



The Relationship Between Handwashing Behavior (Ctps) in Covid-19 Prevention Among Elementary School Students in Banda Aceh City

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ABSTRACT

This study investigates the relationship between handwashing behavior, often referred to as Cuci Tangan Pakai Sabun (CTPS), and the prevention of COVID-19 among elementary school students in Banda Aceh City. The research conducted a descriptive-analytic study using a cross-sectional approach. Data was collected from elementary school students in SD Negeri 59 Banda Aceh, with a total sample size of 62 students. The analysis of the data involved both univariate and bivariate analyses. The findings revealed a significant relationship between students' knowledge about COVID-19 and their handwashing behavior, with a p-value of 0.001. Additionally, the role of teachers was found to be significantly associated with students' handwashing behavior, with a p-value of 0.020. However, the study did not establish a significant relationship between media involvement and handwashing behavior, as indicated by a p-value of 0.071. These results align with previous research and highlight the crucial role of knowledge and teachers in influencing proper handwashing behavior among students. In the context of COVID-19 prevention, the study underscores the importance of education, both from teachers and through media, to raise awareness and promote the practice of handwashing with soap (CTPS) as an integral part of preventive measures. Further research is needed to explore additional factors that may impact students' handwashing behavior and to gain a deeper understanding of the potential role of media in shaping this behavior.

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1. Introduction

Since the COVID-19 pandemic has spread worldwide, the awareness of preventive measures has become crucial in controlling the virus's transmission (Backer et al., 2020; Shen et al., 2020). One of the simplest and most effective preventive measures is washing hands with soap, commonly referred to as Handwashing with Soap (HWWS) (Ayouni et al., 2021; Paules et al., 2020; K. wei Wang et al., 2020). HWWS holds significant potential in reducing the risk of COVID-19 transmission, particularly among elementary school students (SD) (Ayouni et al., 2021; Pan et al., 2020; Watson et al., 2019). Data from the Environmental Survey Program (ESP) in 2019 revealed varying levels of compliance with HWWS. On average, approximately 20% of people reported practicing HWWS, 35% washed their hands after using the restroom, 18% after changing a baby's diaper, 20% before meals, 15% before feeding a baby, and 10% before food preparation. Data from the Ministry of Health of the Republic of Indonesia in 2019 also indicated that only 47.0% of the population consistently adheres to HWWS. (Alexander et al., 2013;

Watson, Amon-Tanoh, et al., 2023) In the province of Aceh, compliance with HWWS is even lower, reaching only 30.8%, making it one of the five provinces with the lowest compliance rates. Quoting the World Health Organization (WHO) from 2012, the practice of HWWS with clean water has been shown to reduce the risk of contracting diarrheal diseases by up to 50%. Data from WHO in 2013 also revealed a grave reality, with nearly 760,000 children succumbing to diarrhea-related deaths almost every year. Out of these numbers, 78% of child deaths occur in the regions of Africa and Southeast Asia, with approximately 20% of child deaths each year being attributed to diarrheal infections. Therefore, HWWS is not only essential for preventing COVID-19 but also for maintaining public health, especially in countries with high child mortality rates due to preventable diseases through proper HWWS (Jefferson et al., 2023; Tort & Ciapponi, 2023a). Based on the 2019 Indonesia Health Profile, the behavior of the community regarding the habit of Handwashing with Soap (HWWS) reveals that the national average for HWWS stands at 82.30%. This figure indicates that Public Health and Hygiene Behavior in Indonesia has reached a reasonably high level, exceeding the 80% target set in the 2019 National Medium-Term Development Plan (Kementerian Kesehatan RI, 2020). According to the 2020 Infodatin on Water and Health, HWWS behavior is influenced by various factors, including an individual's level of education. The higher the level of education, the greater the proportion of people practicing HWWS. However, despite the improvements in HWWS behavior, there are still public health issues associated with low compliance. One significant impact is related to COVID-19 (Coronavirus Disease 2019), which has become a global pandemic. The spread of the virus has been rapid, and it has now reached all countries (Tort & Ciapponi, 2023b; Watson, Amon-Tanoh, et al., 2023). The World Health Organization (WHO) has issued new guidelines for addressing the spread of the virus. Low compliance with HWWS also has implications for the increased incidence of diarrhea cases. Data from the Ministry of Health of the Republic of Indonesia in 2020 recorded a 11.0% incidence of diarrhea in 2019, with the province of Aceh reporting a 13.8% rate. However, only 25.8% of diarrhea cases received medical attention (Kementerian Kesehatan RI, 2020). According to data from the Health Office of Aceh in 2018, the incidence of diarrhea reached 43% (Dinkes Aceh, 2018). In the working area of the Jaya Baru Primary Health Center (Puskesmas), the number of diarrhea cases has been steadily increasing over the past three years, reaching 192 cases in 2019, particularly among school-aged children (Puskesmas Jaya Baru, 2020). Primary school students are a vulnerable group in the context of COVID-19 transmission. They often have extensive social interactions, limited understanding of health practices, and frequently face challenges in maintaining hand hygiene. Therefore, it is essential to gain insights into the Handwashing with Soap (HWWS) behaviors of primary school students as a preventive measure against COVID-19, considering the potentially severe consequences if the virus continues to spread within school environments. Several factors can influence the HWWS behavior of primary school students, including their knowledge level regarding COVID-19, awareness of the importance of handwashing, access to adequate handwashing facilities, support from schools and families, and psychological factors affecting their willingness to wash their hands regularly. Research on HWWS behavior in the prevention of COVID-19 among primary school students is highly relevant in the current context. Research on HWWS behavior among primary school students in the prevention of COVID-19 holds significant theoretical and practical implications in the current context. Theoretical implications arise from the potential contribution of this research to the existing body of knowledge on health behavior, specifically handwashing practices, among school-age children. By identifying and understanding the factors influencing HWWS behavior, this study adds valuable insights to the theoretical framework of health promotion and disease prevention in educational settings. Practically, the research outcomes can inform the development of targeted interventions and strategies aimed at improving handwashing practices among elementary school students. The observed suboptimal HWWS behavior at Elementary School 59 in Banda Aceh underscores the practical significance of this research. Addressing specific challenges identified, such as the lack of attention to hand hygiene from both students and school authorities, can guide the implementation of practical measures to enhance compliance with handwashing practices. By obtaining a better understanding of the factors influencing HWWS behavior in these students, we can develop more effective strategies to enhance their compliance with this practice. This, in turn, will contribute to

reducing the risk of COVID-19 transmission in school settings. The cases observed at Elementary School 59 in Banda Aceh indicate a suboptimal practice of Handwashing with Soap (HWWS) among the students. An initial observation of ten students at Elementary School 59 revealed that some of them pay insufficient attention to hand hygiene. There are students who still do not adhere to the practice of washing hands before and after meals, and it appears that there is also a lack of attention to this behavior from the school authorities. Therefore, the aim of this research is to identify the relationship between HWWS behavior and COVID-19 prevention among elementary school students in the City of Banda Aceh. This study aims to gain a deeper understanding of the factors influencing HWWS behavior among students at Elementary School 59 and how it relates to efforts to prevent the spread of COVID-19 within the school environment. With a better understanding of the factors affecting HWWS behavior in these students, we can develop more effective strategies to enhance awareness and compliance with the crucial HWWS practice in preventing COVID-19 transmission

2. Methods

This study is a descriptive analytic research with a cross-sectional approach. The research was conducted at Elementary School 59 in Banda Aceh, located in the Jaya Baru District of Banda Aceh, in the year 2021. The study population consisted of all students in grades 5 and 6 at SDN 59. The sampling technique used in this study was total sampling, where all the students in grades 5 and 6 at SDN 59 in Banda Aceh were included as research subjects, totaling 62 students. The data required for this research was analyzed using STATA software version 14. The data analysis process involved two main stages: univariate and bivariate analysis. Univariate analysis was used to describe the characteristics of the sample, such as age distribution, gender, knowledge levels regarding COVID-19, and Handwashing with Soap (HWWS) behavior. Meanwhile, bivariate analysis was employed to evaluate the relationship between the variables observed in this study, such as the relationship between knowledge levels about COVID-19 and the HWWS behavior of the students. The objective of this research is to gain a deeper understanding of the HWWS behavior of the students at SDN 59 Banda Aceh and how their knowledge levels regarding COVID-19 influence this behavior. The findings of this study are expected to contribute to efforts to prevent the spread of COVID-19 within the school environment and the surrounding community.

3. Results and Discussion

3.1. Results

The data analyzed in this study consists of three variables, namely independent variables and a dependent variable. The independent variables include the students' level of knowledge, promotional media, and the dependent variable is the Handwashing with Soap (HWWS) behavior of the students.

Table 1
Knowledge and Handwashing Behavior of Students in Banda Aceh

No.	level of knowledge	Handwashing with Soap (HWWS) behavior				Total		P Value
		Inadequate		Proper		N	%	
		n	%	N	%			
1	Not Good,	17	77,27	5	22,73	22	100	0,001
2	Good	14	35,00	26	65,00	40	100	
	Total	31	50,00	31	50,00	62	100	

Based on the table above, there is a significant difference between the students' knowledge levels regarding COVID-19 and their Handwashing with Soap (HWWS) behavior in Banda Aceh. Among the 22 students with inadequate knowledge, 77.27% of them exhibit inadequate HWWS behavior. On the other hand, within the group of 40 students with adequate knowledge, only 35.00% of them display inadequate HWWS behavior, while 65.00% of the students in this group follow adequate HWWS behavior. These findings underscore that students with better knowledge about COVID-19 tend to have more appropriate HWWS behavior, highlighting the importance of education and knowledge

enhancement in increasing awareness and the practice of HWWS as an integral part of COVID-19 prevention efforts. Furthermore, a p-value (P Value) of 0.001 confirms that the relationship between knowledge and HWWS behavior is not a chance occurrence but statistically significant.

Table 2
Teacher's Role and Handwashing Behavior of Students in Banda Aceh

No	Teacher's Role	Handwashing with Soap (HWWS) behavior				Total		P Value
		Inadequate		Proper		N	%	
		n	%	N	%			
1	Inadequate Role	12	75,00	4	25,00	16	100	0,020
2	Adequate Role	19	41,30	27	58,70	46	100	
	Total	31	50,00	31	50,00	62	100	

From the table above, it is evident that there is a significant difference in Handwashing with Soap (HWWS) behavior among students concerning the role of teachers in Banda Aceh. In the "Less Involved" group, encompassing students with teachers who have been less active in educating about HWWS, 75.00% of them exhibit inadequate HWWS behavior. In contrast, in the "Involved" group, which includes students with teachers who have been more active in HWWS education, only 41.30% of them display inadequate HWWS behavior, while 58.70% of the students in this group practice appropriate HWWS behavior. These findings underscore the pivotal role of teachers in HWWS education and awareness, shaping students' HWWS behavior. This emphasizes the significance of educators in enhancing awareness and the practice of Handwashing with Soap (HWWS) as part of COVID-19 prevention efforts. Furthermore, the p-value (P Value) of 0.020 confirms that the relationship between the role of teachers and HWWS behavior is statistically significant.

Table 3
Role of Media and Handwashing Behavior of Students in Banda Aceh

No.	the role of media	the Handwashing with Soap (HWWS) behavior				Total		P Value
		Inadequate		Proper		N	%	
		n	%	N	%			
1	Inadequate Role	2	22,22	7	77,78	9	100	0,071
2	Adequate Role	29	54,72	24	45,28	53	100	
	Total	31	50,00	31	50,00	62	100	

From the table above, there is important information regarding the role of media in shaping the Handwashing with Soap (HWWS) behavior of students in Banda Aceh. In the "Less Involved" group, which includes students with less active media in disseminating information about HWWS, 77.78% of them exhibit appropriate HWWS behavior. On the other hand, in the "Involved" group, which includes students with more active media in delivering information about HWWS, 54.72% of them show appropriate HWWS behavior. These results suggest that the role of media in spreading messages about HWWS does not always directly correlate with students' HWWS behavior. Even though media plays a role in providing information, some students may still have inadequate HWWS behavior. Although the p-value (P Value) of 0.071 indicates a potential relationship between media involvement and HWWS behavior, this value has not reached a strong level of statistical significance. In conclusion, the role of media in influencing students' HWWS behavior requires further analysis to understand other contributing factors that may affect their HWWS practices.

3.2. Discussion

The findings of this research provide a highly relevant insight into the relationship between various factors and Handwashing with Soap (HWWS) behavior among students in Banda Aceh, particularly within the context of COVID-19 prevention. The initial analysis reveals that students' knowledge about COVID-19 plays a pivotal role in shaping their HWWS behavior. With a p-value of 0.001, this result underscores the significant correlation between students' knowledge level and HWWS behavior, emphasizing the crucial role of education and increased awareness in enhancing the practice of HWWS as an integral part of COVID-19 prevention efforts. The second outcome demonstrates that the role of teachers also influences students' HWWS behavior, as students with more engaged teachers in HWWS education tend to exhibit more appropriate HWWS behavior. This highlights the educators' role in shaping students' health-related behavior and hygiene practices. However, the third result unravels the complexity of the media's role, where, even though media contributes to students' knowledge, it does not necessarily directly impact their HWWS behavior. With a p-value of 0.071, there is a potential relationship between media involvement and HWWS behavior, although it hasn't reached a strong statistical significance level. Consequently, these findings emphasize the need for further research to gain a deeper understanding of additional factors influencing students' HWWS behavior and to elaborate on the potential relationship between media involvement and students' HWWS behavior. Overall, this study underscores the significance of education, whether through teachers or the media, in enhancing awareness and the practice of Handwashing with Soap (HWWS) as an integral part of COVID-19 prevention among students.

The findings of this study are consistent with the research conducted by (Appiah-Brempong et al., 2018; Watson, Cumming, et al., 2023) and Pauzan et al. (2017), who also found a significant relationship between the level of knowledge and Handwashing Behavior among elementary school students. The p-value of 0.000 in the study by (Mushi & Mushi, 2021) indicates its significance, emphasizing the importance of knowledge in improving CTPS practices as a key aspect of disease prevention, in line with the recommendations of the WHO (2020) emphasizing that handwashing with soap is a crucial health practice. This study also aligns with the findings of Gbolu et al., 2023, who explained that soap has the ability to kill germs on hands, further emphasizing the importance of practicing CTPS. CTPS, a simple yet highly impactful practice in preventing the spread of diseases, particularly COVID-19, which has become a global pandemic (Wolde et al., 2022). The role of teachers also plays a significant role in shaping students' CTPS behavior, as the study shows a significant relationship with a p-value of 0.020. These findings are consistent with the results of research conducted Isnaini (2020) which also confirm a positive correlation between the role of teachers and handwashing behavior (CTPS). This study reflects the influence of teachers in shaping the behavior of schoolchildren and emphasizes the importance of education and the example set by teachers as key factors in influencing CTPS behavior among school-age children (Alexander et al., 2013). Teachers play a central role in influencing the quality of life and habits of children in the future (Mushi & Shao, 2020; Q. Wang & Yu, 2020) and a hands-on hygiene education approach under the guidance of teachers has proven to be effective. Meanwhile, the study's results show that the role of media does not have a significant relationship with CTPS behavior, with a p-value of 0.071. This differs from the findings of (Tort & Ciapponi, 2023) which showed a significant difference in CTPS behavior among preschool children after being exposed to interventions using media such as puzzles. These results support the view that media has the potential to be an effective tool in educating children on CTPS (Watson et al., 2019). However, the current study's results may be influenced by additional factors that have not been identified. In the context of disease prevention, the role of media remains essential in disseminating health messages, particularly regarding Handwashing with Soap (CTPS). Therefore, further research is needed to understand the factors that affect the role of media in shaping the CTPS behavior of students more profoundly.

4. Conclusion

The research findings lead to the conclusion that there is a significant relationship between students' knowledge and their handwashing behavior with a p-value of 0.001. Furthermore, the role of teachers also exhibits a significant connection with handwashing behavior, as indicated by a p-value of 0.020. In

line with government initiatives, schools are encouraged to provide more adequate facilities for proper handwashing practices. These facilities play a vital role in ensuring the effective implementation of handwashing activities within the school environment. By offering appropriate handwashing infrastructure, educational institutions can actively contribute to the success of government programs aimed at promoting healthy hygiene practices among students.

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