⁷

A health worker is any person who is devoted to the health sector and has knowledge and/or skills through education in the health sector which for certain types requires authority to carry out health efforts. Health workers have an important role in improving the maximum quality of health services to the community so that the community is able to increase awareness, willingness and ability to live healthily.⁹ The several roles of health workers are as communicators, motivators, facilitators and counselors. In the prevention of DHF health workers have roles such as providing counseling about DHF, making visits to homes, conducting regular larvae checks and acting as supervisors and activators for the community in preventing DHF.¹⁰

Based on a preliminary study conducted on Tuesday 19 May 2020 at Pasir Mulya Health Center, the results of interviews via social media were obtained with 10 (ten) residents. Of the 10 people on average, all of them knew what DHF was and one of them had experienced DHF. They have also done some prevention of DHF, such as draining the bathtub, closing the water tub, cleaning stagnant water, minimizing hanging clothes, burying used items and using anti-mosquito lotion and of the 10 people interviewed 5 of them got information about DHF from electronic media. TV, 2 people from social media, 1 person from books and 2 from health workers: 1 person received counseling at school from the health center and 1 person from a doctor who had treated him.

RESEARCH METHODS

The research design uses an analytical survey. Analytical surveys are studies that try to explore how and why health phenomena occur, then analyze the dynamics of the correlation between phenomena or between risk factors and effect factors. This study uses a cross sectional approach, which is a study to study the dynamics of correlation by means of an observation or data collection approach at one point in time (point time approach).¹¹

The population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are used by researchers to study which then draw conclusions.¹²

The population in this study is the entire community in Pasir Mulya Health Center in Bogor City, which has a population of around 6,059 people.

The sampling technique used in this research is *Simple Random Sampling*, because the sample members are taken randomly without regard to the existing strata in the population concerned.¹² The number of samples taken in this study used the Taro Yamane formula, namely 100 respondents, this is because the population is quite large.¹³

Data processing and data analysis using computerized program *spss*. The analysis consisted of univariate and bivariate analysis using Cramer.

RESEARCH RESULT

This research was carried out on September 28 2020 and data was collected on the respondents. In carrying out the data collection, the researcher was assisted by one of the cadres from the Pasir Mulya Health Center, Bogor City, who had previously been given an explanation regarding how to fill out the questionnaire sheet. Before filling out the questionnaire, the respondent was given an explanation beforehand and then given an informed consent sheet to be signed. Respondents were given the freedom to accept or refuse to be respondents. The number of respondents was 100 respondents. The results of this study were analyzed using univariate and bivariate analysis.

Table 1. Analysis of Normality Test Results

<i>Kolmogorov-Smirnov</i>			
	Statistics	Df	sig.
Role of Health Workers	.281	100	0.000
Dengue Prevention Behavior	.181	100	0.000

Based on table 1, it can be seen that the results of the normality test with Kolmogorov-Smirnov are 0.000, which means less than <0.05 . So, based on the results of data analysis using the SPSS program, it can be concluded that the research data is not normally distributed. Then the value used is the median value.

Table 2. Frequency Distribution of the Role of Health Workers

No	Role of Health Workers	Frequency	Percentage (%)
1	Play an active role	45	45
2	Not playing an active role	55	55
Total		100	100

Based on table 2 the frequency distribution of the role of health workers in Pasir Mulya Health Center in Bogor City in 2020, it shows that out of 100, 55 respondents (55%) stated that the role of health workers did not play an active role.

Table 3. Frequency Distribution of Dengue Prevention Behavior

No	Dengue Prevention Behavior	Frequency	Percentage (%)
1	Positive	33	33
2	Negative	67	67
Total		100	100

Based on table 3 frequency distribution of DHF prevention behavior in Pasir Mulya Health Center in Bogor City in 2020, showing 67 respondents (67%) out of 100 respondents with negative DHF prevention behavior

Table 4. Relationship between the Role of Health Workers and Dengue Hemorrhagic Fever Prevention Behavior in the Community

Role of Health Workers	Dengue Prevention Behavior				Amount (n)	P Value	OR
	Positive		negative				
	N	%	N	%			
Play an Active Role	23	23.0	22	22	45	45.0	0.000 4,705
Not Playing an Active Role	10	10.0	45	45.0	55	55.0	
Amount	33	33.0	67	67.0	100	100	

Based on table 4. Relationship between the Role of Health Workers and Dengue Hemorrhagic Fever Prevention Behavior in the Community at the Pasir Mulya Community Health Center in Bogor City in 2020 shows that out of 100 respondents, 45 respondents (45.0%) had the role of health workers (not playing an active role) and DHF prevention behavior (negative).

Statistical test results using *cramer's* get a p value = 0.000, which means p value ≤ 0.05 then H_0 is rejected and H_a is accepted. This means that there is a relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever in the community at the Pasir Mulya Health Center, Bogor City, in 2020.

From the statistical results, the value of RO (Odds Ratio) is also 4,705, which means that the role of health workers has 4,705 times the opportunity for DHF prevention behavior.

DISCUSSION

Based on the results of the research on the frequency distribution of the role of health workers, it shows that out of 100 respondents at the Pasir Mulya Health Center in Bogor City in 2020, 55 respondents (55%) stated that the role of health workers was not active and 45 respondents (45%) stated that the role of health workers was to play an active role.

The results of this study are comparable to research conducted by Lisastri Syahrias 2018, examining "Behavior Factors for Prevention of Dengue Hemorrhagic Fever (DHF) in Mangsang Village, Batam City" with the results of 168 respondents stating the role of health workers was not active 87 respondents (51, 8%).

The role of health workers is a pattern of behavior, beliefs, values, and attitudes that are expected to describe the behavior that individuals as health workers should display.¹⁴ A health worker is any person who is devoted to the health sector and has knowledge and/or skills through education in the health sector which for certain types requires authority to carry out health efforts.⁹

According to Lawrence Green the role of health workers is one of the driving or reinforcing factors (*Reforcing factors*) that can influence people's behavior.⁷

The role of health workers in preventing dengue hemorrhagic fever according to the Ministry of Health of the Republic of Indonesia includes providing health education about dengue hemorrhagic fever along with how to prevent it, conducting home visits so that families understand and are willing to carry out dengue prevention, carrying out periodic larvae checks at homes. , to see whether there are larvae in the water tanks at home in their working area, appoint one jumantik (larvag monitor) in each house and report the results of the larvae inspection to the puskesmas once a month.¹⁰ From the research results it can be concluded between theory and research results that the role of health workers can influence the behavior of dengue hemorrhagic fever prevention in the community. The role of health workers at the Pasir Mulya Health Center in Bogor City tends not to play an active role, there are 55% who state that the role of health workers does not play an active role. Health workers at the Pasir Mulya Health Center in Bogor City do not play an active role because the number of health workers is lacking and health workers are not oriented towards disease prevention in the community but are more focused on treatment at health service centers. So the health workers at the Pasir Mulya Health Center in Bogor City did not provide enough information, especially through health education to the community, especially in preventing dengue. In addition, health workers also did not monitor

mosquito larvae in the community. In fact, there was one family that was attacked by dengue fever, wondering about what caused the disease, which almost attacked all members of the family. So that researchers can conclude there is compatibility between theory and research results.

Based on the research results of the frequency distribution of DHF prevention behavior in Pasir Mulya Health Center in Bogor City in 2020, showing that out of 100 respondents, 67 respondents (67%) had negative DHF prevention behaviors and 33 respondents (33%) had positive DHF prevention behaviors.

The results of this study are comparable to research that has been conducted by Ratna Sari Dewi 2015 entitled "Factors Influencing Community Behavior in Eradicating Dengue Hemorrhagic Fever Mosquito Nests in Rantau II Village, Rantau Rasau District in 2015" showing that out of 103 respondents, 68 respondents (66.0 %) had poor behavior in eradicating DHF mosquito nests.

Behavior is an activity or activity of the organism or living creature concerned. Humans as living beings have a very wide range of activities, as long as the activities carried out by humans include walking, talking, working, writing, reading, thinking and so on.⁷

Factors that influence behavior, namely predisposing factors manifest in knowledge, attitudes, beliefs, beliefs, values and so on.⁷ Enabling factors are realized in the physical environment, whether or not health facilities or facilities are available, for example health centers, medicines, contraceptives, latrines and so on.⁷ Driving or Reinforcing Factors that are manifested in the attitude, behavior and role of health workers (health workers/trained) or other officers who are a reference group for community behavior such as religious leaders, community leaders and others.⁷

From the results of the study it can be concluded that the behavior of prevention of dengue hemorrhagic fever in the community in Pasir Mulya Health Center in Bogor City tends to be negative, because there are 67% who behave negatively. There are still many people at the Pasir Mulya Health Center in Bogor City who do not prevent dengue, such as not closing water reservoirs, not draining them regularly and many still have the habit of hanging clothes in the house due to a lack of counseling and information from local health workers.

Based on the results of the research on the Relationship between the Role of Health Workers and Dengue Hemorrhagic Fever Prevention Behavior in the Community at the Pasir Mulya Health Center, Bogor City in 2020, it shows that out of 100 respondents, 45 respondents (45.0%) had the role of health workers (not playing an active role) and DHF prevention behavior. (negative).

The results of the statistical test using Cramer's obtained a p value = 0.000, which means that the p value ≤ 0.05 then H_0 is rejected and H_a is accepted. This means that there is a relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever in the community at the Pasir Mulya Health Center, Bogor City, in 2020.

From the statistical results, the value of RO (Odds Ratio) is also 4,705, which means that the role of health workers has 4,705 times the opportunity for DHF prevention behavior.

According to Lawrence Green, the role of health workers is one of the driving or reinforcing factors that can influence people's behavior.⁷

This is supported by Lisastri Syahrias' 2018 research, entitled "Behavior Factors for Prevention of Dengue Hemorrhagic Fever (DHF) in Mangsang Village, Batam City" which based on statistical tests obtained a p value = 0.001. p value ≤ 0.05 means that there is a significant relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever and

obtained an Odds Ratio value of 8.198 meaning that health workers who play an active role have a chance of 8.198 times positive DHF prevention behavior.

A similar study was conducted by Puguh Ika Listyorini 2016, with the title "Factors Influencing Mosquito Nest Eradication (PSN) Behavior in the Karangjati Community, Blora Regency" where based on statistical tests obtained a p value = 0.001. p value ≤ 0.05 means that there is a significant relationship between the role of health workers and behavior. This means that the role of health workers has a significant influence on the behavior of eradicating DHF mosquito nests.

Thus it can be concluded that in this study the results of the analysis of the relationship between the role of health workers and the prevention behavior of dengue hemorrhagic fever in the community at the Pasir Mulya Health Center, Bogor City in 2020, state that there is a significant relationship.

According to researchers, the role of health workers has an important role in changing people's behavior. Because health workers are one of the reference groups from community behavior. The role of health workers in preventing dengue hemorrhagic fever such as providing counseling to the community and monitoring mosquito larvae in every house will greatly affect the people in Parakan Muncang Village. As a result of the lack of health education and lack of information reaching the community, people's preventive behavior towards DHF tends to be negative, many people do not do M4PLUS which is a government program in an effort to prevent transmission of DHF.

CONCLUSION

1. It is known that the frequency distribution of the role of health workers at the Pasir Mulya Health Center in Bogor City in 2020 from 100 respondents shows that 55 respondents (55%) said they did not play an active role.
2. It is known that the frequency distribution of dengue prevention behavior in the community at the Pasir Mulya Health Center in Bogor City in 2020 from 100 respondents shows that 67 respondents (67%) have negative behavior.
3. It is known that there is a relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever in the community at the Pasir Mulya Puskesmas, Bogor City in 2020, out of 100 respondents, 45 respondents (45%) with the role of health workers who did not play an active role and negative dengue prevention behavior. The results of the statistical test obtained a p value = $0.000 \leq 0.05$, meaning that there is a relationship between the role of health workers and the behavior of preventing dengue hemorrhagic fever in the community at the Pasir Mulya Health Center, Bogor City, in 2020.

SUGGESTION

1. For Community/Respondent
It is hoped that the results of this study can provide information for the community at the Pasir Mulya Health Center in Bogor City so that they want to carry out prevention of Dengue Hemorrhagic Fever by carrying out 4M-PLUS activities.
2. For Health Workers



It is hoped that the results of this study can be used as evaluation material and input for health workers to play an active role in the community in efforts to prevent Dengue Hemorrhagic Fever, by conducting counseling about DHF along with how to prevent it and by visiting and monitoring mosquito larvae in every house. .

BIBLIOGRAPHY

- 1 World Health Organization. 2020.*Dengue And Severe Dengue*.<http://www.who.net/news-room/fact-sheets/detail/dengue-and-severe-dengue>. Retrieved March 8, 2020, 11:21:24
- 2 World Health Organization. 2019.*Dengue And Severe Dengue*.<http://www.who.net/news-room/fact-sheets/detail/dengue-and-severe-dengue>. Retrieved January 28, 2020, 21:01:00
- 3 Indonesian Ministry of Health.*Dengue Hemorrhagic Fever*. Epidemiology Window Bulletin. 2010. <http://www.kemkes.go.id/download.php?file=download/pusdatin/buletin/buletin-dbd.pdf>. Downloaded on February 10, 2020, 23:54:09
- 4 Public health Office. 2015.*Bogor District Health Profile 2015*.http://www.depkes.go.id/resources/download/profile/PROFIL_KES_PROVINSI_2015/12_Jabar_2015.pdf. Downloaded on 02 August 2020, 05:16:12
- 5 Nangong Health Center.*Recapitulation of Nangong Puakesmas Inpatient Services*. 2019.
- 6 Priyoto.*Theory of Attitudes and Behavior in Health Equipped with Questionnaire Examples*. Yogyakarta: Nuha Medika, 2018.
- 7 Notoatmodjo S.*Health Behavioral Science*. Jakarta: Rineka Cipta, 2010.
- 8 Indonesian Ministry of Health. *InfoDatin Dengue Hemorrhagic Fever Site*. J. Vector Ecology. 2018; 31:71–78. <http://www.kemkes.go.id/download.php?file=download/pusdatin/infodatin/infodatin-Situation-Dengue-Fever-Dengue.pdf>. Downloaded on January 30, 2020, 14:44:04
- 9 Laws of the republic Indonesia.*Health Workers Act*.2014. http://gajiroum.kemkes.go.id/data/UU_NO_36_2014.pdf. Downloaded on February 14, 2020, 00:47:51
- 10 Diauddin M.*Relationship of Knowledge, Role of Health Workers, Health Counseling and Family Participation with Dengue Hemorrhagic Fever (DHF) Prevention Practices in Gampong Blang, Meuraxa District, Banda Aceh in 2019*. Banda Aceh: Aceh Muhammadiyah University. 2019. (Thesis)
- 11 Notoatmodjo S.*Health Research Methods*. Jakarta: Rineka Cipta, 2018.
- 12 Sugiyono.*Quantitative, Qualitative and R&D Research Methods*. Bandung: Alfabeta, 2018.
- 13 Jaya I.*Application of Statistics to Educational Research*. Jakarta: Prenadamedia Group, 2019.
- 14 Putri M, Astuti Y.*The Relationship between the Role of Health Workers and the Compliance of Pregnant Women in Consuming Fe Tablets*. J. Chem. inf. Model. 2016. Yogyakarta: Yogyakarta Muhammadiyah University. 2016. (Thesis)