

The Relationship between Handwashing Behavior with Soap and the Incidence of Diarrhea in Children at Bojongsari 02 Elementary School, Bekasi Regency in 2024

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Abstract

Introduction: According to the World Health Organization 2024 diarrhea is the third leading cause of death in children. It is estimated that around 443,823 people die each year. Diarrhea is related to Clean and Healthy Living Behavior, environmental sanitation quality and unhygienic habits such as not washing hands before eating or after doing activities related to the environment. **Objective:** This study aims to determine the relationship between handwashing behavior with soap and the incidence of diarrhea in children at Bojongsari 02 Elementary School, Bekasi Regency. **Method:** The research design used an analytical survey design with a cross-sectional time approach. Data were analyzed using univariate frequency distribution analysis and bivariate chi-square data analysis with a significance of $\alpha = 0.05$. **Result and Discussion:** The results of the study showed that there was a significant relationship between handwashing behavior with soap and the incidence of diarrhea in children at Bojongsari 02 Elementary School, Bekasi Regency (p -value 0.000). It was found that 56.1% of children at SDN Bojongsari 02, Bekasi Regency had adequate handwashing behavior with soap and 75.6% of children at Bojongsari 02 Elementary School, Bekasi Regency did not experience diarrhea in the last 3 months. **Conclusion:** It is recommended that nurse provide education or counseling on handwashing with soap (CTPS) in every elementary school in their work area.

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Introduction

Diarrhea can occur at any age, but is most common in primary school-aged children. Digestive problems often occur in school-age children during growth and development such as diarrhea (Boway, Mandagi, & Rattu, 2019). School-age children often play outdoors doing high physical activity and are vulnerable to disease and unhealthy lifestyles. Children often eat unhealthy food or snacks which are a source of health problems, especially diarrhea (Rizana & Wahyuni, 2021)

Poor handwashing behavior among school-age children is due to a lack of knowledge. One example of health attitudes, knowledge and actions that school-age children have about personal and environmental hygiene is the habit of washing their hands. Knowledge is the result of sensory experience, especially the eyes and ears with something. The closed reaction of individuals to stimulants or objects is known as this perspective can occur in an internal or external way until its manifestation is not immediately visible, but can only be interpreted through closed behavior first (Yulanda, 2023).

Incorrect handwashing behavior is still prevalent among school children. Several factors influence handwashing behavior with soap, such as knowledge of the importance of washing hands with soap, knowledge of how to wash hands properly, availability of places and equipment for washing hands and the influence of social support from the local environment. Support from classmates, teachers and community participation in the school environment will encourage them to have the desire and independence to prevent disease, maintain health and actively participate in creating a healthy classroom and school environment (Sirajuddin, Masni, & Najamuddin, 2019)

According to the World Health Organization (WHO, 2024) diarrhea is the third disease that causes death in children. WHO has estimated that around 443,832 children die each year due to diarrheal diseases, especially in low- and middle-income countries. According to the Ministry of Health of the Republic of Indonesia (2020) diarrhea is the most common disease and can cause death. 61.7% of service recipients for diarrhea patients at all ages in 2019.

The prevalence of diarrhea based on data from the West Java Provincial Health Office (2023) that the distribution of the number of cases of diarrhea disease based on 27 districts / cities shows that Bekasi Regency is ranked second as the district with the highest number of diarrhea cases during the 2018-2022 period or for 5 years after Bogor Regency. Based on data from the Health Profile of the Kedungwaringin Health Center (2022), it is known that the incidence of diarrheal disease in Bojongsari Village is 21% of the total population of 8,988. This diarrhea case is caused by environmental conditions in Bojongsari Village which have poor access to sanitation and low implementation of hand washing behavior. Hand washing is one way to prevent the transmission of diseases such as diarrhea (WHO, 2009).

Method

The method used in this study was quantitative analytic survey with a cross-sectional approach. Positivism underlies quantitative research, which is used to investigate a specific population or sample. After research tools are used to collect data, quantitative and statistical analysis is carried out with the aim of testing the hypothesis that has been made (Sugiyono, 2020).

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This research method uses an analytic survey, which is a type of research that describes a research situation that studies the relationship between risk components (independent) and effect factors (dependent) using a cross-sectional approach, which only measures or looks at variables once at the same time. The cross-sectional approach is used to determine the reasons why the health problem may occur (Riyanto, 2022)

The population observed in this study were grade 4 and grade 5 students of Bojongsari 02 elementary school, Bekasi Regency, totaling 174 student and based on the results of the calculations that have been carried out, the total sample sample used in this study is 123 respondents of Bojongsari 02 elementary school students.

Result and Discussion

1. Result

Univariate Analysis

Overview of Handwashing Behavior in students

Table 1

Frequency Distribution of Handwashing Behavior Using Soap in Bojongsari 02 elementary school students

Handwashing Behavior	<i>F</i>	(%)
Inadequate	54	43.9
Adequate	69	56.1
Total	123	100

Based on table 1, of the 123 respondents studied, 69 respondents (56.1%) had Adequate hand washing with soap behavior.

Overview of the incidence of diarrhea in students

Table 2

Distribution of diarrhea incidence among students of Bojongsari 02 Elementary School, Bekasi Regency

Incidence of Diarrhea	<i>F</i>	(%)
Diarrhea	30	24.4
No Diarrhea	93	75.6
Total	123	100

Based on table 2, of the 123 respondents studied, 93 respondents (75.6%) did not experience diarrhea in the last 3 months.

Bivariate Analysis

Analysis of the Relationship between Handwashing Behavior with Soap and the Incidence of Diarrhea in students

Table 3

Relationship between hand washing behavior and the incidence of diarrhea in students of Bojongsari 02 Elementary School, Bekasi Regency.

Handwashing Behavior	Incidence of Diarrhea				Total		P-Value
	Diarrhea		No Diarrhea				
	N	%	N	%	N	%	
Inadequate	22	40.7	32	59.3	54	100	0.000
Adequate	8	11.6	61	88.4	69	100	
Total	30	100	93	100	123	100	

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Table 3 shows that out of 54 respondents who had poor hand washing with soap behavior, 40.7% of them suffered from diarrhea while out of 69 respondents with adequate hand washing behavior only 88.4% did not suffer from diarrhea.

The statistical test results obtained P value: $0.000 < \alpha (0.05)$, it can be concluded that there is a significant relationship between hand washing behavior and the incidence of diarrhea in elementary school students Bojongsari 02 Bekasi Regency.

2. Discussion

Overview of Handwashing Behavior in students of Bojongsari 02 Elementary School, Bekasi Regency.

The results showed that of the 123 respondents studied, 69 respondents (56.1%) had adequate hand washing with soap behavior. The results of this study are in line with the results of research conducted (Andini, 2021) which showed the results of most students of Al-Washliyah 30 Medan elementary school having adequate hand washing with soap behavior, namely 52.7%.

The results of this study are also in line with research conducted by Risa Kiranasari, R. (2021) which found that 67 respondents (81.7%) had adequate handwashing with soap behavior in school-age students (Risa Kiranasari, 2021)

The results of this study indicate that most students have adequate hand washing behavior, however, there are still 43.9% of respondents who still have poor hand washing with soap behavior, this can be due to several factors such as students' knowledge and attitudes about hand washing with soap, the role of parents and teachers in encouraging students to get used to washing hands, the availability of facilities and infrastructure (Rismawati, 2021)

Overview of the incidence of diarrhea in students of Bojongsari 02 Elementary School, Bekasi Regency

Based on table 2, of the 123 respondents studied, 93 respondents (75.6%) had never experienced diarrhea during the last three months. The results of this study are in accordance with the results of research conducted by Rosyidah (2019), namely 80.4% have never experienced diarrhea during the last three months (Rosyidah, 2019). The results of other research conducted by Ardiyanti (2020) found that most elementary school students have never had diarrhea, namely 56% (Ardiyanti, 2020)

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The results showed that out of 54 respondents who had poor hand washing with soap behavior, 40.7% of them suffered from diarrhea while out of 69 respondents with adequate hand washing behavior only 88.4% did not suffer from diarrhea. The statistical test results obtained P value: $0.000 < \alpha (0.05)$, it can be concluded that there is a significant relationship between hand washing with soap behavior and the incidence of diarrhea in elementary school students Bojongsari 02 Bekasi Regency.

The results of this study are in line with the results of research conducted by Niska, K., et all (2024), which showed that the relationship between hand washing behavior using soap with the occurrence of diarrhea at Nagrog Elementary School, Tangerang Regency has a significant relationship with a p-value of 0.001 (Niska, Shifa, & Hartono, 2024)

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The results of Pangemanan, Kimiko., (2021) research (2021) obtained similar results, namely that there was a relationship between hand washing with soap with the incidence of diarrhea in children aged 6-12 years in the Bajeng Health Center Area, Gowa Regency (p value = 0.000) (Pangemanan, Tumurang, & Engkeng, 2021)

The results of Risa Kiranasari, R. research (2021) found that there was a statistically significant relationship between hand washing with soap behavior and the incidence of diarrhea with a p-value of $0.000 < \alpha = 0.05$.

Conclusion

The findings justify that promoting proper handwashing with soap among elementary school students is crucial, as evidenced by the 56.1% of students demonstrating adequate hygiene behavior and 75.6% not experiencing diarrhea in the past three months. Furthermore, the statistically significant relationship between handwashing behavior and the incidence of diarrhea (p-value = $0.000 < \alpha = 0.05$) reinforces the importance of instilling and maintaining proper hygiene practices in preventing diarrheal diseases among school-aged children.

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