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CTPS Intervention as an Effort to Prevent Diarrhea in the Kaledupa Community Health Center Work Area, Wakatobi

Intervensi CTPS sebagai Upaya Pencegahan Diare di Wilayah Kerja Puskesmas Kaledupa, Wakatobi

Fatjrina Syaputri*, Solihin, Serli
Diploma Sanitation Study Program, Faculty of Science and Technology, Mandala Waluya University, Kendari, Indonesia

***Correspondence:**
E-mail/ Phone Number: fatjrinasyaputri18@gmail.com / +62 822-3128-2955
Address: JL. Gagak no 15 C, Kendari City, Southeast Sulawesi, 93121, Indonesia

ABSTRACT

Diarrhea remains a public health problem in the Kaledupa Community Health Center working area, affecting 35.7% of the population. There have been fluctuations in the incidence of diarrhea from year to year. In 2021, there were 2,774 cases of diarrhea in Wakatobi District. One of the factors contributing to the high incidence of diarrhea is poor hand washing with soap (HWS/CTPS). This study aims to analyze the relationship between HWS practices and the incidence of diarrhea before and after health education interventions. This is a quantitative study with a cross-sectional design. The population consists of the entire community in the Kaledupa Community Health Center working area, totaling 5,865 people, with a sample of 99 respondents determined using the Slovin formula and proportional random sampling technique. Data were collected through a structured questionnaire. The post-test also found a significant relationship. Respondents with good HWS practices experienced diarrhea less frequently than respondents with poor HWS practices. It was concluded that health education interventions using pamphlets were effective in increasing community knowledge about HWS practices and as an effort to reduce the incidence of diarrhea. It is recommended that the Kaledupa Community Health Center continue to strengthen health promotion programs such as counseling and demonstrations related to CTPS, provide CTPS facilities and infrastructure, and involve families and the community in daily CTPS practices.
Keywords: Diarrhea, CTPS, health counseling, kaledupa community health center

ABSTRAK

Diare masih menjadi masalah kesehatan masyarakat di wilayah kerja Puskesmas Kaledupa sebanyak 35,7%. Terjadi fluktuasi kejadian diare dari tahun ketahun. Tercatat pada tahun 2021 sebanyak 2.774 kasus diare di Kabupaten Wakatobi. Salah satu faktor penyebab tingginya kejadian diare adalah rendahnya perilaku Cuci Tangan Pakai Sabun (CTPS). Penelitian ini bertujuan menganalisis hubungan praktik CTPS dengan kejadian diare sebelum dan sesudah melalui intervensi penyuluhan kesehatan. Jenis penelitian ini adalah kuantitatif dengan desain *cross-sectional*. Populasi adalah seluruh masyarakat di wilayah kerja Puskesmas Kaledupa sebanyak 5.865 jiwa, dengan sampel 99 responden yang ditentukan menggunakan rumus Slovin dan teknik proportional random sampling. Data dikumpulkan melalui kuesioner terstruktur. Pada *post test* juga ditemukan hubungan signifikan. Responden dengan praktik CTPS baik lebih jarang mengalami diare dibandingkan dengan responden yang praktik CTPS-nya kurang. Disimpulkan bahwa intervensi penyuluhan kesehatan menggunakan media pamflet terbukti efektif meningkatkan pengetahuan masyarakat terkait praktik CTPS dan sebagai upaya menurunkan kejadian diare. Disarankan agar Puskesmas Kaledupa terus memperkuat program promosi kesehatan seperti penyuluhan dan demonstrasi terkait CTPS, menyediakan sarana dan prasarana CTPS, serta melibatkan keluarga dan masyarakat dalam pembiasaan CTPS sehari-hari.
Kata Kunci: Diare, CTPS, penyuluhan kesehatan, puskesmas kaledupa

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INTRODUCTION

Handwashing with Soap (HWS/CTPS) is one of the most important clean and healthy behaviors for preventing various infectious diseases, especially diarrhea. HWS is the act of cleaning hands with clean running water and soap, which serves to remove dirt, germs, and harmful microorganisms. Unlike simply washing hands with water, soap contains active ingredients that can remove grease and dirt stuck to the skin's surface and kill disease-causing microbes.[1]

In 2023, the Indonesian Ministry of Health recommended five important times to wash hands with soap: before eating, after defecating, after cleaning a child who has defecated, before breastfeeding a baby, and after handling animals or garbage.[2] By implementing CTPS at these critical times, the chain of disease transmission can be broken, so this simple habit plays a major role in improving public health. Research shows that CTPS can reduce the risk of diarrhea by 30–40% and respiratory infections by 21–23%. This is especially important for vulnerable groups such as toddlers and school-age children, who are more susceptible to germs through dirty hands. Therefore, education about CTPS needs to be instilled early on in families, schools, and public facilities as part of the habit of clean and healthy living. [3]

Diarrhea itself is a public health issue that remains a global concern to this day. Diarrhea is defined as three or more bowel movements per day with a watery or loose consistency, or even entirely watery.[4] The World Health Organization (WHO) reports that globally there are approximately 2 billion cases of diarrhea each year, with 1.9 million deaths, especially in developing countries with poor sanitation and clean water quality. It is noted that diarrhea ranks second as the cause of child mortality worldwide, with an estimated 1.5 million children dying each year from diarrhea. In addition, diarrhea ranks thirteenth as the cause of death for all ages with a proportion of 3.5% and ranks third as the cause of death from infectious diseases after pneumonia and tuberculosis.[5]

In Indonesia, diarrhea remains one of the leading causes of morbidity and mortality. The incidence of diarrhea reaches 230–330 per 1,000 population for all age groups, and about 4 per 1,000 infants. Cases of diarrhea often increase during the rainy season and during disasters, when environmental sanitation and access to clean water are disrupted. This situation shows that behavior-based prevention efforts, such as CTPS, are urgently needed to reduce the risk of this disease.[6]

In Wakatobi District, Southeast Sulawesi, diarrhea also remains a significant health problem. According to 2016 data from the Wakatobi District Statistics Agency, there were 16,489 cases of diarrhea. Although there has been a decline in subsequent years, the number of cases remains quite high. In 2021, for example, there were 2,774 cases of diarrhea.[7] In fact, a report from the Ambeua Community Health Center states that diarrhea is among the top 10 most common diseases, with a proportion of 35.7%, ranking second after diabetes (37%). The high number of diarrhea cases in the Kaledupa Community Health Center's working area is thought to be influenced

by poor environmental sanitation, limited access to clean water, and low public awareness of the importance of clean and healthy living behaviors (PHBS), especially the habit of washing hands with soap.

This phenomenon shows that CTPS behavior is still not optimally implemented in the community. In fact, CTPS is not just a hygienic behavior, but one of the main strategies in breaking the chain of diarrhea transmission. The habit of washing hands properly and consistently can prevent the spread of pathogenic microorganisms from one person to another through hands, food, or contaminated objects. Therefore, the implementation of CTPS must be a priority in public health programs, whether through education, health promotion, or the provision of supporting infrastructure.[9]

Considering the high incidence of diarrhea in Wakatobi Regency, especially in Kaledupa District, and the importance of implementing CTPS as a preventive measure. This study aims to provide a comprehensive overview of the implementation of CTPS in the community and its contribution to reducing diarrhea cases.[10]

The general objective of this study is to determine how CTPS can be used to combat diarrhea before and after intervention in the working area of the Kaledupa Community Health Center, Kaledupa District, Wakatobi Regency.

MATERIALS AND METHODS

This study is a quantitative study with a descriptive design that was conducted on July 22–August 1, 2025, in the working area of the Kaledupa Community Health Center, Wakatobi Regency. The study population consisted of the entire community in nine villages/subdistricts with a total population of 5,865. The sample size of 99 was determined using the Slovin formula and distributed across 9 villages using proportional random sampling, with each part fairly represented in each village/subdistrict, namely Ambeua subdistrict with 13 respondents, Ambeua village 10 respondents, Lagiwae sub-district 7 respondents, Kalimas village 9 respondents, Laolua sub-district 9 respondents, Lewuto village 9 respondents, Haruo village 18 respondents, Mantigola village 12 respondents, and Sombano village 12 respondents.

Primary data was obtained through questionnaires, interviews, and observations, while secondary data was obtained from reports from the Community Health Center and the Health Office. Data analysis was performed univariately (frequency and percentage distribution) using the SPSS application. The research results are presented in the form of a frequency distribution table. This study complies with health research ethics, including informed consent, maintaining the confidentiality of respondent data, and anonymity.

RESULTS

Based on Table 1 on respondent characteristics, the characteristics of respondents in the working area of the Kaledupa Community Health Center UPTD in Kaledupa District, Wakatobi Regency, based on age show that of the 99 respondents, the largest age group was in the

30-39 age range, with 45 respondents (45.0%), while the smallest number was respondents aged >50 years, totaling 6 respondents (6.0%). Based on gender, out of a total of 99 respondents, there were 46 male respondents (46.4%) and 53 female respondents (53.0%), so it can be concluded that the majority of respondents in this study were women with a dominant age group of 30–39 years.

Table 1. Characteristics of Respondents Based on Age and Gender in the Working Area of Kaledupa Health Center Kaledupa District, Wakatobi Regency in 2025

Respondent Characteristics	n	%
Age (years)		
18-29	21	22.0
30-39	45	45,0
40-49	27	27,0
>50	6	6,0
Gender		
Male	46	46,4
Women	53	53,0
Total	**99**	**100**

Source: Primary Data, 2025

Table 2. Distribution of Respondents Based on The Incidence of Diarrhea, *Pre-Test*, and *Post-Test* of Washing Hands with Soap in the Work Area of Kaledupa Health Center

Variable	n	%
Incidence of Diarrhea		
Severe diarrhea	20	20.2
Moderate diarrhea	79	79.8
***Pretest* Hand Washing with Soap**		
Good	23	23.2
less	76	76.8
***Post Test* Hand Washing with Soap**		
Good	91	91.9
less	8	8.1
Total	**99**	**100,0**

Source: Primary Data, 2025

Based on Table 2 in the univariate analysis, the distribution of respondents according to the incidence of hypertension in the working area of the Puuwatu Community Health Center in Kendari City in 2025 shows a balanced number between the case and control groups, each with 48 people (50.0%). This balanced distribution facilitates comparative analysis of various risk factors for hypertension, such as consumption of ultra-processed foods, stress due to gadget use, and sleep quality. The risk factors analyzed include genetics/heredity, age, and gender, where family predisposition, increasing age, and hormonal differences between men and women play a significant role in the incidence of hypertension.

Based on Table 2 on the distribution of respondents based on the incidence of diarrhea in the working area of the Kaledupa Community Health Center UPTD BLUD, it shows that most respondents experienced moderate diarrhea, namely 79 people (79.8%), while 20 people (20.2%) experienced severe diarrhea. This shows

that the incidence of diarrhea is still quite high, with a predominance of moderate severity.

Table 2 on the distribution of pre-test results regarding hand washing with soap shows that the majority of respondents still have poor habits in washing their hands with soap, namely 76 people (76.8%), while only 23 people (23.2%) do it properly. This finding illustrates the low initial awareness of respondents in implementing clean and healthy living behaviors.

Based on Table 2 on the distribution of post-test results, there was a significant increase in hand washing with soap behavior. A total of 91 respondents (91.9%) washed their hands properly, while only 8 people (8.1%) still did not.[9] This data shows that the education and intervention provided were effective in improving soap and water hand washing practices among respondents in the working area of the Kaledupa Community Health Center BLUD UPTD.

DISCUSSION

According to the World Health Organization (WHO) in 2020, diarrhea is an environment-based disease closely related to hygiene behavior, especially hand washing with soap, because hands are the main medium for the transfer of germs that cause diarrhea, such as Escherichia coli and Shigella, which enter through contaminated food or drinks.[11] Cairncross and Valdmanis in 2006 emphasized that the habit of washing hands with soap can reduce the incidence of diarrhea by up to 47% because soap is effective in removing pathogens that stick to the hands.[12] Based on the results of the study, most respondents experienced moderate diarrhea, namely 79 people (79.8%), and 20 people (20.2%) experienced severe diarrhea, indicating that diarrhea is still a significant health problem in the working area of the Kaledupa Community Health Center BLUD UPTD. This condition is in line with the theory that low CTPS practices will increase the risk of exposure to germs that cause diarrhea, where before the intervention was carried out, many respondents were still not accustomed to washing their hands at important times such as before eating, after defecating, or after activities. However, there were respondents who experienced diarrhea despite having good CTPS behavior, possibly influenced by other factors such as drinking water quality, toilet hygiene, unhygienic food, or immune system strength, while some respondents with poor CTPS did not experience severe diarrhea due to natural immune protection or adequate access to clean water. This shows that CTPS plays an important role in reducing the incidence of diarrhea, but environmental factors, other behaviors, and individual health conditions also contribute to the occurrence of diarrhea.

According to Curtis and Cairncross in 2003, handwashing with soap is one of the most effective preventive measures in reducing the risk of diarrhea, because soap can remove dirt and microorganisms that are invisible on the hands after contact with sources of contamination. However, based on the pre-test results of the study, it was found that the majority of respondents still had poor HWBS habits, namely 76 people (76.8%), while only 23 people (23.2%) practiced it properly. This condition illustrates the

low initial awareness of the community regarding the importance of hygienic behavior in maintaining digestive health.

This phenomenon can be influenced by several factors, such as limited knowledge about the benefits of CTPS, low intensity of health socialization, and daily habits that have not made CTPS a routine. These results are in line with Nutbeam's 2000 theory, which states that low health literacy makes individuals tend to neglect simple practices that have a major impact on health.[14] However, there were some respondents who practiced good CTPS but still experienced diarrhea, possibly due to other factors such as water quality, toilet sanitation, or unhygienic food. Conversely, some respondents with poor CTPS did not always experience diarrhea, possibly due to strong immunity or adequate access to clean water. This confirms that CTPS is an important factor in preventing diarrhea, but it is not the only determinant, as the incidence of diarrhea is also influenced by a combination of environmental factors, other behaviors, and individual biological conditions.

Health interventions in the form of education and hands-on practice have been proven to improve public hygiene behavior, one of which is through effective hand washing with soap to prevent the transmission of diarrheal diseases.[15] The post-test results of this study show a significant increase in CTPS behavior, with 91 respondents (91.9%) already practicing CTPS properly and only 8 respondents (8.1%) still lacking. This improvement illustrates the effectiveness of the health education provided, as respondents not only received information but also practical skills for washing their hands properly at important times, such as before eating, after defecating, and after activities. This is in line with previous research in 2015, which stated that consistent health education can reduce the incidence of diarrhea by up to 40% through improved CTPS behavior.[16]

However, there were still a small number of respondents with good CTPS behavior who still experienced diarrhea, possibly influenced by environmental factors such as drinking water quality, toilet sanitation, and consumption of unhygienic food.[17,18] Conversely, respondents with poor CTPS who did not experience diarrhea may have been influenced by good immunity or coincidentally avoided direct exposure to sources of disease[19]. Thus, these results confirm that health education interventions are very effective in improving community CTPS behavior, thereby reducing the risk of diarrhea, even though environmental and biological factors still contribute to the incidence of this disease.[20]

CONCLUSION AND SUGGESTIONS

Conclusion Based on the above explanation, the study shows that of the 99 respondents, 79 people (79.8%) experienced moderate diarrhea and 20 people (20.2%) experienced severe diarrhea. In the pre-test, only 23 people (23.2%) had good CTPS behavior, while 76 people (76.8%) still had poor behavior. After the intervention, CTPS behavior improved significantly, with 91 people (91.9%) practicing it well and only 8 people (8.1%) still lacking. This proves that health

education is effective in improving CTPS behavior, which contributes significantly to the prevention of diarrhea in the working area of the Kaledupa Community Health Center BLUD UPTD.

The recommendation from this study is that the community needs to make CTPS a habit at five important times to prevent diarrhea. In addition, health centers and local governments must strengthen education and provide hand washing facilities and infrastructure. It is also important for health cadres and community leaders to be active in promoting a culture of CTPS in a sustainable manner.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest from any party. All data and research results are presented objectively without influence from any party.

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