

# The Effect of Health Education on Increasing Knowledge About Diarrhea Disease in Elementary School Students

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## Keywords

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**Abstract.** Diarrhea is a disease that is still a health problem in Indonesia. Patients with diarrhea experience dehydration due to loss of fluid in the body which can cause loss of consciousness and death. Diarrhea cases are caused by factors such as not washing hands with soap, consuming unhygienic food, inadequate latrines, and lack of availability of clean and healthy water. Objective: to determine the effect of health education on knowledge about diarrhea disease in elementary school students before and after being given health education. Method: This study used Pre-experimental method using one group pretest and posttest design. The research sample was grade VI students as many as 45 elementary school students using Total Sampling. The analysis test uses the Wilcoxon Test to determine the effect of health education on increasing knowledge about diarrhea in elementary school students. Results: the results showed that there was a difference between the level of pretest and posttest with the difference in the average value of knowledge of elementary was 1.74 and the Wilcoxon Test analysis showed pvalue=0.00. Conclusion: There is an effect of health education on increasing knowledge about diarrheal diseases in elementary school students. Suggestion: It is expected that the implementation of this health education can be implemented in other schools or in the home environment so that the expansion of this information can increase the knowledge of school students or the community about diarrheal disease so that morbidity and mortality rates due to cases of diarrhea disease can be prevented

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## 1. INTRODUCTION

Diarrhea is a disease that is still a health problem in Indonesia, causing high morbidity and mortality rates in infants, children and adolescents. One of the endemic diseases in Indonesia and has the potential to cause an Extraordinary Event (KLB). Diarrhea can be fatal if the sufferer experiences dehydration due to losing a lot of fluids in the body. Therefore, diarrhea should not be taken lightly, even though the condition is very common [1]. According to Fida and Maya (2012), diarrhea in children can cause dehydration due to loss of fluids and electrolytes through feces, causing the child's lips to appear dry. Apart from that, his skin was wrinkled and his eyes looked sunken. If dehydration is not treated immediately and appropriately, the patient will have difficulty breathing, and can even lose consciousness and lead to death [2].

According to WHO and UNICEF, there are around 2 billion cases of diarrhea and 1.9 million children under the age of 5 die every year worldwide. Of these deaths, 78% occurred in developing countries, including Africa and Southeast Asia [3]. Diarrhea cases in Indonesia are caused by unhealthy environmental factors and unhygienic behavior. Diarrhea is a condition where you have watery bowel movements or can also be water (diarrhea) and usually more than 3 times a day or more often than usual. Apart from that, diarrhea sufferers' stools are also thinner than usual. This diarrheal disease can be short-lived, lasting up to several days and in some cases it can last for weeks [4].

Apart from that, according to Hartono (2007), children die from diarrhea due to a lack of knowledge about diarrhea and how to prevent it. Diarrhea which is accompanied by symptoms of continuous defecation, vomiting and stomach cramps is sometimes considered trivial and can heal by itself without the need for medical help. [5]. In 2015, there were 18 cases of Extraordinary Events (KLB) of diarrhea spread across 11 provinces and 18 districts/cities, with a total of 1,213 sufferers and 30 people died. The national morbidity rate according to the 2012 Diarrhea Morbidity Survey was 214/1,000 population [6]. According to data from the South Sulawesi Provincial Health Service in 2015, the percentage of diarrhea cases was 364,669 cases, while diarrhea cases were 238,085 cases (65.29%). The highest cases were in Makassar City with a total of 28,257 reported cases out of a total population of 1,449,401 people. So, from this figure it can be said that 34.71% or 126,577 cases of diarrhea were not treated [7].

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Several behaviors that trigger diarrhea include not maintaining cleanliness and healthy living habits in daily life, and the level of knowledge is also very low. Therefore, it is important to provide health education to increase public awareness about clean and healthy lifestyles to maintain and improve the level of public health to prevent symptoms and other diseases. [8] . The high number of cases of diarrhea, such as in students of class IV-VI at SDN 11 Lubuk Buanya Pandang, is caused by many things, such as not implementing the habit of washing hands with soap, consuming unhygienic food, inadequate latrines, and the lack of availability of clean and healthy water. [9] .

The solution that can be done to increase students' knowledge about diarrhea is by providing health education with the aim of helping elementary school students increase their knowledge about diarrhea. By conveying knowledge material with the help of media, it can provide high success in improving learning outcomes. Health education is a teaching and learning process in the health sector as a form of effort to maintain and improve health. The aim of health education is to change unhealthy behavior into healthy behavior for individuals, groups and society [10] . Apart from that, according to Notoaatmojo (2018) that health education is an effort to persuade or learn from the community so that they are willing to take action to maintain and improve their health status. [8] . Based on the problems above, researchers are interested in conducting research on "The Effect of Health Education on Increasing Knowledge about Diarrhea Diseases in Elementary School Students".

## 2. METHOD

This research method uses a quantitative method with a *pre-experimental approach* , namely *one group pre-test and post-test* . The place where this research was carried out was SDI Tamamaung 1 Makassar City. The time of the research is September 2023. The population in this research is all students at SDI Tamamaung 1, and the samples for this research are class VI (sixth) students with a total sample of 45 people, research samples were taken using the Total Sampling method. The data collection tool used to measure the level of knowledge of school students about diarrhea is in the form of a questionnaire sheet. This study used the *Wilcoxon Test* with a significance of  $\alpha = 0.05$ , which aims to determine the effect of health education on knowledge about diarrhea in SDI Tamamaung 1 elementary school students before and after being given health education.

## 3. RESULTS AND DISCUSSION

The results of research regarding the influence of health education on increasing knowledge about diarrheal diseases in elementary school students can be seen in the table below:

**Table 1.** Distribution of Respondents Based on Age

Age (Years)	n	%
11	23	51.1
12	22	48.9
Total	45	100

Based on table 1, it shows that of the 45 school students there are various age groups, namely in the 11 year age group there are 23 people (51.1%), the 12 year age group is 22 people (48.9%). The research sample was chosen in a group of class VI (six) students because they were easy to communicate with, apart from that, according to Putri (2012) that students aged 10-12 years were the most appropriate for interviews with questionnaires because at this age children are interested in learning the height and memory of the biggest and strongest child, as well able to capture and understand the material provided which contains information about a science [9] .

**Table 2.** Distribution of Respondents Based on Gender

Gender	n	%
Man	22	48.9
Woman	23	51.1
Total	45	100

Based on table 2, it shows that of the 45 school students there were 22 males (48.9%) and 23 females (51.1%). According to Saputro et al (2013) that gender has nothing to do with cause of diarrheal disease [11].

**Table 3.** Mean Knowledge Before and After Being Given Health Education

Variable	n	mean	elementary school	Mean Difference
Before (Pretest)	45	7.04	1,930	1.74
After (Posttest)	45	8.78	1,717	

Based on table 3, the average knowledge score value before was 7.04 and after 8.78 from the 45 respondents given. health education. The difference in the average knowledge score of elementary school students before and after being given the intervention was 1.74. The results of this study show that there was an increase in knowledge after being given health education to school students at SDI Tamamaung 1. This is the same as research conducted by Munanda et al (2020) that there was an increase in knowledge before and after providing the intervention with a difference in the average knowledge of school children the baseline before and after is 1.94 [12]. Apart from that, research by Gurning et al (2014) also shows the same results that the average value of knowledge of respondents before health education was given was 6.60 and after being given health education the average value of students' knowledge level was 8.30, this shows that there is increased knowledge about the disease [13].

Factors that influence the increase in knowledge of SDI Tamamaung 1 elementary school students are the counseling materials and information media provided, according to Notoatmojo (2010) that success in conducting counseling requires paying attention to the importance of appropriate counseling methods for the target group. One form of counseling method is lectures. The lecture method is a method that is suitable for target groups with high or low education. Things that need to be prepared in this method are power point slides and LCDs supported by attractive images and language, where these counseling tools function to facilitate the delivery of information and make it easier for targets to receive health information [14].

The knowledge information obtained at this time is the definition of diarrhea, the characteristics of diarrhea, the causes of diarrhea, initial treatment methods for diarrhea, transmission routes for diarrheal disease, breaking the route of diarrhea transmission and ways to prevent diarrhea. When health education is carried out, all students listen to the material provided. It is hoped that the information provided by students can understand diarrheal diseases so that the knowledge gained can be applied to themselves and others. This finding is in line with the results of Pebriani's research (2021) that knowledge obtained from finding out after sensing certain objects causes students to lack knowledge before being given counseling because students have not received new information that they will know. The more knowledge a person has, the better the level of health that person has. Providing early health information about diarrheal diseases to elementary school aged children is a good step in reducing morbidity and mortality due to diarrheal diseases in children [15].

**Table 4.** Effect of Health Education on Increasing Knowledge About Diarrhea Disease in Elementary School Students

Variable	n	mean	elementary school	Mean Difference	P
Before (Pretest)	45	7.04	1,930	1.74	0.00
After (Posttest)	45	8.78	1,717		

Based on table 4, it is known that the results of the analysis using the *Wilcoxon Signed Ranks* statistical test show that health education greatly influences the level of elementary school students' knowledge about diarrheal diseases with a value of  $p = 0.00$ , so it can be concluded that health education is effective in increasing the knowledge of elementary school students at SDI Tamamaung 1.

This is in accordance with research by Fadhilah (2020) that there is an influence of health education on knowledge about diarrhea in elementary school children at SD Negeri 79 Bengkulu City with a  $p$  value = 0.000. Apart from that, the results of this study are also in line with research conducted by Gurning et al [13] using the *Wilcoxon Signed Ranks* statistical test showing that health

education greatly influences the level of students' knowledge about diarrhea prevention, with a value of  $P = 0.001$  which is smaller than  $\alpha = 0.05$  which means that health education greatly influences the level of students' knowledge about preventing diarrhea at the Manado 69 State Elementary School [2].

Health education is a process of change that occurs in a person to achieve a healthy level. The goal of health education is to change unhealthy behavior into healthy behavior in individuals, groups and communities. The education received at school is expected to change student behavior. Student behavior related to health education has the aim of changing previously unhealthy behavior to become healthy and taking responsibility for one's own health [16]. According to Notoatmodjo (2012) health education is able to change a person's or society's knowledge in taking actions related to health. Health education in general is any planned effort to influence other people, whether individuals, groups or communities, and educators or educational actors. [13].

Health education carried out in schools can change student behavior into healthy behavior and able to prevent unhealthy behavior. Age child Schools are in a period when children are considered to be starting to take responsibility for their behavior himself in relation to friends peers, parents or other people. The development of school-age children tends to be influenced by their peer environment his peers. When they already know about the consequences unhealthy living behavior, they will be more selective in choosing what is good and bad [10].

#### 4. CONCLUSION

Based on the research results above, it can be concluded that there are differences between level knowledge before counseling ( *pretest* ) and after counseling ( *posttest* ) the difference in the average value of elementary school students' knowledge before and after being given the intervention was 1.74. *Wilcoxon test* analysis shows a  $p$  value = 0.00, so it can be concluded that there is an influence of health education in increasing knowledge about diarrhea in elementary school students at SDI Tamamaung 1.

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