RESEARCH ARTICLE

Garbage Sorting as an Important Rural Problem: Descriptive Study of Priority Health Problems in Pantai Cermin Village, Langkat Regency

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ABSTRACT In planning efforts to improve public health degrees, it is necessary to plan the first steps to find out what health problems are prioritized to be addressed effectively, efficiently, and on target. This community service, therefore, aim to to find health problems in order to find the right intervention so that the health problems contained in Teladan Hamlet do not become serious problems that cause other health problems. This research was conducted in Teladan hamlet of Pantai Cermin Village, Tanjung Pura Subdistrict using descriptive research methods, univariate analysis was conducted to determine the priority of health problems from the results of self-aware surveys. Prioritization of health problems was carried out qualitatively using the Focus Group Discussion method with USG (Urgency, Seriousness, Growth) criteria scoring. The nine highest health problems found were the low number of couples who did not use contraception, low infant weight, itching, hypertension, national health insurance, smoking behavior, kitchen waste disposal, garbage sorting, and eradication of mosquito nests. The results of the Focus Group Discussion agreed that the priority of health problems in Teladan hamlet is the low behavior of waste sorting, so that interventions are carried out in the form of counseling and provision of facilities and infrastructure in the form of garbage cans in some public places in order to increase public knowledge and community behavior in sorting waste. Efforts that can be made by local governments are to support and supervise the community to implement good and correct waste sorting and processing behavior in a sustainable manner.

INDEX TERMS Priority problem, Intervention, Garbage sorting.

I. INTRODUCTION

According to World Health Organization, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [1], [2]. Laws of the Republic of Indonesia number 36 year 2009 about health explains that health is a state of body, soul, and social welfare that allows everyone to live socially and economically [3].

Health development is carried out as an effort to realize the highest degree of public health through the success of continuous and cross-sector programs to increase awareness, willpower, and healthy living skills at every level of society [4]. Health development and the resolution

of health problems are the responsibility of the government by providing adequate health and social policies and of course, must be supported and accompanied by community participation [5]. In addition, health development is also influenced by the limited amount of Human Resources, funds, facilities, and infrastructure.

One of the efforts to organize health is health services that are organized separately or together to maintain and improve health and prevent or cure the diseases of individuals, families, or communities. Health services can be divided into 2 types, namely personal health services (personal health services) with the main targets being

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individuals/families and public health services (public health services) whose targets are groups/communities [6].

Laws of the republic Indonesia number 36 year 2009 article 47 describes the criteria for ideal health efforts that are held in the form of activities with promotive (health improvement), preventive (disease prevention), curative (treatment), and rehabilitative (health maintenance) approaches that are carried out in a structured, thorough and sustainable manner [3] [7]. Success in promotive and preventive efforts will have an impact on the decrease in disease incidence and the efficiency of health care costs [8].

Health problems are very complex because they are related to other problems that affect the fulfillment of health needs such as environmental factors, behavioral factors, health care factors, and hereditary factors [9]. In addition to direct influence on health, these four factors also affect each other [10]. Therefore, the resolution of health problems, especially in the community must be seen from all factors that affect them and will be achieved to the maximum [11], if these factors together have good and adequate conditions.

Previous research by Tyas [12] in prioritizing health problems and types of interventions only uses Focus Group Discussion (FGD) and Brainstorming activities when identifying health problems, so that the health problems obtained are not described thoroughly. Therefore, quantitative research is necessary so that analysis can be obtained accurately. Based on this, the goal in this study is to identify health problems in the community through the Self-Awareness Survey questionnaire and involve community participation through Focus Group Discussion to plan efforts to improve public health degrees by choosing health issues that will be prioritized to be addressed effectively and efficiently, and on target.

II. METHODS

The study was conducted in Teladan Hamlet in September 2021 with the population in this study consisting of 109 families with a total of 418 residents. This study uses descriptive research design with instrument used is a questionnaire sheet of Self-Aware Survey obtained from the local Health Center [13]. Self-Aware Survey is one of the activities of introducing, collecting and assessing health problems by a group of people under the guidance of health workers in the local Teladan hamlet. Primary data from the results of the Self-Aware Survey are then analyzed univariately to determine the distribution of health problems contained in the hamlet of Teladan.

After being found the 9 highest health problems in the hamlet of Teladan (TABLE 1), qualitative studies were conducted through Focus Group Discussion which is a data collection technique used to explore the opinions of the community to determine health problems that will be the priority of the problem to then take the right steps as an intervention.

TABLE 1
Public health problems identified from the results of the self-aware survey

Health Problems
The low number of couples who don't use contraceptives
Low Baby Weight
Itching
Hypertension
National Health Insurance
Smoking behavior
Kitchen waste disposal
Garbage sorting
Eradication of Mosquito Nests

Participants were asked to give a score from 1 to 5 which indicates the degree of importance of the problem based on the criteria of Urgency, Seriousness, and Growth, then the total score were calculated to see the highest score which was the most prioritized problem.

Participants in this activity were carried out by 4 health cadres, 4 community leaders, 1 village head, 4 students, and 1 academician from the Public Health Department of State Islamic University North Sumatra. The inclusion criteria of health cadres and community leaders are those who are domiciled and serve at the research site and have an influence on the local community. The inclusion criteria of members of field learning practices from the Ministry of Public Health of State Islamic University of North Sumatra are those who have previously collected data with instruments namely the Self-aware Survey questionnaire and conducted univariate analysis to determine health problems in Teladan hamlet.

III. RESULT

A. IDENTIFY HEALTH PROBLEMS

Identification of health problems in Dusun Teladan, Pantai Cermin Village was carried out using the Self-Aware Survey and Focus Group Discussion (FGD) through a village crush attended by health cadres and community leaders. Information about health problems in Dusun Teladan was obtained from the results of interviews using instruments in the form of Self-Aware Survey questionnaires on the Head of Household and field observation results [13]. The results of the Self-Aware survey and *Rembuk Dusun* are the basis for compiling the solution to health problems faced. From this activity obtained 9 of the highest problems in Teladan Hamlet, Pantai Cermin Village which will then be determined the priority of health problems in the hamlet through Rembuk Dusun.

B. PRIORITY ANALYSIS OF HEALTH PROBLEMS

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The analysis of priority of health problems in Teladan Hamlet of Pantai Cermin Village, Tanjung Pura Subdistrict was conducted based on the results of *Rembuk Dusun* using ultrasound methods.

The ultrasound method (Urgency, Seriousness, Growth) or USG is a scoring method that can be used to determine the priority of health problems that must be resolved immediately by assessing each problem based on the level of risk and impact [14]. Urgency is how urgent a health problem must be solved by looking at the availability of time to solve those health problems. Seriousness is the level of seriousness in health problems that need to be resolved immediately so as not to cause other health problems. Growth is how likely health problems become difficult to prevent and likely to get worse if left unchecked. The analysis was conducted by giving a score of 1 – 5 for urgency, seriousness, and growth on each of the health problems with the highest scores as priority problems (TABLE 2) [14].

TABLE 2
Results of Calculation of Ultrasound Method (USG)

Health Problems	Respondents	Score U	S	G	Total (U+S+G)	Total	Rank
Low number of couples who don't use contraceptives	1	3	3	3	9	108	7
	2	2	2	2	6		
	3	1	2	2	5		
	4	2	3	2	7		
	5	5	4	4	13		
	6	2	2	2	6		
	7	3	3	3	9		
	8	2	2	3	7		
	9	5	5	5	15		
	10	2	2	2	6		
	11	3	3	3	9		
	12	3	2	2	7		
	13	3	3	3	9		
	$x = 8{,}31$				$sd = 2{,}898$		
Low Baby Weight	1	2	2	2	6	97	9
	2	1	2	2	5		
	3	4	1	1	6		
	4	3	3	2	8		
	5	1	1	1	3		
	6	2	2	2	6		
	7	3	3	3	9		
	8	2	4	3	9		
	9	2	2	2	6		
	10	5	5	4	14		
	11	4	4	3	11		
	12	3	3	4	10		
	13	1	2	1	4		
	$x = 7{,}46$				$sd = 3{,}072$		

TABLE 2
(Continued)

Health Problems	Respondents	U	S	G	Total (U+S+G)	Total	Rank
Itching	1	1	1	1	3	104	8
	2	2	2	2	6		
	3	3	5	2	10		
	4	2	2	2	6		
	5	2	1	2	5		
	6	0	5	5	10		
	7	5	5	5	15		
	8	2	0	3	5		
	9	3	3	3	9		
	10	2	2	2	6		
	11	2	3	4	9		
	12	3	3	3	9		
	13	3	4	4	11		
	$x = 8{,}00$				$sd = 3{,}215$		
Hypertension	1	4	4	3	11	133	4
	2	2	3	2	7		
	3	3	2	5	10		
	4	4	4	3	11		
	5	3	2	3	8		
	6	2	2	2	6		
	7	5	5	5	15		
	8	3	3	3	9		
	9	3	3	3	9		
	10	5	4	4	13		
	11	3	4	4	11		
	12	3	3	4	10		
	13	5	4	4	13		
	$x = 10{,}23$				$sd = 2{,}522$		
National Health Insurance	1	4	3	4	11	118	5
	2	2	2	2	6		
	3	2	1	5	8		
	4	5	5	5	15		
	5	5	4	4	13		
	6	2	3	2	7		
	7	4	4	4	12		
	8	3	3	3	9		
	9	5	5	5	15		
	10	4	4	3	11		
	11	4	3	4	11		
	12	4	3	4	11		
	13	2	2	2	6		
	$x = 10{,}38$				$sd = 3{,}042$		

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TABLE 2
(Continued)

Smoking behavior	1	4	4	4	12	
	2	2	2	2	6	
	3	3	5	5	13	
	4	3	3	3	9	
	5	5	5	5	15	
	6	2	3	3	8	
	7	4	5	1	10	**155** **2**
	8	5	5	5	15	
	9	5	5	5	15	
	10	4	5	5	14	
	11	4	4	3	11	
	12	5	5	3	13	
	13	5	4	5	14	
	$x = 11,92$			sd = 2,929		
Kitchen waste disposal	1	5	2	2	9	
	2	2	2	2	6	
	3	2	1	1	4	
	4	3	3	3	9	
	5	5	4	4	13	
	6	2	2	2	6	
	7	5	1	1	7	110 6
	8	3	3	5	11	
	9	4	4	4	12	
	10	2	1	2	5	
	11	3	3	2	8	
	12	4	3	2	9	
	13	3	3	5	11	
	$x = 8,46$			sd = 2,787		
Garbage sorting	1	5	5	5	15	
	2	5	5	5	15	
	3	5	5	4	14	
	4	4	4	4	12	
	5	4	5	5	14	
	6	5	5	5	15	
	7	4	4	4	12	**157** **1**
	8	3	3	4	10	
	9	4	4	4	12	
	10	3	4	4	11	
	11	2	3	4	9	
	12	3	4	3	10	
	13	4	3	1	8	
	$x = 12,07$			sd = 2,396		

TABLE 2
(Continued)

Eradication of Mosquito Nests	1	4	4	4	12	
	2	2	2	2	6	
	3	5	3	2	10	
	4	4	4	4	12	
	5	3	4	4	11	
	6	5	5	5	15	
	7	3	3	3	9	**141** **3**
	8	3	4	4	11	
	9	5	5	5	15	
	10	3	3	4	10	
	11	3	3	2	8	
	12	4	3	3	10	
	13	4	4	4	12	
	$x = 10,84$			sd = 2,511		

Based on the prioritization of problems with the ultrasound method, the following results are obtained:

TABLE 3
List of Priority Order of Health Problems

Rank	Health Problems
1	Garbage sorting
2	Smoking behavior
3	Eradication of Mosquito Nests
4	Hypertension
5	National Health Insurance
6	Kitchen waste disposal
7	Low number of couples who don't use contraceptives
8	Itching
9	Low Baby Weight

From the order of priority of health problems above, taken the top problem priority is garbage sorting (TABLE 3).

C. DETERMINING THE ROOT CAUSE OF HEALTH PROBLEMS

Fishbone analysis is used as a systematic tool to identify health problems by analyzing the factors that cause problems to occur [12]. Fishbone analysis is presented into a diagram that resembles fish bones, discovered by a Japanese scientist named Dr. Kaoru Ishikawa around the 60s [15].

Fishbone diagrams are used to analyze problems and all factors that can affect the low sorting behavior of organicand inorganic waste in the community in the hamlet [16]. The purpose of this analysis is to facilitate decision-making about steps or interventions that will be done to be

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on target and run effectively. From the results of fishbone analysis, the causes of waste sorting behavior problems are as follows (FIGURE 1).

D. DETERMINING HEALTH PROBLEM INTERVENTIONS

The intervention of health problems in the community is an effort to improve health and change the spread of the disease or control the causative factors [17]. The determination of health problem intervention was carried out through Rembuk Dusun activities with health cadres and community leaders in the Area of Teladan Hamlet, Pantai Cermin Village, Tanjung Pura Subdistrict [18].

The first intervention is counseling on the sorting of organic and inorganic waste along with good and correct ways of processing waste. This effort is done to increase public knowledge to grow public awareness in sorting and processing waste [19].

In addition, other interventions carried out are facilitating pilot facilities and infrastructure in the form of organic and inorganic trash cans in some public places. This intervention is expected to foster people's habits to dispose of waste in its place, separate between organic and inorganic waste, and be an example of a trash can that can be made by the community in each household.

III. DISCUSSION

Waste is a remnant of human daily activities that are no longer used. Waste, in general,c an be divided into 2, namely inorganic waste and organic waste. Organic waste is from the rest of living things that experience weathering and can decompose naturally such as leaves, vegetable waste, and fruit skin. Inorganic waste is a waste that is difficult to break down such as plastic, paper, and glass [20].
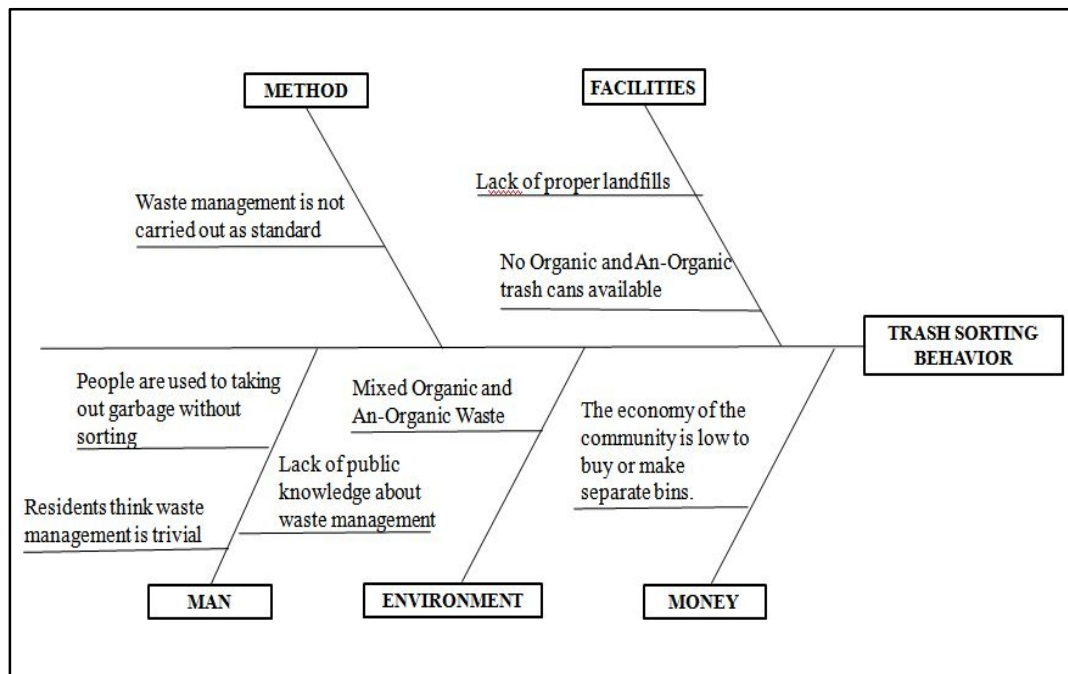

FIGURE 1. Fishbone Analysis Results of Waste Sorting Behavior

Article 22 of the Law of the Republic of Indonesia Number 18 of 2008 on Waste Management describes waste processing activities consisting of sorting waste by classifying waste according to its type, collection, and transportation of waste from its source to integrated waste treatment sites, waste processing by changing waste characteristics and landfilling.

Until now, the waste generated by the household waste in Teladan Hamlet continues to grow into a crucial environmental problem in Teladan Hamlet. Based on fishbone analysis, waste sorting behavior in the community

in Teladan Hamletis caused by several factors (FIGURE 1), including the lack of public knowledge in the processing of organic and an-organic waste, waste processing that is not carried out according to standards such as the habit of burning garbage and littering, and the unavailability of proper landfills.

This research is in line with study conducted by Harun (2017) showed that 58% or 30 respondents have a good knowledge of waste sorting, while data on community behavior in the process of garbage sorting is mostly 71% or 37 respondents. It can be concluded that the behavior of the

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community in sorting organic waste and organic is still not good [21]. In research conducted by Setyowati (2013) found about 56.8% of housewives in Kedesen Hamlet, Kradenan Village, Kaliwungu Subdistrict, Semarang Regency have good knowledge in managing and sorting waste. A total of 60.8% of housewives behaved badly and 39.2% behaved well. From these results, it can be concluded that there is a very significant relationship between the level of knowledge of housewives and the behavior of sorting waste (p=0.000) [22].

The role of the community in waste processing is needed to create a clean and healthy environment. Counseling can be done to increase public knowledge in waste processing so that the community can sort organic and inorganic waste [18] [19]. In addition, increasing public knowledge will foster public awareness and concern to manage waste properly so as not to cause environmental problems that can be the cause of the emergence of disease [25].

The availability of facilities and infrastructure is also a factor that influences the success of the community in sorting organic and inorganic waste [21] [22]. The unavailability of waste disposal facilities will cause littering behavior in the community. Therefore, the provision of a decent organic and inorganic landfill will make the community accustomed to sorting waste and throwing garbage in its place.

The limitations of this study are that respondents may not be willing to share some sensitive ideas and issues publicly. Due to the small sample size and heterogeneity of individuals, the results may not be sufficient to create a projection or a combined picture of the situation. FGD can be a highly artificial arrangement, which influences respondents to express and act unnaturally so that their findings may be far from the real one. In addition, FGD results cannot be used to generalize because FGD does not aim to describe (representation) of people's voices. However, the importance of FGD lies not in the results of population representation, but in the depth of information. Through FGD, researchers can find out the reason, motivation, argument or basis of a person's or group's opinions on the priorities of health issues and their interventions in their region.

IV. CONCLUSION

The purpose of this study is to find health problems in order to find the right intervention so that the health problems contained in Teladan Hamlet do not become serious problems that cause other health problems. The 10 highest health problems found were the low number of couples who did not use contraception, low infant weight, itching, hypertension, national health insurance, smoking behavior, kitchen waste disposal, waste sorting, and eradication of mosquito nests. The results of the Focus Group Discussion agreed that the priority of health problems in Teladan hamlet is the low behavior of waste sorting, so that interventions are carried out in the form of counseling and provision of facilities and infrastructure in the form of garbage cans in some public places in order to increase public knowledge and community behavior in sorting waste. Local governments and communities are expected to always run programs that have been implementedcontinuously so that these activities run optimally and effectively. The advice for future research is to analyze more deeply the factors related to waste sorting behavior in the community in Teladan Hamlet so that it is found which factors are most influential with the behavior.

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