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Effect Of Part I CLTS: Open Defecation Free With Diarrhea Incidence In Oelomin Village Kupang Regency

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ABSTRACT
The Community-Led Total Sanitation (CLTS) is sanitation programme through community empowerment to change community hygiene and sanitation behavior. As initial phase of the activity was focused on the open defecation free program, but in fact diarrhea is still often occurred. The purpose of this study was to determine the effect of part I CLTS: open defecation free with diarrhea incidence in Oelomin Village Kupang Regency. Research design was observational with cross sectional approach. Population studied was all households in Oelomin Village Kupang Regency amount 202 households, with a simple random sampling technique obtained sample amount 134 respondents. The independent variable was Part I CLTS with a dependent variable occurrence of diarrhea. Data collection using a questionnaire. Data analysis with dummy regression test at α = 0.05. The results showed that most of the respondents had Part I CLTS in open defecation category, amount 92 respondents (68.7%) and the majority of respondents had diarrhea in not occurred category, amount 84 respondents (62.7%). The analysis results known p-value (0,000) <α (0.05) so H0 rejected and H1 accepted, which means there is effect of part I CLTS: open defecation free with diarrhea incidence in Oelomin Village Kupang Regency. The CLTS programme affects reduction in the incidence of diarrhea because it reduces the factors that can be a place for developing germs that cause diarrhea yet not yet fully able to prevent diarrhea so it needs to be continued with the CLTS programme on the next part of washing hands with *soap to prevent di sease.*

Keywords : CLTS, Diarrhea, Open defecation

INTRODUCTION
Diarrheal disease is still a public health problem in developing countries such as Indonesia because of its high morbidity and mortality. This situation occurs because diarrhea is closely related to the quality of sanitation and clean and healthy living behavior that is still not implemented in developing countries (Cahyanto, 2012). To encourage increased access to sanitation and hygiene on an ongoing basis, the government has issued a policy and the National Community-Based Total Sanitation Strategy (STBM) in accordance with the Republic of Indonesia Decree No. 852 / Menkes / SK / IX / 2008. The STBM program is a cross sectoral sanitation program through community empowerment with triggering methods in changing community hygiene and sanitation behavior. As an initial step, this activity is focused on the open defecation program. In some places, the STBM program has shown quite encouraging achievements, but on the contrary in some other regions it is still running in place (Arifin, 2016).

Nationally, the percentage of latrine access has only reached 63.62% of the 34 provinces in Indonesia with the highest access to latrines achieved by the Special Region of Yogyakarta province at 98.98%. This shows that there is no province in Indonesia that has reached the 2015 MDG target, which is 100% latrine access. (STBM Indonesia, 2018). East Nusa Tenggara is one of the 34 provinces in Indonesia which has 22 City

Regencies with the achievement of seventh latrine access nationally with 77.70% latrine access. Of the 22 city districts in the province of NTT (STBM Indonesia, 2018). Alor Regency is one of 21 districts in East Nusa Tenggara Province with toilet access coverage not reaching 100% according to the 2015 MDG target.

Regarding diarrhea, every year in the world, 1 in 5 children die from diarrhea (UNICEF, 2016). In 2017 in the world as many as 2,195 children died every day due to diarrhea (CDC, 2017). Based on the 2013 Riskesdas in Indonesia, the prevalence of diarrhea was 3.5% lower than the Riskesdas in 2007 which was 9%. This decrease in prevalence is assumed in 2007 that data collection was not carried out simultaneously, while in 2013 data collection was carried out simultaneously (Riskesdas, 2013). The prevalence of diarrhea in Indonesia at age> 15 years is 30.1%, while the prevalence of diarrhea at age <15 years is 21.9% (Riskesdas, 2013). Meanwhile according to the NTT Provincial Health Office in 2015 there were 35 thousand cases of diarrhea (NTT Province Health Office, 2016). Data in Oelomin Village in 2018 occurred 284 cases of diarrhea (Puskesmas Oelomin Village, 2019).

The results of a preliminary study through interviews with 10 heads of families found that all of them had a swan neck toilet in his house, but 4 people said that he and other family members had returned to defecate in any place such as gardens or rice fields when working, because of the distance to returned home quite far. In addition, family members with childhood also sometimes defecate in the backyard for further disposal of the backyard because children are difficult to be defecated in the toilet.

STBM is implemented in the five pillars of the STBM, namely Stops Open Defecation (SBS), Washing Hands with Soap (CTPS), Management of Drinking Water and Household Food (PAMM-RT), Safeguarding Household Waste (PS-RT) and Safeguarding Household Liquid Waste (PLC-RT). The principle used in the STBM method is the target is not to build facilities, but to eliminate open defecation. The STBM is focused first on the pillars of open defecation given that there are still many people who engage in open defecation (Tauran, 2015).

Open defecation (BABs) is an example of unhealthy behavior. BABs is an act of removing sewage or feces in fields, forests, bushes, rivers, beaches or other open areas and allowed to spread to contaminate the environment, soil. air and water (Mukherjee, 2011). BABs behavior will cause disease vectors such as flies to land on feces and then spread throughout the home environment, other than because of disease vectors that spread e-coli, improper stool management can cause e-coli contamination in drinking water sources, this can encourage diarrhea (RI Ministry of Health, 2014).

Efforts to reduce the incidence of diarrhea in the community, namely health workers and the government work together to provide health promotion, and the community is able to find information that aims to increase public knowledge about diarrhea, including prevention, and care about diarrhea, especially in infants (Harwanti, 2011). To prevent the behavior of BABs by the community, efforts are needed to provide counseling to the community about STBM pillars and the risks faced if the community is still doing BABs. Through this counseling, it is expected that the community will experience an increase in knowledge about the importance of defecating in the right place and are encouraged to use healthy latrines even though they must be used together in public toilets (Pangaribuan, 2009).

METHODS

Research design

The design in this study was an observational study that is research whose data retrieval was carried out without giving treatment (Notoatmodjo, 2015). The approach used is a cross sectional study that is the independent variable and the dependent variable is measured simultaneously and carried out briefly or once (Nursalam, 2016).

Population, Samples and Sampling

The population in this study were all family heads in Oelomin Village, Kupang Regency with a total of 202 households, with a simple random sampling technique, a sample of 134 respondents was obtained.

Research variable

The independent variable in this study is the STBM pillar I, while the dependent variable in this study is the incidence of diarrhea. The instrument used in this study was a questionnaire sheet.

Data analysis

The statistical test used in this study is a dummy regression test at 5% deviation ($\alpha = 0.05$).

RESULT

Characteristics of Respondents

Table 1.

No	Characteristics	ΣN	Σ%
1	**Age (year)**		
	17-25	18	14
	26-35	47	35
	36-45	51	35
	>45	17	13
2	**Gender**		
	Man	50	37
	Female	84	63
3	**Occupation**		
	No work	45	33
	farmers	33	25
	private	30	22
	entrepreneur	21	16
	Civil servants	5	4
4	**information on the impact of open defecation**		
	Know	115	96
	Do not know	19	14
5	**Pillar I STBM**		
	Open defecation	42	31,3
	Don't defecate carelessly	92	68,7
6	**The incidence of diarrhea**		
	Yes	50	37
	No	84	63

Total	**134**	**100**

Data Analysis

Table 2. Statistical Test Results: Effect of STBM Pillar I stopping open defecation in the event of diarrhea in Oelomin Village, Kupang Regency

Variable	*t*	*p-value*	R^2
Pillar I STBM: Stop open defecation	6,749	0,000	0,258

The analysis results obtained p-value (0,000) < α (0.05) then H0 is rejected and H1 is accepted, which means that there is an influence of the Pillar I STBM stop defecating carelessly with the occurrence of diarrhea in Oelomin Village, Kupang Regency. R2 value of 0.285 indicates that the pillar factor I STBM: Stop BABs is able to influence the incidence of diarrhea in Oelomin Village by 28.5%, while the remaining 71.5% is influenced by other factors not examined in this study.

DISCUSSION

A. Pillar I STBM: stop open defecation in Oelomin Village, Kupang Regency

Pillar I STBM: stop open defecation in Oelomin Village Kupang District is known that most of the respondents implement Pillar 1 STBM in the category of open defecation, namely 92 respondents (68.7%). The results of the cross tabulation revealed that respondents with female sex had pillar 1 STBM in the category of not open defecation, ie 66 respondents (49.6%) and respondents who did not work had pillar 1 STBM in the category of not defecating openly, namely 36 respondents (27, 1%).

Indiscriminate defecation behavior will cause disease vectors such as flies to land on feces and then spread throughout the home environment, in addition to disease vectors that spread e-coli, improper stool management can cause e-coli contamination in drinking water sources, this can encourage diarrhea (MOH, 2014). Defecation on the beach or open ground can invite insects such as flies, cockroaches, milliped legs, etc. that can spread fecal diseases including diarrhea, typhus, vomiting, dysentery, intestinal worms and itching. Disposal of feces in the open can also pollute the surrounding air and disturb the aesthetic environment (Kusnoputranto, 2010).

The STBM program related to pillar I, namely open defecation in the research site, has been declared since 2015 and has been running quite well, which is proven by the fact that most of the respondents in this study no longer defecate openly. This proves that the triggering efforts by the government succeeded in changing public health behavior towards a better one so it is necessary to continue the STBM program in the next pillar. However, the number of respondents who defecate carelessly needs to be examined seriously so as not to trigger other communities to return to old habits.

The latest condition shows that the community has not practiced open defecation since the STBM declaration, but they have returned to defecate in a random place due to environmental factors, namely the availability of water and the respondent's workplace in a garden far from home. The availability of water at the research site, especially in the dry season, is sometimes difficult enough to force the community to conserve water use. The community prioritizes the use of water for cooking and cleaning the body.

In general, STBM pillar I in this study is more often carried out by women, this is because women do tend to have a higher sense of shame than men, especially in relation to personal matters. In addition, more women in the research centers were at home so they had more opportunities to always defecate in the toilet.

Respondents who applied pillar I STBM well, defecated in cemplung latrines and goose neck latrines. While respondents who did not apply the STBM pillar I, often conducted open defecation in rivers and gardens. One of the two locations chosen was related to natural conditions and work locations. People who work in rice fields or gardens far from their homes or public toilets will generally do open defecation such as rivers or vacant land and be covered with leaves or a little soil. This phenomenon is very risky to bring negative impacts on the environment because feces that are not treated properly will be a source of pollution and germs.

People who have toddlers also often do open defecation, this is because toddlers find it difficult to defecate in the toilet so parents encourage children to defecate in the yard to further dispose of the faeces in the backyard garden. These various BABs behaviors are very risky to cause an environment-based disease vector development such as diarrhea.

B. Diarrhea incident in Oelomin Village, Kupang Regency

The incidence of diarrhea in Oelomin Village Kupang Regency is known that most of the respondents had diarrhea in the category of no diarrhea, which was 84 respondents (62.7%). The results of the cross tabulation revealed that respondents with female sex had diarrhea in the category of not occurring diarrhea, namely 63 respondents (47.4%) and respondents not working had diarrhea in the category of not occurring diarrhea, ie 32 respondents (24.1%).

Diarrheal disease is more common in toddlers than older children. The incidence of acute diarrhea in boys is almost the same as that of girls. The disease is transmitted fecal-oral through contaminated food and drink or direct contact with feces of patients (MOH 2009). Environmental factors are very important factors for the emergence of certain diseases, so to eradicate infectious diseases requires environmental improvement efforts (Trisnanta, 2015). Through environmental factors, a person whose physical condition or resistance to disease is lacking, will be susceptible to disease (Slamet, 2014).

The results showed that the majority of respondents did not occur diarrhea. This situation can occur because a few years before the government had implemented the STBM program with the first pillar of stopping to defecate semabarangan aimed at changing people's behavior to stop the habit of defecating in order to prevent disease. However, the number of respondents who had suffered from diarrhea in the recent period was quite high. This shows that there are still various other factors that influence the incidence of diarrhea in the community in Oelomin Village.

Respondents who did not experience diarrhea in this study were generally women, this is consistent with the results of other tabulations that more respondents who did not have diarrhea is not working. This condition shows that as women, respondents do not work and thus have more time to take care of themselves at home and are not exposed to the causes of diarrhea in the environment. An environment that does not meet health standards is a risk factor for public health problems.

Diarrhea is a disease that is closely related to hygiene and environmental sanitation such as the use of unclean drinking water, inadequate means of disposal of sewage, sewage, garbage and housing that does not meet health standards. At the research site, aside from the community returning to defecation, access to clean water is also limited.

Activities that require water such as cooking, bathing, and washing all the equipment needed use well water, there are also people who use river water as clean water needs for bathing and washing all household appliances as well as for washing clothes. This certainly makes it easier to transmit fecal oral diarrhea to humans.

C. The influence of STBM pillar I: stop open defecation in the event of diarrhea in Oelomin Village, Kupang Regency

The results showed that the majority of respondents had pillar I STBM not defecating carelessly with the occurrence of diarrhea in the category of no diarrhea, which was 72 respondents (54.1%). The results of the analysis test using the dummy regression test revealed p-value (0,000) < α (0.05) then H0 was rejected and H1 was accepted, which means that there was a Pillar I STBM effect to stop open defecation in the event of diarrhea in Oelomin Village, Kupang Regency. R2 value of 0.285 indicates that the STBM pillar I factor: Stop BABs is able to influence the incidence of diarrhea in Oelomin Village by 28.5%, while the remaining 71.5% is influenced by other factors not examined in this study

Diarrhea is still a problem in Indonesia. Whereas various handling efforts, both medically and efforts to change behavior by conducting health education continue to be done. However, these efforts have not yielded encouraging results. Every year this disease is still ranked at the top, especially in poor areas (Zein, 2014). The cause of diarrhea is caused by food contamination by e-colli bacteria, which is caused by several things including water source contamination, improper food processing and wrong behavior. Form of wrong behavior, one of which is improper hand washing (Mahmudi, 2008). Indiscriminate defecation in the villages can cause vectors such as flies to land on feces and then spread throughout the home environment, other than because of disease vectors that spread e-coli, improper stool management can cause e-coli contamination in water sources drinking, this is what can encourage diarrhea (MOH, 2012). Littering behavior leads to an increased risk of environmental contamination from e-coli bacteria (Suyatno, 2010). According to Djauzi (2008), germs are everywhere, washing hands with soap is one way to eliminate germs and to avoid transmission of disease.

The results of the study indicate that there is an influence between the implementation of STBM Pillar I to the incidence of diarrhea. This phenomenon occurs because diarrheal disease is closely related to environmental factors, especially the contamination of clean water and food facilities by e-colli bacteria as a cause of diarrhea. This contamination can be caused by various factors including because the feces in the open are contaminated in clean water sources such as rivers or even ground water sources. Fecal contamination can also be spread through animals such as flies. Flies that just landed on feces that can fly to settlements and perch on food that is not closed so that bacteria that cause bacteria can move on food that is then consumed by humans. The STBM program has succeeded in reducing the incidence of diarrhea at the study site but the number of patients with diarrhea is still quite high, this shows that the STBM program in pillar I is not fully able to prevent the occurrence of diarrhea but is limited to reducing risk factors.

Another problem that can cause diarrhea is the lack of washing hands with soap after doing activities outside the home. To deal with germs in the environment attached to the body and cause contamination in food, it is necessary to get used to washing hands but not just washing hands but also using soap and carried out under running water because soap can reduce or weaken the germs in the hands . Therefore it is necessary to

implement the STBM pillar immediately, which in turn mainly familiarizes the public with hand washing with soap (CTPS) and Management of Household Drinking Water and Food (PAMMRT) because preventing the occurrence of diarrhea requires continuous efforts.

CONCLUSIONS

1. Most of the respondents have Pillar 1 STBM in the category of not open defecation, namely 92 respondents (68.7%).
2. Most of the respondents had diarrhea in the category of no diarrhea, which is 84 respondents (62.7%).
3. There is an Effect of Pillar I STBM: stop open defecation with the occurrence of diarrhea in Oelomin Village, Kupang Regency (p-value 0,000 < α (0.05).

REFERENCE

Arifin, N. 2016. Pengaruh Metode Pemicuan Terhadap Perubahan Perilaku Stop Babs Didesa Senuro Timur Kabupaten Ogan Ilir. Jurnal FKM UNSRI ISBN 978-602-98295-0-1

Centers for Disease Control and Prevention CDC. 2017. Notes from the Field: Electronic Cigarette Use among Middle and High School Students-United States 2011-2012. Morbidity and Mortality Weekly Report, 6235:729-730

Dainur, 2007. Materi-materi Pokok Ilmu Kesehatan Masyarakat. Jakarta: Widya. Medika.

Kemkes RI. 2013. Riset Kesehatan Dasar Tahun 2013. Jakarta: Kementerian Kesehatan.

Kemkes RI. 2014. Strategi Nasional Sanitasi Total Berbasis Masyarakat. Jakarta. Departemen Kesehatan

Kusnoputranto, 2010. Kesehatan Lingkungan. Pendidikan dan Kebudayaan. Fakultas Kesehatan Masyarakat Universitas Indonesia. Jakarta

Mackay & Eriksen, 2016. The Tobacco Atlas. 5th Edition. USA: American Cancer Society,Inc; 2016. pp. 30-

Martha, K. 2012. Panduan Cerdas Mengatasi Hipertensi. Araksa. Yogyakarta

Notoatmodjo, S. 2010. Metodologi Penelitian Kesehatan. Jakarta : Rineka. Cipta.

Nugroho, 2017. Hidup Sehat Dengan Diabetes. Balai Penerbit FK UI, Jakarta

Nursalam, 2016. Metodologi Penelitian Ilmu Keperawatan. Jakarta: Salemba Medika.

Permenkes RI No. 03 Tahun 2014. Tentang Sanitasi Total Berbasis Masyarakat

STBM Indonesia, 2016. Sanitasi Total Berbasis Masyarakat. http://stbm-indonesia.org/ [Diakses tanggal 9 Februari 2019]

Tauran, 2015. Implementasi Peraturan Menteri Kesehatan Nomor 3 Tahun 2014 Tentang Sanitasi Total Berbasis Masyarakat Studi Pada Program Stop Buang Air Besar Sembarangan di Desa Kandangan Kecamatan Trucuk Kabupaten Bojonegoro. Surabaya: Jurnal UNESA

Widjaja, M.C. 2012. Mengatasi Diare dan Keracunan pada Balita. Jakarta: Kawan Pustaka.