e-ISSN: 3030-878X

The 4th International Conference on Environmental Health (ICOEH)

Social Capital Model to Increase Sustainability Awareness in Dengue Fever (DHF) Prevention with One House One Mosquito Net (GESARUSAJU) Movement

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ABSTRACT
Dengue fever cases in Magetan are increasing from year to year. In 2021, there were 208 cases of dengue fever in Magetan, 3 people died. In 2022, from January to September 2022, it increased to 322 cases and 5 people died, it is predicted that it will continue to increase along with the change of the hot rainy season or unpredictable weather. Objectives: To analyze the social capital model of dengue fever endemic areas and the influence of social capital on sustainability awareness in preventing dengue fever in Magetan Regency. Method: This study consists of 2 stages. Stage 1: Identification and analysis of factors that are indicators of Social Capital in the community and compiling a Social Capital approach model to increase Sustainability Awareness in preventing DHF using an observational survey with a Cross Sectional design. Conclusion The conclusion of this study is that there are differences in several social capital indicators between dengue fever endemic areas and dengue fever free areas. There is a significant difference in sustainability awareness between dengue fever endemic and dengue fever-free areas, where good sustainability awareness is found in dengue fever-free areas. There is an influence of several social capital indicators on sustainability awareness in dengue fever endemic and dengue fever-free areas, where in dengue fever endemic areas the factors that influence are values, cooperation, and participation. Meanwhile, in DHF-free areas, the factors that influence values are belief systems, cooperation, participation, attitudes and satisfaction.

Keywords: Gesarusaju, Socil Capital, Sustainability Awareness, DHF, Trust

INTRODUCTION

Dengue fever cases in Magetan are increasing from year to year. In 2021, there were 208 cases of DHF in Magetan, 3 people died. In 2022, from January to September 2022, it increased to 322 cases and 5 people died, it is predicted that it will continue to increase along with the change of the hot rainy season or unpredictable weather. Of the 22 Health Centers in Magetan Regency, only 5 Health Center areas are not endemic to DHF and 3 Health Centers are endemic areas with the most cases (Magetan Health Office, 2022).

Areas affected by dengue fever are generally densely populated areas, houses close together facilitate the transmission of the disease, the Aedes aegypti mosquito has a maximum flying distance of 500 meters. The increasing population, better transportation, population mobility, the presence of open water reservoirs, are prone to causing the development of mosquito larvae and dengue viruses, if intensive eradication efforts are not carried out, so preventing the development of Aedes aegypti mosquitoes as vectors of dengue fever transmission is absolutely necessary (1) . Eradication of mosquito nests with 3M should be carried out not only at home, but also in public places, where people gather in the morning such as at school, office, campus because many Aedes aegypti mosquitoes suck human blood in the morning. Social capital emphasizes the potential of groups and

patterns of relationships between individuals in a group and between groups with attention to social networks, norms, values and beliefs between each other that are born from group members and become group norms (2).

RESEARCH METHOD

This study consists of 2 stages. Stage 1: Identification and analysis of factors that are indicators of Social Capital in the community and compiling a Social Capital approach model to increase Sustainability Awareness in preventing DHF using an observational survey with a Cross Sectional design. Stage 2: Implementation of the Social Capital approach model in increasing Sustainability Awareness in preventing DHF through training and mentoring in the community for the prevention and eradication of DHF with Gesarusaju (One House One Jumantik Movement) using Quasi Experimental with The Nonrandomized Control Group Pretest Posttest Design.

RESULT AND DISCUSSION

This research is a first-year research where stage I is to compile a research model on the social capital approach to increasing community sustainability awareness in preventing DHF in Magetan Regency. The population was taken from 22 Health Centers in Magetan Regency which is an area with a high number of DHF or an endemic area. The model was formed through several stages of analysis and testing with STATA analysis until a fit model was found, from several variables and their indicators, in this study it was proven to influence the incidence of DHF although the magnitude of the influence was not the same between one variable and another.

Table 1. Indicator Description

		Frequency	Percentage
X1.1. Age	< 20 Years	12	8.5%
	20 - 35 Years	117	83.5%
	> 35 Years	11	8%
X1.2. Education	SD	4	2.25%
	Junior High School	29	21%
	High School	100	72%
	College	7	4.75%
X1.3. Jobs	civil servant	2	1.4%
	Private	34	24.3%
	Farmer	24	17.5%
	house wife	80	56.8%
X2.1. Value	Good	86	61%
	Enough	54	39%
X2.2. Belief System	Good	88	63%
	Enough	52	37%
X2.3. Cooperation	Good	81	58%
	Enough	59	42%
X2.4. Participation	Good	95	68%
	Enough	45	32%
X2.5. Perception	Good	32	23%
	Enough	108	77%
X2.6. Satisfaction	Good	99	71%
	Enough	41	29%
Y1. Sustainability Awareness	Good	108	77%
	Enough	32	23%
Y2. Dengue Fever Incident	Yes	114	81.7%
	No	26	17.3%

Based on table 1 it is known that Most of the mothers' ages are between 20-35 years, most of them have a high school education, and most of them work as housewives.

Table 2. Value Indicators

Mark	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	35	25 %	25	17.8 %	60
Enough	73	52.1 %	70	50 %	143
Not enough	32	22.9 %	45	32.2 %	77
	140	100	140	100	280

P-value = 0.005 > α = 0 .05

Table 2 describes the condition of social capital in the value indicators in the District. Ngy and Mgt. In endemic areas, the most indicator values are Sufficient (52.1%), not much different from areas free of dengue fever in the Sufficient category (50%). Mann Whitney difference test was conducted, p-value of 0.005 means there is no difference in the indicator value of social capital in endemic areas of dengue fever and areas free of dengue fever.

Table 3. Belief System Indicators

Mark	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	66	47.1 %	32	22.9 %	98
Enough	43	30.7 %	62	44.2 %	105
Less	31	22.2 %	46	32.9 %	77
	140	100	140	100	280

P-value = 0.005 < α = 0.05

Ngy and Mgt Districts which have a good belief system (47.1 %) in contrast to the control area with a sufficient belief system (44.2%). Mann Whitney test was conducted, the p-value of 0.005 was smaller than α = 0.05.

Table 4. Cooperation Indicators

Mark	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	38	27.1 %	37	26.4 %	75
Enough	75	53.5 %	81	57.8 %	156
Not enough	27	19.4 %	22	15.8 %	49
	140	100	140	100	280

P-value = 0.720 > α = 0 .05

Table 4 illustrates the frequency distribution of social capital indicators of cooperation in the case area in the sufficient category (53.5 %), while in the control area in the sufficient category (57.8%) it is not much different. Mann Whitney test was performed, the p-value of 0.720 is greater than α = 0.05.

Table 5. Participation Indicators

Mark	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	50	35.7%	39	27.8%	89
Enough	74	52.8%	68	48.5%	142
Not enough	16	11.5%	33	23.7%	49
	140	100	140	100	280

P-value = 0.021 < α = 0 .05

Table 5 describes social capital in the participation indicator of the case group in the sufficient category (52.8 %), while in the control area in the sufficient category (48.5%). The Mann Whitney test shows that there is a difference in participation indicators in social capital with a p-value of 0.021, which is smaller than α = 0.05.

Table 6. Perception Indicators

Mark	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	39	27.8 %	41	29.2 %	80
Enough	74	52.8 %	52	37.1 %	126
Not enough	27	19.4 %	47	33.7 %	74
	140	100	140	100	280

P-value = 0.162 > α = 0 .05

Table 6 illustrates the frequency distribution of social capital perception indicators in the case area in the sufficient category (52.8 %), while in the control area in the sufficient category (37.1%). The Mann Whitney test obtained a p-value of 0.162, which is greater than α = 0.05. This means that there is no difference in the social capital perception indicators in the case area and the control area.

Table 7. Satisfaction Indicator

Value	Mrs		Mgt		Total
	Frequency	%	Frequency	%	
Good	35	25 %	38	27.1%	73
Enough	75	53.5%	84	60 %	159
Less	30	21.4%	18	12.9%	48
	140	100	140	100	280

P-value = 0.292 > α = 0 .05

Table 7 illustrates the frequency distribution of social capital satisfaction indicators in the case area in the sufficient category (53.5 %), while in the control area in the sufficient category (60%). Mann Whitney test showed no difference between endemic and free areas with a p-value of 0.292, which is greater than α = 0.05.

Sustainability awareness in dengue fever endemic areas and free areas is described as follows:

Table 8. Frequency Distribution of Sustainability Awareness in Ngy and Mgt Districts

Sustainability Awareness	Ngy		Mgt		Total
	Frequency	%	Frequency	%	
Good	54	38.5%	85	60.7%	139
Not enough	86	61.5%	55	39.3%	141
	140	100	140	100	280

P-value = 0.000 < α = 0 .05

Table 8 describes Sustainability Awareness in the District. Ngy is in the less category (61.5%) than Kec. Mgt with good category (60.7%). Mann Whitney test obtained p-value of 0.000 smaller than α = 0.05 which means there is a significant difference in Sustainability Awareness of Ngy District as an endemic area with Ngy District. Mgt. This is because the two regions have different capabilities in processing information about DHF incidents and their control measures, which influences decision-making in preventing DHF incidents.

CONCLUSION

The conclusion of this study is that there are differences in several *social capital indicators* between dengue fever endemic areas and dengue fever free areas. There is a significant difference *in sustainability awareness* between dengue fever endemic and dengue fever-free areas, where good *sustainability awareness is found in dengue fever-free areas.* There is an influence of several *social capital* indicators on *sustainability awareness* in dengue fever endemic and dengue fever-free areas, where in dengue fever endemic areas the factors that influence are values, cooperation, and participation. Meanwhile, in DHF-free areas, the factors that influence values are belief systems, cooperation, participation, attitudes and satisfaction.

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