

## Factors That Influencing The Diarrhea Event In SDN 2 Banjarejo Students, Pudak District Ponorogo

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### ABSTRACT

Diarrhea is a disease that is still a public health problem in developing countries, including Indonesia. This is due to the high morbidity and mortality. The purpose of this study was to analyze the factors that influence the incidence of diarrhea in students at SDN 3 Banjarejo, Pudak District, Ponorogo Regency. The design of this research is analytic quantitative research with cross sectional approach, the focus of the research is to analyze the factors that influence the incidence of diarrhea in students at SDN 3 Banjarejo, Pudak District, Ponorogo Regency. The total sample of 44 respondents was taken with the Simple Random Sampling technique. The results showed that there were 18 respondents (40.9%) who had enough categories of hand washing. Most respondents have defecation behavior enough category as many as 21 respondents (47.7%). Most respondents have the behavior of consuming enough snacks as many as 21 respondents (47.7%). Most of the respondents had diarrhea as many as 26 respondents (59.1%). The results of the Linear Regression Test analysis showed a p-value of  $0.009 < 0.05$  then  $H_0$  was rejected and  $H_1$  was accepted so it was concluded that there was a significant influence between hand washing behavior on the incidence of diarrhea in students at SDN 3 Banjarejo, Pudak District, Ponorogo Regency. It is expected that respondents like washing their hands with soap before and after doing anything, especially after touching poop, while also having to defecate in the toilet and eat healthy snacks by bringing supplies from home.

**Keywords :** Defecate, Wash Hands & Diarrhea

### INTRODUCTION

Diarrhea is defecation with a soft or liquid consistency, it can even be in the form of water with frequency more than normal (three or more times) in one day (MOH, 2018). Diarrhea is bowel obstruction / defecation characterized by bowel movements more than 3 times a day with consistency of liquid stool, can be accompanied by blood and / or mucus (Simadibrata, 2018). Diarrhea is a bowel movement with a more fluid consistency than usual, with a frequency of three or more times in a 24 hour period (Widjaja, 2016).

Diarrhea is a disease that is still a public health problem in developing countries, including Indonesia. This is due to the high morbidity and mortality. In the year 2000 to 2010 a morbidity survey conducted by the Department of Health's Diarrhea Subdit revealed an increased incidence of diarrhea. In 2000, namely 301/1000 population, in 2003 the incidence of diarrhea rose to 374/1000 population, in 2006 the incidence of diarrhea rose to 423/1000 population (Ministry of Health, Republic of Indonesia, 2011).

The incidence of diarrhea in Indonesia in 2018, the number of diarrhea sufferers of all ages served in health facilities was 3,176,079 patients and occurred in 2018 which became 4,274,790 patients or 60.4% of the diarrhea estimated in health facilities. The incidence of diarrhea of all ages nationwide is 270 / 1,000 population. RI Health Profile (2018). According to data compiled from the Ministry of Health of the Republic of Indonesia in 2018 stated that in East Java province had the second highest number of diarrhea after West Java which reached 1,048,885 patients, and followed by Central Java with an incidence of 911,901 patients (Budijanto. 2018).

In Regency of Ponorogo diarrhea is still a problem, it is known that there is an increase in the number of diarrhea sufferers in 2018 reaching 17,525, compared to 2017 which amounted to 17,120. Ponorogo District Health Profile (2018). The incidence of diarrhea in Banjarejo Public Elementary School 3 during the last three months amounted to 13 patients. Whereas in Puduk sub-district there were 421 cases, and in Banjarjo Village there were 87 cases in 2017. The recorded cases of diarrhea did not reflect the actual incidence because many diarrhea sufferers did not report to health workers.

Based on a preliminary study conducted on 30-June-2019 in SDN 3 Banjarejo, Puduk District, Ponorogo Regency, it was found that a total of 7 children (70%) said that they had experienced diarrhea in the last 3 months until not attending school for 3 days, while 3 children (30%) said they did not have diarrhea in the last 3 months. The cause of the incidence of diarrhea is still high because of the lack of ethical washing hands where children when before eating rarely wash their hands, sometimes even after defecating or urinating rarely wash their hands with soap, but it is also caused by finger nails in children seemingly long and dirty, so that children's hand hygiene is still lacking. Apart from the hand hygiene factor, the incidence of diarrhea is also due to the habit of a child having a snack while having food at school never paying attention to the cleanliness and quality of the nutrition so that what the child carelessly chooses for eating snacks.

One step in achieving the Sustainable Development Goals (SDG's) target of the 3rd Goal is to ensure a healthy life and encourage prosperity for all people at all ages. The step taken by the government to reduce the incidence of diarrhea, especially in school-age children, is by holding a School Health Effort (UKS) in every elementary school. This program is made at school, because the school is a well-organized institution and is a medium for character and media formation that is able to instill understanding and healthy living habits (Martianto, 2009).

According to Suharyono (2018), signs and symptoms of diarrheal disease are characterized by the child becoming whiny, restless, increasing body temperature, decreased appetite, then diarrhea arises. Symptoms of vomiting can occur before or after diarrhea. If you have suffered a lot of water and electrolyte loss, symptoms of dehydration occur.

Acute diarrhea due to infection can be accompanied by vomiting and / or fever, tenesmus, hematochezia, abdominal pain or stomach cramps. Diarrhea that lasts for some time without adequate medical treatment can cause death due to lack of fluid in the body resulting in hypovolemic shock or due to biochemical disorders in the form of advanced metabolic acidosis. Due to loss of fluid someone feels thirsty, weight loss, sunken eyes, dry tongue, protruding cheekbones, decreased skin turgor and hoarseness. These complaints and symptoms are caused by isotonic water depletion. In addition, symptoms can be in the form of watery baby stool, slimy or bleeding, greenish stool color due to mixing with bile and abrasions in the anus (Simadibrata, 2018).

Transmission of diarrhea can be by faecal-oral means, through food or drinks contaminated by enteropathogens, direct hand contact with sufferers, items that have been contaminated with patient feces or indirectly through flies. This method of transmission is known as 4F, namely flinger, flies, fluid, field (Subagyo & Santoso, 2012).

The habit of school children snacks is very influential on diarrheal disease. They are more often snacks in the form of ice or cakes. Not many children get the opportunity to have a lot of pocket money, that's why they tend to choose the type of cheap snacks, usually the lower the price of an item or the lower the quality of snacks (Pradipta Aditya, 2013).

Hand hygiene or hand washing is a procedure for cleaning hands with soap / anti-septic under running water or by using a handscrub which aims to remove dirt from the skin mechanically and reduce the number of temporary microorganisms (Rosita & Natalia, 2012).

## METHODS

The design of this study is a quantitative study using a cross sectional approach with a population of 47 children. A sample of 44 children with a stratified total sampling technique was 44 respondents. The data that has been collected is processed by logistic regression statistical tests. with significance  $\alpha = 0.05$ .

## RESULT

### Subject Characteristics

**Table 1.** Characteristics of Respondents Based on hand washing behavior, defecation behavior, snacking behavior, diarrhea events.

No	Characteristics	$\Sigma N$	$\Sigma\%$
<b>1</b>	<b>Handwashing Behavior</b>		
	Good	10	22,7
	Enough	18	40,9
	Less	16	36,4
<b>2</b>	<b>Defecation Behavior</b>		
	Good	8	18,2
	Enough	21	57,7
	Less	15	34,1
<b>3</b>	<b>Snacking behavior</b>		
	Good	7	15,9
	Enough	21	47,7
	Less	16	36,4
<b>4</b>	<b>Diarrhea events</b>		
	Diarrhe	18	40,9
	No Diare	26	59,1
	<b>Total</b>	<b>44</b>	<b>100</b>

### Data Analysis

No	Variable	Estimate	Sig
1	Constant	4.212	0.008
2	Washing hands	2.259	0.009
3	Defecate	2,721	0.025
4	Snacks	2.002	0.029

Based on the results of the Logistic Regression Test analysis showed that the most influential variable with the occurrence of diarrhea was hand washing behavior variable with a p-value of  $0.009 < 0.05$  then  $H_0$  was rejected and  $H_1$  was accepted so it was concluded that there was a significant influence between hand washing behavior on the incidence diarrhea in students at SDN 3 Banjarejo, Pudak District, Ponorogo Regency.

## DISCUSSION

### Factors affecting the incidence of diarrhea in SDN 3 Banjarejo

#### A. Handwashing Behavior

The results showed that the majority of respondents had the category of enough hand washing behavior as many as 18 respondents (40.9%). In addition, a number of 16 respondents (36.4%) had poor hand washing behavior. Whereas 10 respondents (22.7%) had good hand washing behavior. Hand washing is the process of removing dirt and dust mechanically from

the skin of both hands by using soap and water. The aim is to remove dirt and dust mechanically from the surface of the skin and temporarily reduce the number of microorganisms (Dahlan and Umrah, 2013).

Inadequate hand hygiene also contributes to food-related diseases, such as salmonella bacterial infection and *E. coli* infection. Washing hands with soap will make the bacteria escape from the hands (IKAPI, 2012). According to researchers hand washing behavior is a habit that should always be done by everyone without exception, especially in children who are still fond of playing without regard to hygiene. Based on the results of the study found that many children who have less categories of hand washing behavior which can cause various diseases can proliferate on dirty hands and enter the body because they do not like to wash hands.

### **B. Defecation Habits**

The results showed that the majority of respondents had sufficient defecation behavior as many as 21 respondents (47.7%). In addition, a number of 15 respondents (34.1%) had defecation behavior in the less category. Whereas 8 respondents (18.2%) had defecation behavior in the category.

Open defecation (BABS) is one example of unhealthy behavior. BABS / Open defecation is an act of removing dirt or feces in fields, forests, bushes, rivers, beaches or other open areas and allowed to spread to contaminate the environment, soil, air and water (Murwati, 2012). Human feces are solid and dirty wastes and odors are also a medium of transmission of disease for the community. Human feces contain pathogenic organisms carried by water, food, flies into diseases such as salmonella, vibriokolera, dysentery, diarrhea and others. Impurities contain infectious agents that enter the digestive tract (Tarigan, 2013). According to researchers, bowel habits are behaviors that must be really carried out correctly. Where defecation must be done in a place that is a toilet. If someone defecates carelessly like in a river or garden, it will cause environmental pollution and increase the risk of certain diseases multiplying.

### **C. Eat Snacks**

The results showed that the majority of respondents had enough category snacking behavior of 21 respondents (47.7%). In addition, a number of 16 respondents (36.4%) had less category snacking behavior. Whereas 7 respondents (15.9%) had good snack behavior.

Food snacks as food and drinks served in containers or roadside sales, public places or other places that have been prepared, cooked at the production site, at home or at the place of selling. Snack food can be a drink or food with a variety and interesting colors, flavors and colors. Variations in taste, type and especially color are things that can attract school children to buy snacks. Based on the results of a survey conducted by Guhardja et al (2014), as much as 36% of the energy needs of school children are obtained from food consumed by snacks (Badan POM RI, 2013). According to researchers children, especially in primary school age, would like to consume snacks at school rather than eat lunch from home. Likewise the parents usually do not like to bring their own lunch from home so that there is no snack at the school that is not guaranteed hygiene

### **D. The incidence of diarrhea**

The results showed that the majority of respondents had diarrhea as many as 26 respondents (59.1%). While 18 respondents (40.9%) did not experience diarrhea.

Diarrhea is a condition where someone defecates with a soft or liquid consistency, it can even be in the form of water only and the frequency is more frequent (usually three times or more) in one day (Ministry of Health, 2011). According to Arifianto (2012) diarrhea is more

liquid stool production than usual and the frequency of defecation (BAB) becomes more frequent. Generally, children experience defecation does not reach three times a day so that the frequency of more than three times is often used as a benchmark for diarrhea, although not always.

School-age children are an age group that is prone to nutrition and disease prone, especially infectious diseases. Epidemiologically, the spread of environmental-based diseases among school children in Indonesia is still high, especially cases of infections such as diarrhea. Diarrheal disease is still a public health problem in developing countries like Indonesia, because of its high morbidity and mortality (Kemenkes RI, 2011).

According to researchers diarrhea is a health problem caused by the entry of bacteria into the digestive tract so that it infects the body and the body responds by making the stool fluid softer. Even the result of these bacteria can result in feces accompanied by blood.

### **E. Effects of Handwashing Behavior, Snack Consumption, BAB Habits Against Incidence of Diarrhea**

Based on the results of the analysis of the Logistic Regression Test shows that the most influential variable with the incidence of diarrhea is the variable of hand washing behavior with a p-value of  $0.009 < 0.05$  then  $H_0$  is rejected and  $H_1$  is accepted so it is concluded that there is a significant influence between hand washing behavior on the incidence diarrhea in students at SDN 3 Banjarejo, Pudak District, Ponorogo Regency. Diarrhea is defecation with a soft or liquid consistency, it can even be in the form of water with frequency more than normal (three or more times) in one day (MOH, 2018). Diarrhea is bowel obstruction / defecation characterized by bowel movements more than 3 times a day with consistency of liquid stool, can be accompanied by blood and / or mucus (Simadibrata, 2018).

## **CONCLUSION**

1. Most of the respondents have enough categories of hand washing behavior as many as 18 respondents (40.9%).
2. Most respondents have enough defecation behavior as many as 21 respondents (47.7%).
3. Most of the respondents have enough category of snack consumption behavior as many as 21 respondents (47.7%).
4. Most of the respondents had diarrhea as many as 26 respondents (59.1%).
5. There is an influence of hand washing, defecating and snacks behavior on the occurrence of diarrhea in students in SDN 3 Banjarejo, Pudak District, Ponorogo Regency.

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