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RESEARCH ARTICLE

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Correlation Analysis of The Community Led Total Sanitation with Diarrhea Services in West Nusa Tenggara Province in 2019

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ABSTRACT

Diarrheal disease is an environmentally based disease. Diarrheal diseases in Indonesia have the potential to cause Extraordinary Events (KLB) because diarrhea is endemic and environmentally based which is often accompanied by death. This study aims to Analyze The Relationship of Community-Led Total Sanitation (CLTS) and Open Defecation Free (ODF) with The Scope of Diarrhea services in West Nusa Tenggara Province in 2019. This type of research is observationally descriptive with cross sectional design. This study uses secondary data from the 2019 Profile of the West Nusa Tenggara Provincial Health Office that has been published in the West Nusa Tenggara Provincial Health Office. The data analysis technique used is a correlation test to see the strong relationships between variables. The results showed the STBM Program with Diarrhea service coverage in West Nusa Tenggara Province in 2019 had a very strong relationship with a correlation value of 0.863. The Stop BABS program with coverage of Diarrhea services in West Nusa Tenggara Province in 2019 had a strong relationship with a correlation value of 0.699. The conclusion of this study is that there is a very strong relationship between the STBM program and the coverage of diarrhea services in NTB and there is a strong relationship between the Stop BABS program and the coverage of diarrhea services in NTB.

Keywords: CLTS; ODF; diarrhea services

INTRODUCTION

Diarrheal disease is an Environmental-based disease. The dominant factors causing diarrhea are clean water and stool removal. These two factors will interact with human behavior. If environmental factors are unhealthy due to bacterial or viral contamination and do not apply clean and healthy living behavior (PHBS) by indiscriminate defecation (ODF) can cause diarrheal diseases. Diarrheal diseases in Indonesia have the potential to cause extraordinary events (KLB) because diarrhea is endemic and environmentally based which is often accompanied by death. In 2015 there have been 3 (three) extraordinary events (KLB) diarrhea disease spread in 3 provinces namely East Nusa Tenggara, Central Java, and North Sumatra with 3 (three) districts namely Kupang, Purworejo and Binjai districts, with the number of sufferers 198 people and the death of 6 people (CFR 3.04%). Extraordinary Occurrence of Diarrhea disease from 2008 to 2016, CFR when extraordinary events is still quite high (>1%). In 2011 CFR at the time of klb by 0.40%, in 2016 CFR diarrhea when extraordinary events increased to 3.04%⁽¹⁾

Based on the results of the preliminary study coverage of Diarrhea Sufferers of West Nusa Tenggara Province in 2015-2019 still has not reached the target set at 100%, whereas in 2015 (77.20%), 2016 (61.13%), 2017 (76.13%), 2018 (98.67%) and there was a significant decrease in 2019 (49.67%). The data has the potential to increase the risk of death due to the lack of health services in diarrheal disease prevention programs. The implementation of diarrheal disease control program in West Nusa Tenggara Province is located in SKPD (Regional Device Work Unit) of the Health Office of West Nusa Tenggara Province in the field of Disease Control and Environmental Health Development in the Section of Disease Control and Epidemiology, Immunization and Disaster Health Surveillance section⁽²⁾

A policy and proper treatment is required based on the development of diarrheal diseases in an area, in order for the number of diarrheal diseases to decrease. Proper policies and treatments require valid and complete data, in order to be precise in tackling diarrheal diseases. West Nusa Tenggara Province has not integrated the Diarrhea disease prevention program with the CLTS Environmental Health program and ODF in an effort to reduce the number of Diarrhea diseases whose service target coverage has not been achieved and become one of the highest health problems in West Nusa Tenggara Province.

The purpose of this study is to Analyze The Relationship of Community-Led Total Sanitation (CLTS) and Open Defecation Free (ODF) with The Scope of Diarrhea services in West Nusa Tenggara Province in 2019.

METHODS

This type of research was descriptive observational with cross sectional design. This study used secondary data from the Profile of The Health Office of West Nusa Tenggara Province in 2019. This research data was the number of people infected with diarrhea served and the number of villages that had carried out CLTS and ODF in each regency / city in West Nusa Tenggara Province recorded in the West Nusa Tenggara Provincial Health Profile in 2019. This study used data on the entire population. ⁽³⁾ The data collection was carried out by recording secondary data derived from documents in the West Nusa Tenggara Provincial Health Office and the West Nusa Tenggara Provincial Health Profile in 2019. Research data as follows:

Table 1. Total population and village of each district/city of West Nusa Tenggara Province

No	District/City	Population	Villages
1	Lombok Barat	694.985	122
2	Lombok Tengah	947.488	139
3	Lombok Timur	1.200.612	254
4	Sumbawa	457.671	166
5	Dompu	252.288	81
6	Bima	488.577	192
7	Sumbawa Barat	148.606	65
8	Lombok Utara	220.412	33
9	Kota Mataram	486.715	50
10	Kota Bima	173.031	41
District/City		5.070.385	5.070.385

The collection and analysis of secondary data is carried out after following the Ethics Review and the issuance of a Research License from the relevant Office. The data analysis technique used is a correlation test to see the strong relationship between variables.

RESULTS

Table 2. total population and village of each district/city of West Nusa Tenggara Province

No.	District/City	Villages	CLTS	ODF	Cases Of Diarrhea	Diarrhea Services
1	Lombok Barat	122	122	106	37529	21977
2	Lombok Tengah	139	139	75	51164	19954
3	Lombok Timur	254	254	106	64833	38900
4	Sumbawa	166	165	62	24714	11440
5	Dompu	81	77	51	13624	5965
6	Bima	192	191	132	26383	16611
7	Sumbawa Barat	65	65	65	8025	2916
8	Lombok Utara	33	32	3	11902	5087
9	Kota Mataram	50	50	42	26283	9181
10	Kota Bima	41	41	15	9344	3976

Correlation of CLTS program with Diarrhea Service Coverage in West Nusa Tenggara Province in 2019

The city / regency in West Nusa Tenggara Province that has the most CLTS Program is Central Lombok Regency, while the City / Regency with the least CLTS Program is Bima City. The number of CLTS Programs and Diarrhea Service Achievements are presented in figure 1.

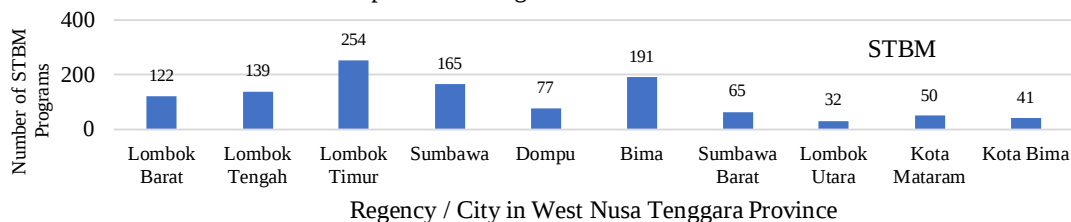


Figure 1. Number of CLTS Programs in each District / City of West Nusa Tenggara Province

The results of the analysis showed the value of Pearson Correlation CLTS variable is 0.863. The Pearson Correlation value can also be interpreted as a calculated R value. The next calculated R value is compared to the table's R value. If the calculated R value is greater than the table R then it can be interpreted as interconnected variables.

The table R value for the sample count of 10 with a significance of 5% is 0.632. So the value of R count is greater (0.863 > 0.632) than the table R value which means that the VARIABLE CLTS has a relationship with the Achievement of Diarrhea Service.

Table 3. Pearson Correlation value of CLTS with Diarrhea Service

		Diarrhea Service
CLTS	Pearson Correlation	0.863**
	Sig. (2-tailed)	0.001
	n	10

** Correlation is significant at the 0.01 level (2-tailed).

The direction of relationships between variables can be known by looking at the Pearson Correlation value. CLTS variable has a relationship with Diarrhea Service Achievement has a positive Pearson Correlation value, so it can be interpreted that the relationship between variables in the direction. The higher the achievement of CLTS program, the higher the achievement of diarrhea services, and vice versa.

The strength of relationships between variables can also be known by looking at the Pearson Correlation value. A value of 1 in Pearson Correlation means that the relationship between variables is very strong, while the value 0 means there is no relationship between variables. Pearson Correlation value of CLTS variable is 0.863, so it can be interpreted that between the achievement of CLTS program and diarrhea service achievement has a very strong relationship.

Correlation of ODF program with Diarrhea Service Coverage in West Nusa Tenggara Province in 2019

The city / regency in West Nusa Tenggara Province that has the most ODF Program is Bima Regency, while the City / Regency with the least ODF Program is North Lombok Regency. The number of ODF Programs is presented in figure 2 follows:

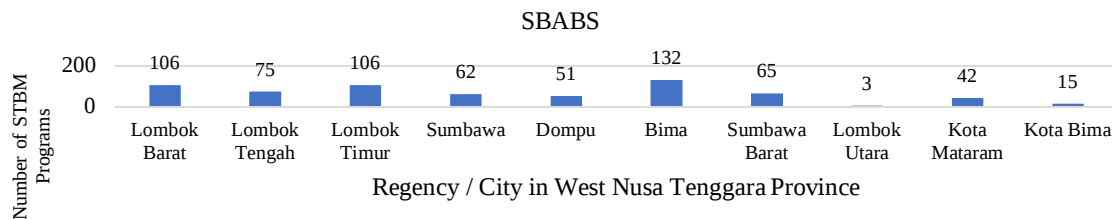


Figure 2. Number of ODF Programs in each District / City of West Nusa Tenggara Province

The results of the analysis showed the Pearson Correlation value for the ODF variable was 0.699. The Pearson Correlation value can also be interpreted as a calculated R value.

Table 3. Pearson Correlation value of ODF with Diarrhea Service

		Diarrhea Service
ODF	Pearson Correlation	0.699*
	Sig. (2-tailed)	0.025
	N	10

*. Correlation is significant at the 0.05 level (2-tailed).

R value count is greater ($0.699 > 0.632$) compared to the table R value so that it can be interpreted that the variable ODF has a relationship with the Achievement of Diarrhea Services.

The direction of relationships between variables can be known by looking at the Pearson Correlation value. ODF variables have a relationship with the Achievement of Diarrhea Services has a positive Pearson Correlation value, so it can be interpreted that the relationship between variables in the direction. The higher the achievement of the ODF program, the higher the achievement of diarrhea services, and vice versa.

The strength of relationships between variables can also be known by looking at the Pearson Correlation value. A value of 1 in Pearson Correlation means that the relationship between variables is very strong, while the value 0 means there is no relationship between variables. Pearson Correlation value of ODF variable is 0.699, so it can be interpreted that between the achievement of ODF program and diarrhea service achievement has a strong relationship.

DISCUSSION

CLTS program relationship with diarrhea service coverage in West Nusa Tenggara Province in 2019

The results showed that there is a very strong link between the achievement of the CLTS program and the achievement of diarrhea services in West Nusa Tenggara Province in 2019. This relationship is in the same direction so that if the number of CLTS program achievements increases then the number of diarrhea service achievements also increases. Community-Led Total Sanitation (CLTS) is an approach to change hygiene and sanitation behavior through empowerment by triggering methods. CLTS aims to achieve total sanitation conditions by changing hygiene and sanitation behavior through community empowerment which includes 3 components, namely the creation of a supportive environment, increased sanitation needs, improved sanitation provision and innovation development in accordance with the context of the region. This research is in line with several studies in Indonesia such as research in Kadunglumpang Village, MojoAgung District, Jombang Regency, namely CLTS with a criteria of less than 32 respondents (54.2%) showing 10 (16.6%) respondents were not diarrhea and 22 respondents had diarrhea (37.3%)⁽⁴⁾. Research in Riau shows a link between CLTS and the incidence of diarrhea in Puskesmas Salo Kampar Regency⁽⁵⁾. Research in Central Java also mentions the same thing where there is a relationship between CLTS and the incidence of diarrhea in the Puskesmas Jatibogor Tegal Regency⁽⁶⁾.

Research in the Working Area of Puskesmas Berohol Tebing Tinggi City mentioned that out of 60 respondents who did not participate in the CLTS program as many as 11 people (18.3%) who did not have diarrhea, and as many as 34 people (56.7%) diarrhoea. Respondents who participated in the CLTS program as many as 11

people (18.3%) who did not have diarrhea, and as many as 4 people (6.7%) which is diarrhea and it can be concluded that there is a significant relationship between the community-based total sanitation program (CLTS) and the incidence of diarrhea in the Working Area of Puskesmas Berohol Tebing Tinggi City in 2019 ⁽⁷⁾. Budiman in 2011 conducted research that showed that there is a significant relationship between CLTS true aspects with the incidence of diarrhea in toddlers with a value of p value = 0.0001 ⁽⁸⁾.

Relationship of ODF program with Diarrhea Service Coverage in West Nusa Tenggara Province in 2019

There is a strong link between the achievement of the Open Defecation (ODF) program and the achievement of diarrhea services in West Nusa Tenggara Province in 2019. This relationship is in the same direction so that if the number of ODF program achievements increases then the achievement of diarrhea services also increases. Community-Led Total Sanitation (CLTS) has 5 pillars and one of them is Open Defecation Free (ODF). To achieve total sanitation, the initial stage is the Open Defecation Free (ODF) program with the aim of the Defecation Free program is ODF. ODF (Open Defecation Free) is a condition of a community does not defecate carelessly This study is in line with several studies in Indonesia, among others, research in krajan village Jatnom District Klaten district which found that 16.3% of respondents using latrines for bab have diarrhea and respondents who do not use latrines for bab have diarrhea as much as 19.4%, so it can be concluded that stool disposal affects the occurrence of diarrhea at a disease⁽⁹⁾. Another study in Sajad subdistrict of Sambasi district mentioned that there is a link between open defecation behavior and diarrhea incidence ⁽¹⁰⁾. Minelly research (2012) stated there is a link between defecation and the incidence of diarrhea ⁽⁶⁾. Amaliah research (2010) states that environmental and community sanitation conditions related to the incidence of diarrhea are the possession of latrines that are all without septic tanks, drinking water sources mostly from shallow well water, habit of defecation not in latrines and not washing hands with soap when going or wanting and after eating ⁽¹¹⁾.

The behavior of indiscriminate defecation reflects the existence of a culture of stupid times of society that can be interpreted as an attitude of no matter anything, not thinking about the case of others, in this case society does not care about the adverse effects of open defecation on yourself and others. Unqualified family latrines are the cause of environmental pollution including soil pollution, water pollution, food contamination, and breeding of flies. Feces dumped in the open can be used by flies that play a role in the transmission of disease through faecal borne disease, flies are happy to place their eggs in open human feces, then flies in human feces and food ⁽¹²⁾. Indiscriminate defecation behavior is related to the incidence of diarrhea in the work area of Jatibogor Health Center Tegal Regency because feces or feces that are dumped openly in the yard, garden, and / or rice fields can invite flies and become a source of diarrhea transmission. In addition, feces discharged in rivers and/or irrigation channels may contaminate river water and/or irrigation channels, while river water and/or irrigation channels are also used for washing and washing hands after defecation. In this study also found households who use latrines without septic tanks. In latrines that do not have septic tanks, feces can seep into the soil around the latrine and contaminate the water source. Budiman explained that there is a link between indiscriminate ODF and the incidence of diarrheal disease in toddlers ($p=0.0001$).

CONCLUSION

1. CLTS program with diarrhea coverage in West Nusa Tenggara Province in 2019 has a very strong relationship.
2. ODF Program with Diarrhea Coverage in West Nusa Tenggara Province in 2019 has a strong relationship

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