

The Relationship of Hand Washing Behavior with the Incidence of Diarrhea among School-Age Children at SDN Citimun 1 Sumedang Regency in 2023

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ABSTRACT

Clean and healthy living behavior is an approach that promotes healthy behaviors and preventive measures in maintaining children's health. One important aspect of clean and healthy living behavior is maintaining sanitary hygiene, including practices that can prevent diarrheal diseases. Diarrhea is a condition characterized by loose and frequent stools, which is usually caused by a digestive tract infection. The purpose of this study was to determine the relationship between clean and healthy living behavior of washing hands with the incidence of diarrhea in students at SDN Citimun 1 Sumedang Regency in 2023. The research method used is quantitative observational with a cross-sectional approach, which is an approach that is momentary at a time and not followed continuously over a period of time. The population in this study were third, fourth and fifth grade students of SDN Citimun 1, Cimalaka District, Sumedang Regency, totaling 91 students. The results showed a value of $p=0.001$, so there is a significant relationship between hand washing and the incidence of diarrhea. It is expected that students and other communities continue to maintain the health of the surrounding environment in preventing the incidence of diarrhea through good clean and healthy living behavior practices. And can educate and encourage people to follow steps that can help reduce the risk of diarrhea and other related diseases.



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1. INTRODUCTION

Diarrhea is a symptom of infection of the intestinal tract, which can be caused by a variety of organisms such as bacteria, viruses and parasites. Infections can be spread through contaminated food or drinking water, or from person to person as a result of poor hygiene. Diarrhea is ranked second as a cause of death in children and toddlers (under five years of age), there are 1.7 billion cases of diarrhea that occur in the world each year and diarrhea has killed about 525,000 children each year, most diarrhea patients who die due to dehydration or loss of large amounts of fluid. Diarrhea is a symptom of infection in the intestinal tract, which can be caused by various organisms such as bacteria, viruses and parasites. Infection can spread through contaminated food or drinking water, or from person to person as a result of poor hygiene (WHO, 2017).

Diarrhea is a condition where a person defecates three or more times in one day and the stool or feces that come out can be in the form of watery or slightly sandy liquid, sometimes it can also be accompanied by blood or mucus depending on the cause (Nurhayati, 2020). Diarrhea is still a public health problem in developing countries such as Indonesia. Diarrhea is a disease that can affect all age groups, especially children and toddlers (Kemenkes RI, 2014).

In Indonesia, the prevalence of diarrhea is a public health problem with high cases. Based on data from the Ministry of Health of the Republic of Indonesia, the prevalence of diarrhea in 2018 was 37.88% or around 1,516,438 cases in toddlers. The prevalence increased in 2019 to 40% or around 1,591,944 cases in toddlers, most of the diarrhea is caused by viral or bacterial infections in the large intestine that come from food or drinks consumed as a result of the lack of implementation of Clean and Healthy Living Behavior (Ditjen P2P, Kemenkes RI, 2020).

The Clean and Healthy Living Behavior program is carried out as an effort to make people aware, willing and able to get used to implementing clean and healthy living. Good Clean and Healthy Living Behavior in the community has directly improved health and prevented the risk of infectious diseases (Kemenkes RI, 2015). Clean and Healthy Living Behavior in the school environment includes 8 indicators, including washing hands with running water and using soap, consuming healthy snacks, using healthy latrines, regular and measured exercise, eradicating mosquito larvae, not smoking at school, weighing body weight and height every 6 months, disposing of garbage in its place (Kemenkes RI, 2012).

Washing hands with soap is one of the efforts in disease prevention. This is because hands are one of the carriers of germs that cause infectious diseases. The risk of disease transmission can be reduced by increasing Clean and Healthy Living Behavior such as washing hands with soap (Depkes RI, 2015). If hand washing behavior is rarely done, the transfer of viruses or bacteria will easily spread so that it can cause several diseases, one of which is diarrhea. Based on the results of previous research conducted by Ginting and Putriyaningsih (2020), it was found that, lack of knowledge was caused by not maximizing information about Clean and healthy living behavior at school.

In West Java, the number of diarrhea cases that occurred in 2021 was 480,959 cases, in 2021 was a year of decline in the number of cases of diarrhea disease in West Java where the previous year, namely 2020, the number of cases of diarrhea disease was at 1,305,102 cases, thus the number of diarrhea cases from 2020 to 2021 in West Java has decreased by 171.35% due to several regions in West Java that have a better understanding of the dangers of the disease. (West Java Data 2021). In Sumedang district, the number of diarrhea cases that occurred in 2021 was 17,429 cases. All cases of diarrhea are treated and receive services according to standards, the number of trends in diarrhea disease in the order of the Puskesmas with the highest number of cases is at the Cimalaka Puskesmas (1,337 cases), this is influenced by the large population and is also influenced by environmental factors and comorbidities (opportunistic infections) which support the increasing number of diarrhea in the region. Improvement of basic sanitation facilities that meet health requirements both from clean water facilities, family latrines, and sewerage is needed. Meanwhile, the smallest number was found in the Tanjungkerta Health Center working area (112 cases) (Sumedang District Health Office 2021).

From the results of preliminary studies conducted by researchers on 2 teachers and 10 students at SDN Citimun 1, Cimalaka District, Sumedang Regency, the results obtained, according to the teacher, every week there are always students who are absent from class due to illness, but when the researcher asked what illness the student suffered, the teacher answered that he did not know because when the student's parents made a letter, the information was only written "sick". Then the results that researchers got from 10 informants (students) were that 80% still did not know about Clean and Healthy Living Behavior and its indicators, and only 20% knew. One indicator that is still poorly known or understood by students is washing hands with soap, students more often wash their hands without using soap only rinsed and even then without doing good and correct hand washing movements, for waste disposal behavior, students still often mix organic and non-organic waste in the same trash can, even according to some students often see and even throw garbage under the drawer of their own study table.

Based on the data and description above, it can be concluded that the incidence of diarrheal disease can be minimized by knowing and applying the factors of clean and healthy living behavior. And from the results of preliminary studies conducted by researchers to some students at SDN Citimun 1, Cimalaka District, Sumedang Regency, researchers are interested in conducting research with the title "The Relationship between Clean and Healthy Living Behavior Hand Washing with the Incidence of Diarrhea in School Age Children at SDN Citimun 1, Cimalaka District, Sumedang Regency in 2023".

2. METHOD

The research method used was quantitative research with a cross sectional approach. The population in this study were students in grades III, IV and V at SDN Citimun 1, totaling 91 students. The sampling used in this study was Stratified Random Sampling, with a sample size of 48 students. The instrument used was a questionnaire. Data analysis includes univariate and bivariate analysis using the Chi Square test.

3. RESULTS AND DISCUSSION

3.1. Results

A. Univariate Analysis

1) Overview of the incidence of diarrhea in school-age children at SDN Citimun 1

Table 1

Overview of the incidence of diarrhea in school-age children at SDN Citimun 1

Incidence of Diarrhea	Frequency	Percent (%)
Yes	37	77,1
No	11	22,9
Total	48	100,0

Source: Primary Data, 2023

Based on Table 1, it can be concluded that the incidence of diarrhea were 77.1%.

2) Overview of Handwashing Behavior in School-Age Children at SDN Citimun 1

Table 2

Overview of Handwashing Behavior in School-Age Children at SDN Citimun 1

Handwashing	Frequency	Percent (%)
Good	40	83.3
Moderate	8	16,7
Total	48	100,0

Source: Primary Data, 2023

Based on Table 2, it can be concluded that the majority of students with hand washing were obtained in the good category as much as 40 students (83.3%).

B. Bivariate Analysis

1) Relationship between clean and healthy living behaviour of handwashing and the incidence of diarrhea

Table 6

Relationship of handwashing behavior and the Incidence of Diarrhea in School-Age Children at SDNCitimun 1

Handwashing	Incidence of Diarrhea						P Value*
	Yes		No		Total		
	F	%	F	%	F	%	
Good	35	72.9	5	10.5	40	83.3	0.001
Simply	2	4.1	6	12.5	8	16.7	
Total	37	77.0	11	23.0	48	100.0	

Source: Primary Data 2023

Based on Table 6, the significance result is 0.001, so there is a significant relationship between hand washing and the incidence of diarrhea in students at SDN Citimun 1 Cimalaka. The majority of students with hand washing in the good category with the incidence of diarrhea in the yes category were 35 students (72.9%).

3.2. Discussion

A. Overview of diarrhea incidence

The picture of the results shown by the researchers in this study is that that the incidence of diarrhea were 77.1%. According to WHO (2019) Diarrhea is a medical condition characterized by loose stools, frequent bowel movements, and sometimes accompanied by symptoms such as abdominal cramps, nausea, vomiting, and fever. Bacterial, viral, or parasitic infections are the most common causes of infectious diarrhea. Digestive disorders such as lactose intolerance or malabsorption of certain carbohydrates (as in irritable bowel syndrome) can cause diarrhea. Consumption of unhealthy foods, high-fat foods, or spicy foods can affect gut motility and

trigger diarrhea. Excessive stress and anxiety can affect the function of the digestive tract and speed up bowel movements, which can lead to diarrhea. The results of this study are in line with previous research conducted by Suherman (2019) with the title *Analysis of the Incidence of Diarrhea in Students at Pamulang 02 State Elementary School, Pamulang District in 2018* that the incidence of respondent diarrhea during the last month 39.8% of 118 Respondents Experienced diarrhea. This is because students can still maintain a healthy diet and habits in their activities.

According to researchers, the incidence of diarrhea in primary school students may vary depending on certain factors, such as geographical location, sanitary conditions and other living habits. For example, primary school students can be vulnerable to exposure to diarrheal diseases because they interact with many other individuals or people within the school environment. Direct contact between students, such as playing and sharing toys or food, as well as lack of hand hygiene habits, can facilitate the spread of pathogens that cause diarrhea. Consumption of contaminated food or unsafe drinking water in the school environment can cause infections leading to diarrhea. This condition can be caused by viral, bacterial or parasitic infections, as well as by non-infectious causes such as consumption of contaminated food or drink, food intolerance or indigestion. This is an important concern for the health of children in primary school, and signals the need for better preventive measures and education on hygiene and health to prevent the spread of diarrhea. This could include raising awareness about the importance of handwashing, providing adequate sanitation facilities in schools, and teaching healthy diet and hydration.

B. Overview of Handwashing Behavior

The description of the results shown by the researchers in this study is that the majority of students with hand washing were obtained in the Good category with the results of 41 students (85.4%), and in the sufficient category with the results of 7 students (14.6%). Hand washing with running water and using soap is a process of a person taking hygiene measures, considering that dirty hands are one of the sources of the spread of disease-causing bacteria or viruses, washing hands with running water and using soap is effective in breaking the chain of spreading disease, because running water can directly drain and remove dirt from hands, soap is very effective in killing germs because soap contains fat-like compounds called amphiphiles, which are similar to lipids and are found in viral membranes. When soap comes into contact with these fatty substances, it binds to them and makes them detach from the virus. If handwashing does not use soap, bacteria or viruses may still remain on the hands (WHO, 2022).

The results of this study are also in line with previous research conducted by Suherman (2019) with the title *Analysis of the Incidence of Diarrhea in Students at Pamulang 02 State Elementary School, Pamulang District in 2018* that for hand washing habits 58.5% of respondents have good hand washing habits. This is because students have received good education about the importance of hand washing and the correct technique. The availability of adequate handwashing facilities at school, such as a sink with clean water, soap, and tissue or paper towels, is an important factor in improving handwashing habits this also depends on student compliance in implementing handwashing practices.

According to the researcher, students at SDN Citimun 1 are not fully aware of the importance of washing their hands regularly by washing their hands properly even though the school has provided good facilities with the provision of hand washing stations (wastafel) in several places. the lack of maximum consistent supervision from teachers and school staff to students in carrying out hand washing practices. Some students are good at doing handwashing routines but not necessarily correct in the steps in good and correct handwashing, hence the importance of always evaluating and improving hygiene policies and practices in schools in order to maintain student health.

C. The Relationship between Handwashing and the Incidence of Diarrhea

From the results of this study obtained results with a significance value of 0.001, there is a significant relationship between hand washing and the incidence of diarrhea in students at SDN Citimun 1 Cimalaka. The majority of students with hand washing in the good category with the incidence of diarrhea in the yes category were 35 students (72.9%). The theory of contact transmission of disease links hand washing to the incidence of diarrhea in primary school children. Elementary school children tend to be active and often interact with the surrounding environment, including with their peers. They may also not fully understand the importance of

maintaining hygiene and washing hands properly after using a toilet, before eating, or after playing outside. When children do not wash their hands properly or at all, germs or pathogens that may be on their hands can easily spread to the food or drinks they consume. In some cases, these germs can cause infections in the child's digestive tract and eventually lead to diarrhea.

Proper handwashing is one of the most effective measures in preventing the spread of diseases, including diarrhea. Children need to be educated on the importance of washing their hands with soap and running water for at least 20 seconds. This helps to remove any germs or pathogens attached to the skin of their hands. It is also important to teach children clean and healthy living habits, such as keeping the environment clean, using a tissue or handkerchief when sneezing or coughing, and ensuring the food and drinks they consume are safe and hygienic (Ejemot, 2008).

This study is in line with research conducted previously by Purwandari (2013) with the title *The Relationship Between Hand Washing Behavior With The Incidence Of Diarrhea In School-Age Children In Jember Regency*. shows the results of the analysis of the relationship between hand washing behavior with the incidence of diarrhea using Spearman there is a relationship between hand washing with the incidence of diarrhea with a p value of 0.000 and r 0.792, the better the hand washing behavior, the lower the incidence of diarrhea. This is because the habit of washing hands with soap is part of healthy living behavior. Proper handwashing is not only influenced by the way it is washed, but also by the water used and the hand wipes used.

Research that is not in line was conducted by Asda & Sekarwati (2020) with the title *Hand Washing Behavior Using Soap (CTPS) and the Incidence of Infectious Diseases in the Family in the Donoharjo Village Area, Sleman Regency*. where the results of this study suggest that there is no relationship between hand washing behavior with soap and the incidence of diarrheal infectious diseases in the family. These results indicate that quite a lot of hand washing behavior still experiences diarrhea incidence by 46% and children who have good hand washing behavior still experience diarrhea incidence by 16%. So that in this study there was no relationship between variables in this study, possibly due to other factors that affect the incidence of diarrhea such as bad habits of consuming unhealthy food.

According to researchers, proper handwashing and hygiene are proven practices that are effective in preventing the spread of diseases, including diarrhea. There are many other factors that can contribute to the incidence of diarrhea in children, such as viral, bacterial or parasitic infections, unhealthy diet, poor sanitation, contaminated drinking water and a general lack of hygiene. One way to reduce diarrheal disease is by washing hands with soap. Washing hands with soap can eliminate the germs that cause diarrhea. These diarrhea germs are usually spread through contaminated food and drinks and direct contact with infected people (Pratiwi & Haqi, 2019). Proper handwashing with soap and running water is one of the most effective ways to reduce the spread of diseases, including diarrhea. Diarrhea is a common disease caused by bacterial, viral or parasitic infections that enter the digestive system through contaminated food or drink. In addition, diarrhea can also be transmitted through contact with an infected person or contaminated objects. So even though handwashing is done in the good category, it is important to continue to be aware of the importance of proper handwashing and maintaining personal hygiene as a preventive measure to reduce the risk of spreading infectious diseases, including diarrhea. It is always important to follow the guidance and recommendations of local health authorities or world health organizations regarding appropriate preventive measures.

4. CONCLUSION

Based on the results of research on the relationship between clean and healthy living behavior and the incidence of diarrhea in students in grades III, IV and V at SDN Citimun 1, it can be concluded as follows:

- a. The picture shown in this study is that the majority of students with diarrhea incidence were obtained in the yes category, namely 37 students (77.1%).
- b. The picture shown in this study that the majority of students with hand washing was obtained in the Goodcategory, namely 41 students (85.4%).
- c. There is a significant relationship between hand washing and the incidence of diarrhea in students at SDNCitimun 1 Cimalaka with a value of $p=0.001$.

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