



Analysis of Dengue Hemorrhagic Fever Prevention Efforts

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Abstract

DHF incidence in the region Subdistrict Proud East Regency Majene in 2022 experience enhancement from year previously. That matter astounding that dengue fever prevention in the region the Still need get attention special. Objective study This is For analyze effort countermeasures dengue fever incidence in the region Work Public health center Lembang Subdistrict Proud East Regency Majene. Type study is research observational with use method cross-sectional. Sample study use sample region and *purposive sampling* with amount respondents as many as 100 respondents. Variable in study this is the role of health workers and PSN 3M plus as variable independent and the incidence of dengue fever is variable dependent. Analysis of the data used is test *chi square* for see connection between dependent variable and independent variable. The results of the study show that the role of health workers has a relationship with the incidence of dengue fever where the p value = $0.010 < \alpha 0.05$, which means there is a significant relationship between the role of health workers and the incidence of dengue fever. The implementation of PSN 3M plus also has a significant relationship with the incidence of dengue fever with a value of $p = 0.034 < \alpha 0.05$. There needs to be an increase in the implementation of health surveillance and health promotion related to the implementation of PSN 3M plus. Role officer health in convey And do activity surveillance give impact to effort controlling dengue fever in the community especially in implementation of PSN 3M Plus which has influence to dengue fever incident .

Keywords: DHF, Health Workers, PSN 3M plus

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1. Introduction

Dengue fever is an acute disease caused by dengue virus infection transmitted by female mosquitoes *Ae des aegypti* and *Ae des albopictus* [1]. Indonesia is one of the tropical countries that has the air humidity is quite high which triggers the *Ae. aegypti*, which is the vector for dengue fever, reproduces [2]. DHF was first discovered in 1968 in Jakarta and Surabaya, the number of reported dengue cases is increasing and its spread increasingly widespread in all provinces of Indonesia [3]. Breeding the vector of *dengue hemorrhagic fever* or DHF is greatly influenced by the presence of containers. This can be seen in the placement of the container, its material, shape and color, as well as the depth of the water, cover and water source, which greatly influence the selection of eggs, by mosquitoes. [4] The presence of larvae was found in clean water supplies, positive in water storage containers, and is in room [5]. *Dengue* prevention currently still relies on vector control requires active community involvement. There have been various national movements starting in the 1980s from larvicide, focused fogging, mosquito nets and 3M (cover, drain, and recycle used goods), larva monitoring (jumantik),

eradication of mosquito nests (PSN), communication for behavioral impact (COMBI) up to the 1 House 1 Jumantik Movement or what is known as G1R1J. Apart from existing vector control efforts intensified, *dengue numbers* in Indonesia continue to increase with increasing impact increases over time [6]. The two main national vector control activities include surveillance and vector control [6]. Management and prevention of *dengue hemorrhagic fever* (DHF) outbreaks can also be done by educating the public about the importance of knowledge about *dengue hemorrhagic fever* (DHF) outbreaks and their dangers and the importance of maintaining cleanliness. Dengue fever is an environmental-based disease whose incidence rate can be reduced by implementing vector control measures [7]. There are differences in the presence of larvae after dengue education is carried out to that community related to the level of knowledge and attitudes in Pandang Village, Panakukang District, Makassar City [8]. The low knowledge public in vector control is an increasing factor density triggering mosquitoes occurrence of dengue fever [9]. Vector eradication actions with PSN 3 Plus activities [7]. Efforts

countermeasures incident fever dengue bleeding was carried out expected capable control dengue fever incident. Results research conducted by [10]. Vector control is a must done in structured form from on until lower [11]. Required exists enhancement effort promotion health for increase knowledge [12]. Data on the incidence of *dengue hemorrhagic fever* from the Ministry of Health in 2022 reached 131,265 cases, of which around 40% were children aged 0-14 months. Meanwhile, the number of deaths reached 1,135 cases with 73% occurring in children aged 0-14 years. Details of the distribution of dengue fever cases according to the Ministry of Health, there are six provinces with the highest cases of *dengue hemorrhagic fever*, namely West Java with 27,657 cases, Central Java with 8,760 cases, East Java with 8,356 cases, DKI Jakarta with 5,632 cases, North Sumatra with 5,302 cases and East Kalimantan with 3,531 cases [13]. Data from the West Sulawesi Provincial Health Service recorded 575 positive cases of dengue hemorrhagic fever in 2022, spread across 4 districts. The highest cases were found in Mamuju Regency with 213 cases and the lowest were in Majene Regency with 62 cases, while in Mamasa and Central Mamuju Regencies no cases were found. In the previous year, namely 2020 and 2021, there were 472 cases and 339 cases respectively spread across 6 districts [14]. Majene Regency every year dengue fever cases are found, in 2020 there were 57 cases, in 2021 it decreased by 16 cases, but in 2022 until December it again increased by 62 cases spread across 7 sub-districts. The highest incidence of dengue fever cases was found in East Banggae District with 25 cases, followed by Banggae District with 24 cases, Pamboang District with 5 cases, Tubo and Ulumanda with 3 cases each, Malunda District with 1 case, for Tammerodo District there were no cases found with 15 cases [15].

2. Materials and Methods

The type of research used is analytical with a *cross sectional study design*, namely collecting data or research variables such as the independent variable PSN and the dependent variable for the incidence of dengue hemorrhagic fever carried out in a simultaneous study. Conducted from August to September 2022 using *purposive sampling technique* there were 100 respondents. Data collection was carried out using a questionnaire and analyzed univariately in the form of a frequency distribution and bivariately using the Chi-Square test.

2.1. Research Ethics

This research was carried out after obtaining a certificate of passing the ethics review from the Ethics Committee for Health Research, Public Health Faculty, Hasanuddin-University with number 4950 / UN4.14.1 / TP . 01.02 / 2023, dated August 23, 2022.

3. Results and discussion

3.1. DHF sufferers from 2021 to 2022

Amount incidence of dengue fever and patients who died consequence dengue fever incidence in the region. Work Public health center Lembang can seen on table following.

Based on table 1, Subdistrict Lembang had the most cases of dengue fever with 10 sufferers in 2022 with 1 person dying, Kelurahan Labuang 5 sufferers, Village Baurung 3 incidents with, Kelurahan Tande East 1 incident. Based on table 2, 6 cases of dengue fever were found on Ward Tande East 3 Sufferers with 1 person died, Kelurahan Lembang 2 Patients And Ward Remove 1 patient.

3.2. Relationship between the role of health workers and the incidence of dengue fever

Officer Health have role important in effort control dengue fever, activities promotional and preventive expected capable push dengue fever incidence in the region. Work Public health center Lembang Regency Majene. Results obtained based on variable role officer health can seen on table following. From table on can seen that of the 100 respondents who became sample study obtained that 24 respondents state that officer health active in do efforts countermeasures incidence of dengue fever while 76 respondents state that officer health No active in effort dengue fever prevention in the region Work Community Health Center Lembang. Table on show that obtained results statistical analysis with Chi square was obtained mark $p = 0.011 < \alpha = 0.05$ that is. This matter show that There is significant relationship between role officer health to dengue fever incidence in the region Work Public health center Lembang Subdistrict Proud East Regency Majene.

3.3. Relationship between PSN 3M Plus and the incidence of dengue fever

Distribution results interview And observation related with implementation of PSN 3M plus on sample study can seen on table following From table on can seen that amount House stairs that apply the obtained 3M PSN there are 12 RTs that implement it drain tub water reservoir, closed meeting water reservoir and bury or recycle repeat goods used. Meanwhile, 88 RTs did not implement PSN 3M plus. Results intermediate statistical test implementation of PSN 3M Plus with the incidence of dengue fever shows p value = $0.034 < \alpha 0.05$ which means There is connection significant between implementation of PSN 3M Plus with dengue fever incident.

3.4. The Role of Health Workers against DHF

From table 3 it can be seen that the number of respondents who stated that health workers were active in efforts to control dengue fever was 50 respondents. Meanwhile, 50 respondents stated that health workers were not active in preventing dengue fever. Respondents who were registered as dengue sufferers and stated that the role of health workers was active were 7 or 28% of the total 25-dengue sufferers, while 18 others stated that health workers were not active in dealing with dengue fever. The statistical test results $p = 0.011 < \alpha = 0.05$ indicate that there is a significant relationship between the role of health workers and the incidence of dengue fever in the Lembang Community Health Center working area.

Table 1. Number of dengue fever incidents by sub-district in 20-22

Ward	Incident	Die
Baurung	3	-
Labuang	5	-
Lembang	10	1
Tande East	1	-
Total	19	1

Source: Public Health Office Regency Majene, 2022

Table 2. Number of dengue fever incidents by sub district January - May 20 23

Ward	Incident	Die
Baurung	-	-
Labuang	1	-
Lembang	2	-
Tande East	3	1
Total	6	1

Source: Public Health Office Regency Majene , 2023

Table 3. Distribution role officer Health to effort controlling dengue fever

Role Officer Health	N	%
Active	50	50
No Active	50	50
Amount	100	100.0

Source: Primary data 2023

Table 4. Relationships role officer health to dengue fever incidence in the region Work Public health center Lembang Year 2023

Role Officer Health	Dengue sufferers					p value
	No	%	Yes	%	Total %	
Active	43	57,0	7	28	50	0,011
No Active	32	43.0	18	72	50	
Amount	75	100	25	100	100	

Source: Primary Data 2023

Table 5. Distribution Implementation PSN 3M Rumah activities ladder

Implementation of PSN 3M Plus	N	%
Active	12	12.0
No Active	88	88.0
Amount	100	100.0

Source: Primary Data

Table 6. Connection implementation of PSN 3M Plus with DHF incidence in work areas Public health center Lembang Regency Majene Year 2023

PSN 3M Plus	Dengue sufferers					p value
	No	%	Yes	%	Total%	
Active	12	16	0	0	12	0.034
No Active	63	84	25	100	88	
Amount	75	100	25	100	100	

Source : Primary Data 2023

The role of health workers in efforts to control dengue fever which is the criteria in this research is the efforts of health workers in health promotion and preventive efforts through program integration in health surveillance. Research results [10] information _ from health workers has a relationship with the incidence of dengue fever. Information- information provided by health workers, both in the form of promotions and in preventive health surveillance activities, has an influence in efforts to control the incidence of dengue fever. This is in line with research conducted by [16] . That The large number of people who lack knowledge in dealing with dengue fever shows that the role of health workers in conveying information to the community has an influence on the incidence of dengue fever. Results other research too mention that lack of participation from officer health in dengue prevention is not can stop dengue fever incident p the Because officer health No own adequate knowledge [17]. From table 3 about distribution role officer health in effort dengue prevention was found by 50% of respondents state that officer health No active in related activities with dengue fever prevention such as counseling health related with information dengue fever , surveillance health as effort disconnect dengue fever transmission. Temporary from Table 4 is related Connection role officer health to dengue fever incidence in respondents at home obtained positive dengue fever sufferers there were 18 respondents of 25 respondents sufferer state that officer health No active. Officer active health in give efforts prevention and promotion naturally will give impact positive to prevention incidence of dengue fever in the community.

3.5. Relationship between 3M Plus PSN Implementation and DHF Incidents

From table 6 above can seen that implementation of PSN 3M plus with p value = 0.034 < α 0.05 shows exists influence implementation of PSN 3M plus with incident fever dengue bleeding in the region Work Public health center Lembang. Results study This in line with research conducted by [18] in Bengkulu where results research the state that PSN action 3M plus has influence to dengue fever incident . Results study This Also in line with research conducted by [19] Where found that the bad implementation of PSN 3M plus has influence to dengue fever incident in Andalas. Dengue fever is a disease caused by a vector-based dengue virus for which no vaccine has been found to prevent it, like diseases caused by other viruses. Implementation of 3M PSN , namely close meeting place water storage, draining place water storage, recycling repeat goods used is action taken in prevent development DHF mosquito vector culture [6]. Lack of action eradication nest PSN 3M plus mosquitoes in the community caused by lack of knowledge, supervision or control and accompaniment from various party. In implementation effort controlling dengue, fever through PSN 3M Plus activities are required involvement from all party and done in a way sustainable.

3.6. Limitations Study

Study this only use two independent variables and one dependent variable.

4. Conclusions

Based on results And discussion on so can concluded that officer health own very role important in effort countermeasures incidence of dengue fever in the region Work Public health center Lembang. Officer health own role in activity promotion and activity preventive through activity surveillance. Mosquito eradication advice (PSN 3M plus). Lack of participation public in implementation of PSN 3M plus provides influence to dengue fever incidence in the region Work Public health center Lembang Subdistrict Proud East Regency Majene.

Complicated Interest

Researcher look that No There is complex internal interests study.

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