

Analysis of Community-Based Total Sanitation Program (STBM) in Sengkuang Village Working Area of UPT Puskesmas Muara Three Subdistrict Mulak Ulu Lahat Regency 2019

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Abstract— Background: One of the goals of Indonesia's health development is to increase awareness, willingness, and ability to live a healthy life for everyone. One of them is the Community-based Total Sanitation Program (STBM) with the triggering method. The problem that can hamper the STBM program in the first pillar of Open Defecation (Stop BABS) is the ownership of latrines, as well as the supporting environmental characteristics. This study aims to analyze the STBM program in Sengkuang village, the working area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019. **Methods:** This type of research is analytic survey with Cross Sectional approach. Sampling in total sampling with a total sample of 72 households and carried out in July to August 2019. **Result:** The results obtained by 56.94% of respondents who did not implement the STBM program. Most of the respondents 62.5% did not have a toilet, 50% of respondents have experienced diarrhea, and 38,9% of the respondent's houses are near the riverbanks. **Conclusion:** Chi-Square statistical test results obtained have a significant relationship between latrine ownership and STBM program with p value 0.000. There is a significant relationship between diarrheal disease and STBM program with p value 0.000. There is a significant relationship between environmental characteristics with the STBM program with p value 0.001.

Keywords— Diarrheal diseases, environmental characteristics, latrine ownership STBM program

I. INTRODUCTION

One of the goals of Indonesia's health development is to increase awareness, willingness, and ability to live a healthy life for everyone. To achieve a healthy life, people always interact with four factors, namely environmental factors, individual and community behavior, health services, and innate (genetic) factors. In terms of the community's interest in interacting with the environment there are still many environmental problems that need attention. Most people do not yet know that there are many environmental problems around the community that can have a negative impact on overall health and survival (Sumantri, 2015).

World Health Organization (WHO) estimates that in 2015 964 million people in the world still defecate in open areas. According to National Geographic, diarrhea in India kills at least 117,000 children under five years every year. In 2016, 39% of children in India under five years experienced a condition of failure to grow in the body and brain due to malnutrition for a long time. Thus, children are shorter than normal children their age and have a delay in thinking. This data also shows that 81% of the population who defecate carelessly (BABS) is found in all countries and Indonesia is the second largest country, with a percentage of 12.9% (Putra, et al, 2017).

At present Indonesia is still facing challenges to complete the 2015-2019 National Medium-Term Development Plan (RPJMN) target that achieves universal access to 100% Drinking Water, 0% Slum Settlements and 100% Stops Open Defecation Free (SBS). Based on data released by the STBM (Community Based Total Sanitation) secretariat up to 2015 as many as 62 million or 53% of the rural population still do not have access to proper sanitation, 34 million of them are still practicing open defecation (Kurniadi, 2017).

According to STBM e-Monev monitoring during 2018 there has been a 5% increase with a percentage of 77.07% access to community sanitation (latrines), while in 2017 it was still at a percentage of 67.89%. The Special Province of Yogyakarta ranks first with all districts / cities declared as having been verified Open Defecation Free (ODF) or there is no more Open Defecation (BABS) behavior. When compared with the Universal Access 2019 target which must reach 85% of decent access, there is still a lot of work that needs to be done, especially 77.07% which has latrines that still consist of decent and basic / unfit categories (Irawan, 2019).

The percentage of the number of villages and kelurahan that implemented the Community-Based Total Sanitation (STBM) program in South Sumatra in 2015 with 3,189 villages and kelurahan with a percentage of 32.33%. Then in 2016 the number of villages and kelurahan as many as 3,191 experienced an increase with a percentage of 42.81%. In 2017

with 3,189 villages and sub-districts increasing again to 52.74% (Ministry of Health of the Republic of Indonesia, 2018).

Based on the report from the Lahat District Health Office in 2019, the drinking water sanitation rate in 2016 was 82.76%. In 2017 drinking water sanitation was 84.47%, but in 2018 it decreased by 82.91%. While for toilet sanitation in 2016 as much as 60.33%, in 2017 it increased to 61.87% and in 2018 it increased again to 63.58%. However, despite increasing every year proper sanitation in Lahat Regency has not been evenly distributed. When compared with the Universal Access 2019 target which must reach 85% of proper access, it is still necessary to improve sanitation, especially in the sanitation of latrines in Lahat Regency (Lahat Health Office, 2019).

Muara Three Health Center UPT is a Puskesmas located in Lahat Regency. Muara Three Health Center is one of the Inpatient Health Centers with the category of Basic Health Centers which has 2 PUSTUs and 17 POSKESDES in the District of Mulak Ulu. In the Muara Three Health Center UPT, the Community-Based Total Sanitation (STBM) program has been implemented, but its implementation has not reached the target of 75%. In 2016 proper sanitation was 22.03%, then in 2017 it was 25.10% and in 2018 it was 20.87% (UPT PKM Muara Three, 2019).

Based on Research Putra, et al (2017), that education, economic level, knowledge, attitudes and culture are important factors in the ownership of healthy latrines. Then based on the research of Mukti, et al (2016) that almost the majority of respondents with total community-based sanitation with less diarrhea criteria, meaning that there is a relationship between Community-Based Total Sanitation and Diarrhea. Based on the research of Syarifuddin, et al (2017), it is known that as many as 21 villages in the Community Based Total Sanitation program are close to or around the river and as many as 15 villages in the Community Based Total Sanitation program are far or not around the river. The villages in the Banjar district are mostly in the river banks, including villages that have implemented the Community-Based Total Sanitation Program (STBM).

Based on the Muara Three Health Center Data, the lowest village in the 2018 STBM program on access to proper sanitation (latrines) with a percentage of 22.64% is Sengkuang village. Sengkuang Village is one of 26 villages that implement Community Based Total Sanitation (STBM) programs in the working area of Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency. The geographical location of the village of Sengkuang is around the hills, rice fields, rivers and creeks. The majority of the people work as farmers. The community uses clean water sources as well as water from tributaries around their homes to meet their daily needs, for example for bathing, washing and defecating.

II. METHOD

The type of research used is Analytical Survey research with Cross Sectional approach, namely research that aims to find the relationship between independent variables and dependent variables conducted at the same time

(Notoatmodjo, 2010). In this study the independent variables used were latrine ownership, diarrheal disease, and environmental characteristics while the dependent variable was the Community Based Total Sanitation Program. The population in this study was the head of the family in Sengkuang village with a total of 72 households. Sampling is done by the method of non random sampling or sampling that is not based on the possibility that can be calculated, but solely. The sampling technique used is total sampling, which is 72 households. The research site was conducted in Sengkuang Village, the working area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019.

III. RESULTS

Univariate Analysis

1. Community Based Total Sanitation Program (STBM)

TABLE 1. Distribution of STBM Program Frequency in Sengkuang Village, Work Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No.	Program STBM	Frequency	%
1.	Not implemented	41	56,94
2.	Implemented	31	43,06
	Total	72	100

Source: Primary Data 2019

Based on table 1 obtained from 72 frequency distribution samples that the STBM program that was not implemented was 41 (56.94%) and the STBM program that was implemented as many as 31 (43.96%).

2. Latrine Ownership

TABLE 2. Frequency Distribution of Latrine Ownership in Sengkuang Village, Work Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No.	Latrine Ownership	Frequency	%
1.	do not have	45	62,5
2.	Have	27	37,5
	Total	72	100

Source: Primary Data 2019

Based on table 2. obtained 72 samples with a frequency distribution that does not have latrines as many as 45 (62.5%), while the frequency distribution that has latrines as many as 27 (37.5%).

3. Diarrhea

TABLE 3. Frequency Distribution of Diarrheal Disease in Sengkuang Village Work Area UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No.	Diarrheal diseases	Frequency	%
1.	Ever	36	50
2.	Never	36	50
	Jumlah	72	100

Source: Primary Data 2019

Based on table 3. 72 samples were obtained with a frequency distribution that had experienced diarrhea of 36 (50%), while a frequency distribution that had never experienced diarrhea was 36 (50%).

4. Environmental Characteristics

TABLE 4. Frequency Distribution of Environmental Characteristics in Sengkuang Village, Work Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No.	Environmental Characteristics	Frequency	%
1.	Near the riverbank	28	38,9
2.	Far riverbanks	44	61,1
Total		72	100

Source: Primary Data 2019

Based on table 4. 72 samples were obtained with the frequency distribution of houses near river banks by 28 (38.9%), while the frequency distribution of houses that were far from river banks by 44 (61.1%).

Bivariate Analysis

1. Relationship of Latrine Ownership with STBM Program

TABLE 5. The Relationship of Latrine Ownership with the STBM Program in Sengkuang Village, the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No	Latrine Ownership	Program STBM		Total	P value
		Not implemented	implemented		
1.	do not have	35 85,4%	10 32,3%	45 100%	0,000
2.	Have	6 14,6%	21 67,7%	27 100%	
Total		41 56,9%	31 43,1%	72 100%	

Source: Primary Data 2019

From Table 5, 41 (56.9%) respondents did not implement the STBM program with the proportion of respondents who did not have a toilet 35 (85.4%) greater than respondents who had a toilet of 6 (14.6%).

Chi-Square statistical test results obtained p value 0,000. This means that there is a significant relationship between latrine ownership and the STBM program.

2. Relationship of Diarrheal Disease with STBM Program

TABLE 6. Relationship of Diarrheal Disease with STBM Program in Sengkuang Village Working Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No	Diarrheal diseases	Program STBM		Total	P value
		Not implemented	implemented		
1.	Ever	32 78,0%	4 12,9%	36 100%	0,000
2.	Never	9 22,0%	27 87,1%	36 100%	
Total		41 56,9%	31 43,1%	72 100%	

Source: Primary Data 2019

From Table 6. 41 (56.9%) respondents who did not implement the STBM program with 32 (78.0%) respondents having ever experienced diarrhea compared to 9 (22.0%) respondents who had never had diarrhea.

Chi-Square statistical test results obtained p value 0,000. This means that there is a significant relationship between diarrheal disease and STBM program.

3. Relationship between Environmental Characteristics and STBM Program

TABLE 7. The Relationship between Environmental Characteristics and STBM Program in Sengkuang Village Working Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

No	Environmental Characteristics	Program STBM		Total	P value
		Not implemented	implemented		
1.	Near the riverbank	23 56,1%	5 16,1%	28 100%	0,001
2.	Far Riverbanks	18 43,9%	26 83,9%	44 100%	
Total		41 56,9%	31 43,1%	72 100%	

Source: Primary Data 2019

From Table 7. 41 (56.9%) respondents who did not implement the STBM program with the proportion of respondents near the riverbank were 23 (56.1%) greater than respondents who were far from the riverbank by 18 (43.9%).

Chi-Square statistical test results obtained p value 0.001. This means there is a significant relationship between environmental characteristics with the STBM program.

IV. DISCUSSION

1. Relationship of Latrine Ownership with STBM Program in Sengkuang Village, Work Area of UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

Based on the results of research by researchers, people who did not implement the STBM program of 72 samples were 41 (56.9%) the proportion of respondents who did not have latrines was 35 (85.4%) greater than the proportion of respondents who had latrines as many as 6 (14, 6%).

Chi-Square statistical test results obtained p value 0,000. This means that there is a significant relationship between latrine ownership and the STBM program in Sengkuang Village, the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019.

This study is in accordance with research conducted by Febriani, et al. (2016) that there is an effect of access / availability of sanitation on BABS stop behavior in Purwoasri Metro City in 2016. The effect of access / availability of sanitation on BABS stop behavior obtained p value = 0.001, it can be concluded that there is an influence of access / availability of sanitation to BABS stop behavior. The results of the OR analysis = 3.49 (1.90-6.41) the availability of sanitation has no chance of defecating by 3.49 times compared to respondents without access / availability of sanitation.

A toilet is a room that has a facility for disposal of human waste which consists of a squat or a seat with a goose neck (cemplung) which is equipped with a dirt and water storage unit to clean it. Human waste disposal technology for rural areas is certainly different from toilet technology in urban areas. Fishpond Latrine (Fishpond Latrine) is one of the latrines that is still found in the village. This latrine is built on a fish pond. In this system, it is called recycling, which is feces that can be directly eaten by fish, fish are eaten by people, and then people excrete feces that are eaten, and so on (Notoatmodjo, 2011). According to Mukti, et al (2016), that

households that do not use latrines do open defecation such as in rivers, yards, gardens, rice fields or irrigation channels around the house. This means that latrine ownership can affect the STBM program, especially in the aspect of open defecation.

Based on the researchers' assumptions that latrine ownership can affect the STBM program, especially on pillar 1, which is open defecation (stop BABS). Based on research that has been done by some villagers in Sengkuang, they still defecate in ponds or rivers, this is because they do not have latrines at home. The practice of open defecation in ponds or in rivers has become a culture or habit for generations in the community. In addition, the low economic status, employment as farmers with annual income so that people are unable to build their own latrines. The community will prioritize daily food needs compared to building a toilet. We recommend that people who do not have latrines pay more attention to the importance of building latrines. The community can work together with the local health center to build a toilet with funding from the STBM program from the health department. Then, the community provides land and works together to build a shared toilet so that no more open defecation in order to create a clean and healthy environment.

2. Relationship of Diarrheal Disease with STBM Program in Sengkuang Village, Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

Based on the results of research by researchers, people who did not implement the STBM program out of 72 samples were 41 (56.9%), the proportion of respondents who had experienced diarrhea was 32 (78.0%), greater than the proportion of respondents who had never experienced diarrhea as much as 9 (22.0%).

Chi-Square statistical test results obtained p value 0,000. This means that there is a significant relationship between diarrheal disease and STBM program in Sengkuang Village, UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019.

This study is in accordance with research conducted by Lahudin, et al (2018) that respondents with total community-based sanitation with less criteria were 32 respondents (54.2%) of which 10 respondents (16.6%) had no diarrhea and 22 respondents (37, 3%) diarrhea. This shows that most of the respondents with total community-based sanitation with less diarrhea criteria. Spearman Rho statistical test results obtained p value = 0.003 which means $0.003 < 0.05$ means that there is a relationship between Community-Based Total Sanitation and Diarrhea.

The STBM national strategy has outcome indicators which are the decrease in the incidence of diarrheal diseases and other environmental-based diseases related to sanitation and behavior. Diarrhea can be defined as a change in the form of faeces to be liquid from normal three times or more a day, characterized by more runny but not bloody stools within 24 hours (MOH, 2015). According to the Ministry of Health of the Republic of Indonesia (2010), the type of diarrhea is divided into four namely, acute diarrhea, dysentery, and diarrhea. Diarrhea is related to sanitation, hygiene and clean

and healthy living behavior. Diarrhea is more common in rural than urban areas, and higher in groups with low education and work as farmers, fishermen, and laborers (Lahudin, et al, 2017). According to Karmali and Fleming (1979), clinical symptoms of diarrhea, namely symptoms of fever, diarrhea and bloody stools, are present in 90% of patients. Blood appears in the stool 2-4 days after the symptoms of diarrhea. Ninety percent of children with large children show abdominal pain. Mild vomiting occurs in 30% of sufferers. Germs are sensitive to erythromycin, gentamicin and nitrofurantoin (Suharyono, 2012).

Based on the researchers' assumption that people who do not implement the STBM program have a risk of experiencing diarrhea, because diarrheal disease is a disease caused by sanitation or an unhealthy environment. People in the Sengkuang village still have the habit of not washing their hands with soap before eating while at home or when they are active in the garden, they can risk diarrhea. The incidence of diarrhea in Sengkuang village is often found in toddlers. Mother's habits and knowledge affect diarrheal disease in infants. Toddlers may be more susceptible to infection with bacteria that cause diarrhea because the immune system is not as strong as adults. We recommend that the community, especially mothers know the dangers of diarrheal diseases, causes, and prevent diarrheal diseases by using clean water, boiling water, washing hands with soap before eating, after eating and after defecating (BAB), and using healthy toilet.

3. Relationship between Environmental Characteristics and STBM Program in Sengkuang Village, Work Area of Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019

Based on the results of research by researchers, people who did not implement the STBM program from 72 samples were 41 (56.9%), the proportion of respondents who were near the river banks was 23 (56.1%), greater than the proportion of respondents who were far from river banks as many as 18 (43.9%).

Chi-Square statistical test results obtained p value 0.001. This means that there is a significant relationship between environmental characteristics with the STBM program in the Sengkuang Village, the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019.

Based on the research of Syarifuddin, et al. (2017) it is known that as many as 21 villages of Community-Based Total Sanitation programs (58.3%) are close to or around the river and as many as 15 villages of Community-Based Total Sanitation programs (41.7%) are far or not in around the river. This shows that most of the Community Based Total Sanitation program villages are around the river. The success of the Community-Based Total Sanitation (STBM) program in areas far from riverbanks and in the river banks is no different, because the success of the STBM program depends on changes in community behavior.

The environment in humans and other living things can be divided into two, namely the internal and external environment (Sumantri, 2015). Environmental factors are the biggest factor in influencing the degree of public health in

addition to behavior, health services and heredity. The environmental characteristics of the Community-Based Total Sanitation program are the geographical conditions of an area, whether it is located on a riverbank or far from a river bank due to seasonal conditions and water sources. The success of STBM in areas far from riverbanks and on river banks is no different, because the success of the STBM program depends on changes in community behavior (Syarifuddin, et al. 2017). The STBM program's environmental characteristics are part of the external environment, namely the Physical Environment. The physical environment is abiotic or water objects such as water, air, soil, weather, food, house, heat, light, radiation, and others. This physical environment interacts constantly with humans throughout time and time and plays an important role in the process of disease occurring in society. For example, a lack of clean water supplies can cause diarrhea everywhere (Sumantri, 2015).

Based on the researchers' assumptions that people who live near the river banks are more at risk of not implementing the STBM program in the Stop Defecation (Stop BABS) aspect. The problem faced by the community near the riverbank is to defecate into the river. People who do not have a toilet will defecate in the river. The community is aware of the danger of open defecation in the river, both the pollution of the river by human waste and the safety of the community itself. But people who do not have a toilet have no other solution than to defecate into the river. Sengkuang village community should be around the river to preserve the river without polluting it and to look for alternatives to defecating in the river, namely by working together to make shared toilets if they do not have enough funds to make their own latrines.

V. CONCLUSION

From the observations and interviews with 72 respondents as samples about the STBM Program Analysis in the Sengkuang village, the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency, as described in the previous chapter, the authors can draw the following conclusions:

1. There is a significant relationship between latrine ownership and the STBM program in Sengkuang village, the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019 with p value = 0,000.
2. There is a significant relationship between diarrheal disease and STBM program in Sengkuang village, UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019 with p value = 0,000.
3. There is a significant relationship between environmental characteristics with the STBM program in Sengkuang village,

the Work Area of the UPT Puskesmas Muara Three, Mulak Ulu Subdistrict, Lahat Regency in 2019 with a p value = 0.001.

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