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FACTORS RELATED TO THE INCIDENCE OF DENGUE HEMORRHAGIC FEVER IN OGAN KOMERING ULU DISTRICT SOUTH SUMATERA

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ABSTRACT

Background: Dengue hemorrhagic fever is a disease that is transmitted to humans through the bite of infected mosquitoes, especially the Aedes aegypti and Aedes albopictus mosquitoes, which are found in almost all corners of Indonesia. **Method:** Cross-sectional research design is the methodology employed. In this study, 1,591 persons from the community of Gunung Mas, aged 15 to 44 and 55, participated. This study's sample size was 91 respondents, who were interviewed using a questionnaire in the village of Gunung Mas. **Results:** Based on the analysis results, the Chi Square test results obtained a p value of 0.000 < (0.05), meaning that there is a significant relationship between knowledge and the incidence of dengue hemorrhagic fever. The results of the Chi Square test showed a p value of 0.000 < (0.05), meaning that there was a significant relationship between attitude and the incidence of dengue hemorrhagic fever. The results of the Chi Square test showed a p value of 0.000 < (0.05), meaning that there was a significant relationship between the habit of littering and the incidence of dengue hemorrhagic fever. The Chi Square test results obtained a p value of 0.000 < (0.05), meaning that there is a significant relationship between SPAL facilities and the incidence of dengue hemorrhagic fever. **Conclusion:** There is a significant relationship between knowledge, attitudes, habits of littering, and waste water disposal channels and the incidence of dengue hemorrhagic fever.

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INTRODUCTION

Dengue hemorrhagic fever is a disease that is transmitted to humans through the bite of infected mosquitoes, especially the Aedes aegypti and Aedes albopictus mosquitoes, which are found in almost all corners of Indonesia. DHF is one of the many infectious diseases that can cause death in a short time and can cause an epidemic. Based on Indonesian health profile data, there have been 70,947 cases of dengue fever and 662 deaths due to dengue fever. In Brazil, the rise in dengue mortality and case fatality rates, together with the related socioeconomic and health care determinants, indicates that structural and intersectoral investments are necessary to enhance living circumstances and minimize these consequences in a sustainable manner (Paixão et al., 2015).

The number of dengue fever cases in 2022 up to the 50th week was highest in West Java Province, with 17,892 cases and 162 deaths. In South Sumatra Province, the number of dengue fever cases reached 1,135 with 11 deaths. This makes South Sumatra 14th out of 34 provinces with dengue fever cases (Ministry of Health of the Republic of Indonesia, 2022).

Data from the Profile of the South Sumatra Provincial Health Service shows that the incidence rate or morbidity rate for dengue fever in South Sumatra shows dynamic figures. The highest number of dengue fever cases in 2021 was in the city of Palembang, with 246 (21.67%) of the 1,135 cases in South Sumatra. The second-highest position was in East Oku district with 153 (13.48%) of the 1,135 cases, and the lowest was in the district of OKU and Muaratara, which accounted for 5 (0.44%) of the 1,135 cases. (South Sumatra Provincial Health Service Profile, 2022).

Of the 22 Community Health Centers in East Oku Regency, the highest cases of Dengue Fever in 2022 were in Gumawang Community Health Center with 29 (20.1%) of 144 cases and the lowest were in Muncak Kabau, Taraman, and Rasuan Public Health Centers with 1 (0, 69%) of 144 cases. (OKUT District Health Service, 2022).

Based on data from the Gumawang Public Health Center, there were 29 cases of Dengue Hemorrhagic Fever, based on the age group, there was 1 child aged 1-4 years, 3 children aged 5-14 years, 3 children aged 15-55 years, 25 people aged 15-55 years, while Gunung Mas Village was the village with highest number of cases. (UPTD Gumawang Health Center, 2020-2022).

The results of previous studies in Ogan Komering Ilir showed that the incidence of dengue fever was related to age, gender, occupation, knowledge, draining the landfill, installation of wire mesh (Novrita, Mutahar, & Purnamasari, 2017). Dengue fever is a disease that is a national priority and must be controlled to prevent an increase in cases and extraordinary events. The human factor related to the incidence of dengue fever is the behavior of hanging clothes both in the bedroom and bathroom. Apart from that, population density is a risk factor for dengue fever. Health service factors related to the incidence of dengue fever are promotive and preventive efforts such as health education and community empowerment regarding the PSN program through 4M plus (Oroh, Pinontoan, & Tuda, 2020).

Factors that influence incidence of Dengue Hemorrhagic Fever in the region the work of the Pare Community Health Center is a 4M Plus action in Tulungrejo Village the majority are good but based on results research shows that there are still many people who care less about 4M Plus activities. (Pare, 2018). There is still a high incidence of dengue fever in Ogan Ulu Regency, so it is necessary to carry out further studies aimed at analyzing the risk factors for the incidence of dengue fever in the work area of the health center.

METHODS

This research is an analytical observational study with a cross-sectional design, and conducted in March - July in the work area of the Ogan Komering Ulu health center. Collecting data using a survey using a questionnaire that has been tested for validity and reliability and laboratory tests. The questionnaire asked about the incidence of dengue hemorrhagic fever. The population was 1,591 people aged 15–44 years and 55 years who were selected using the simple random sampling method.

The sample was determined based on the cross-sectional formula with a margin of error of 10% (Ryan, 2013), which amounted to 90,626 (rounded to 91). The variables studied include the incidence of dengue hemorrhagic fever (a dependent variable), knowledge, attitudes, habits of throwing litter, and waste water disposal channels (independent variables). Data were analyzed univariately and bivariately using the chi square test.

RESULTS

The results of the data analysis are presented in the table below:

Table 1. Frequency Distribution Based on the Incidence of Dengue Hemorrhagic Fever

Variables	Frecuency (n)	Percentage (%)
Incident Of Dengue Fever		
1. Yes	39	42.9
2. No	52	57.1
Knowledge		
1. Not good	30	33
2. Good	61	67
Attitude		
1. Negative	41	45.1
2. Positive	50	54.9
The habit of throwing rubbish carelessly		
1. Yes	36	39.6
2. No	55	60.4
SPAL facilities		
1. not eligible	38	41.8
2. qualify	53	58.2

Based on Table 1, it was found that the incidence of dengue hemorrhagic fever was 42.9%. Knowledge, attitudes, habits of throwing litter, and SPAL facilities.

Table 2. Relationship Between the Incidence of Dengue Hemorrhagic Fever (DHF) and The Characteristics Of Respondents

Variables	Dengue Hemorrhagic Fever Incidence					
	Yes		No			
	n	%	n	%		*p value*
Knowledge						
1. Not good	22	73,3	8	26,7		
2. Good	17	17,9	44	72,1	-	0.0005
Attitude						
1. Negatif	27	65,0	14	34,1		**0.0005**
2. Positif	12	24,0	38	76,0		
The habit of throwing rubbish carelessly						
1. Yes	27	75,0	9	25,0		
2. No	12	21,8	43	78,2	-	0.0005
SPAL facilities						
1. not eligible	31	81,6	7	18,4		**0.001**
2. qualify	8	15,1	45	84,		

Based on Table 2, the chi-square test results show that this variable is significant. The related to dengue hemorrhagic fever are knowledge, attitudes, habits of disposing of waste, and SPAL facilities.

DISCUSSION

The researcher's assumption concludes that the knowledge variable is mostly poor due to the lack of health promotion media about dengue hemorrhagic fever. The lack of respondents' desire to find out about dengue hemorrhagic fever is also one of the factors contributing to the lack of knowledge among respondents. According to the results of a study in Indramayu Regency, the practice of 3M at home and the habit of hanging clothes are risk factors for the incidence of dengue hemorrhagic fever (DHF) in Indramayu Regency (Akbar & Syaputra, 2019).

Knowledge about preventing dengue hemorrhagic fever in the community is very necessary so that people know how to prevent dengue hemorrhagic fever. Knowledge in the community can be sourced from information obtained from community health centers, which is provided through informational media such as leaflets and posters. Also obtained from existing programs in health services. The age and education of the head of the household, the cleanliness of the toilet and the status of a healthy home have important role in influencing the incidence of dengue fever (Widawati et.al., 2020).

According to previous research conducted by Rahmaditia (2022) at the Tlogosari Wetan Community Health Center, Semarang City, it was proven that there is a relationship between knowledge and attitude and the prevention of dengue hemorrhagic fever in children. Several other studies also provided similar results; for example, in Duma's (2022) research in Baruga District, Kendari City, there was a very significant relationship between knowledge and the incidence dengue fever. According to previous research conducted by Pantouw et al. (2018), there is a relationship between attitude a relationship between attitude and the incidence of dengue hemorrhagic fever. What this means is that there is a significant relationship between attitude and the incidence of dengue fever. According to researchers' assumptions, the habit of littering among respondents is still very high, there is a lack of public awareness not to litter, and a lot of rubbish such as used cans, bottles, drums, and tires is around the house. The Aedes aegypti mosquito like to breed in garbage because used objects can hold water and create stagnant water. Inadequate waste management might result in illnesses like dengue hemorrhagic fever. Additionally, if littering persists, it may result in a number of issues, including contaminated river water, flooding, and the emergence of numerous other diseases. The findings of a study conducted in the work area of the puskesmas in Musi Banyuasin Regency revealed that improper handling of used cans and habitual stacking of them around the home were both contributing factors to the occurrence of dengue fever (Yulidar et al., 2021). Apart from that, the incidence of dengue fever is associated with environmental parameters, although it does not have a close correlation, the area of tall and small buildings is consistent with low cases of dengue fever (Kesetyaningsih et al., 2018). Additionally, when the model is used to regions with comparable climates, where environmental variables like temperature, total rainfall, and humidity are not significantly different, new factors connected with the disease are required to improve the forecast accuracy of the model (Siriyasatien et al., 2015). According to previous research conducted by Rosmala (2019), which shows that there is a relationship between waste management and the incidence of dengue fever. This is also in line with the research results of Utami et al. (2019), which show that there is a relationship between the behavior of littering and the incidence of dengue hemorrhagic fever. The condition of many community SPAL is still not said to meet the requirements because most community SPAL are still open, many SPAL flows are still blocked due to rubbish thrown into the gutter, and there are also SPALs flowing around empty land close to residents' homes. Things like this when the seasons change will cause problems later, and mosquitoes will become a breeding ground for the Aedes aegypti mosquito. The majority of the factors that lead to dengue cases are hard to manage, therefore the primary options for prevention and control of the disease are environmental alteration and intervention, vector control, and behavioral modification (Mudin, 2015).

CONCLUSION

The conclusion of this research is that knowledge, attitudes, habits of disposing of waste, and SPAL facilities have a significant relationship with the incidence of dengue hemorrhagic fever. Therefore, it is necessary to monitor the vector that causes dengue fever periodically and carry out active surveillance in the work area of the health center. It is necessary to carry out intensive health promotion regarding dengue fever to heads of households.

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