Jurnal Aisyah: Jurnal Ilmu Kesehatan

Volume 5, Issue 2, December 2020, pp. 215–219
ISSN 2502-4825 (print), ISSN 2502-9495 (online)

The Relationship of Knowledge of Hands Washing with The Event of Diarrhea

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ARTICLE INFO

Article history:

Received September 04, 2020
Accepted November 12, 2020
Published December 05, 2020

Keyword:

Knowledge
Hand washing
Diarrhea

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DOI: 10.30604/jika.v5i2.593

ABSTRACT

Diarrhea is a condition of abnormal or unusual stool output, characterized by an increase in volume, dilution and frequency more than 3 times a day. using a questionnaire as an instrument, with a descriptive correlative research design that uses a cross-sectional approach. The sampling technique in this study is accidental sampling with a sample of 25 students at Imelda Private Elementary School Medan. Data analysis uses the chi-square test. good and never experienced diarrhea as many as 2 people and had experienced diarrhea as many as 6 people. Respondents who have good knowledge of handwashing and have never experienced diarrhea are 5 people and have experienced diarrhea as many as 4 people. Respondents who have good handwashing knowledge and have never experienced diarrhea are 7 people and have experienced diarrhea as many as 1 person.

INTRODUCTION

Diarrhea is a condition in which a person defecates with a soft or liquid consistency, it can even be just water and the frequency is more often (more than three times) in one day. Diarrhea is the second leading cause of under-five mortality in the world, almost 1 in 5 child deaths around 1.5 million each year is due to diarrhea. Diarrhea causes more deaths in children under five than AIDS, malaria and measles (Ariani, 2018).

Diarrhea will usually last for 1 week (3 to 6 days) then will go away on its own. Chronic diarrhea lasts longer than acute diarrhea, and is usually a sign of a more serious health problem such as chronic infection, poor absorption of nutrients (malabsorption) or caused by a disease called Irritable Bowel Syndrome. infection is usually preceded by symptoms of fever and vomiting. After that, diarrhea occurs. Usually the child will feel "unwell" but not feel sick. Infection by bacteria or parasites usually causes the feces to be mixed with blood (Purnawati, 2010).

Based on data from the World Health Organization (WHO) in 2015, it is estimated that deaths due to diarrhea reach 3-5 million deaths every year. In the United States, there are 20-35 million cases of diarrhea occurring annually, while 16.5 million children before the age of 5 years resulted in 2.1-3.7 million children having to seek medical treatment due to diarrheal disease (Vinay, 2012).

In developing countries, diarrhea causes extraordinary events (KLB) and even death. The factors that cause diarrhea in children include hand washing behavior 44,28%, environmental factors 25.72%, family income 9.8%, mother's education 5.2%, child age 15%, so that the highest factor in children is washing habits. hand. The habit of washing hands is a behavior that influences the spread of enteric germs and causes diarrhea (Utami, 2016)

The proportion of acute rotavirus diarrhea during the 1 year study in Indonesia was 56.5% with 95% CI 51.3 - 61.6%. These results are similar to previous studies abroad, including Rodriquez (1974-1975) and Pickering. (1978-1979) found an incidence rate of 47% and 59%, while in Indonesia, Yorva's study (in 2011) found a figure of 50%, almost the same as this study and the same as in developed countries. These results predict an improvement in our hygiene and sanitation. Cases of rotavirus diarrhea are evenly distributed throughout the

year, while cases of non-rotavirus diarrhea and diarrhea overall increase in the dry season, but there is no trend according to season. This situation is related to the mode of transmission of non-rotavirus diarrhea, which is water-borne and through the hands and mouth, while rotavirus diarrhea is not only transmitted by faecal-oral route, but also through respiratory droplets (Suriati, 2013).

Diarrhea cases found in Indonesia in 2016 were around 6,897,463 patients with 2,544,084 patients being treated so around 36.9%. Hand washing behavior can reduce the mortality rate of children under five, where more than 5000 children under five with diarrhea die every day around the world as a result of lack of access to clean water, sanitation facilities, and lack of awareness of hand washing (Ministry of Health, 2016).

Based on the health profile of the province of North Sumatra, in 2012, out of 559,011 diarrhea cases that were found and treated were 216,175 or 38.67%, so that the IR (Indident Rate) diarrhea rate per 1,000 population reached 16.36%. This achievement decreased compared to 2011 which was 19.35% and 2010 which was 18.73%. This IR achievement is far below the program target of 220 per 1,000 population. The low IR is feared not to reflect the research context (Lukito, Alamsyah, 2018).

A review of about 30 related studies found that handwashing with soap could cut the number of people with diarrhea in half. Hand washing with soap (CTPS) is a healthy behavior that has been scientifically proven to prevent the spread of infectious diseases such as diarrhea, upper respiratory tract infections (ARI) and bird flu, and it is even recommended to prevent influenza transmission. Many parties have introduced this behavior as a health intervention that is very easy, simple and can be done by the majority of Indonesian people. Various surveys in the field show a decrease in the number of absent children due to illness caused by the above diseases after intervention with CTPS (Ministry of Health RI, 2012).

One of the prevention of diarrhea is hand washing, which can reduce child mortality where more than 5000 children with diarrhea die every day worldwide as a result of lack of awareness of hand washing. Patients and the costs that must be borne due to illness can be reduced by making simple behavioral changes to washing hands with soap, these actions can reduce mortality due to diarrhea by almost 50% the effectiveness of washing hands with soap in reducing the incidence of diarrhea, according to the type of innovation Prevention is as follows: washing hands with soap 44%, use of treated water 39%, sanitation 32%, health education 28%, water supply 25%, treated water sources 11% (Ministry of Health RI, 2015).

School-age children in general do not really understand the cleanliness of their bodies, especially when school-age children come, they play and eat and forget to wash their hands. Hands are the main carriers of disease germs, therefore it is very important to know and remember that the behavior of washing hands with soap is a very effective healthy behavior to prevent the spread of various infectious diseases such as diarrhea. The healthy behavior of washing hands with soap, which is one of the behaviors of clean and healthy living, has now also become a worldwide concern, this is because the problem of lack of practice of hand washing behavior does not only occur in developing countries. It turns out that even in developed countries, most people still forget to wash their hands with soap. Hands are the main carriers of disease germs, therefore it is very important to know and remember that hand washing is a very effective healthy behavior to prevent various infectious diseases such as diarrhea (Rompas and Ponidjan, 2013).

Based on research conducted by Joni (2012) about the relationship between hand washing compliance with the incidence of diarrhea in students using the cohort method. This study used a sample of 72 students of grade 4-5 SD Pujokusumon. P value = 0.009 on hand washing compliance and p value <0.05, then there is a statistically significant relationship.

Based on the results of a preliminary survey conducted by researchers on July 20 at the Imelda Private Elementary School in Medan, researchers received information that their knowledge about hand washing was still lacking and they did not understand proper and proper CTPS, in addition, during recess, school children bought snacks without paying attention to cleanliness. Therefore, researchers are interested in researching "The relationship between knowledge of hand washing and the incidence of diarrhea in Imelda Private Elementary School Medan".

METHOD

Types of research

This type of research is quantitative, with a descriptive correlative research design that uses a cross sectional approach which aims to determine the relationship between the independent variable (hand washing knowledge) and the dependent variable (diarrhea incidence).

Research Time and Place

This research was conducted in March-July 2020. This research was conducted at the Imelda Private Elementary School in Medan because their knowledge about hand washing is still lacking and they do not understand how to wash their hands properly and correctly.

Population and Sample

Population is a collection of elements or individuals from which data or information is collected. Therefore, the population is also often interpreted as a collection of research objects from which data will be collected or collected (Setiawan, Arie et al, 2019). The population in this study were all students in grades 4 and 5. The total population in this study was 41 students. The sample is part of the population that can represent the population itself and represent all the characteristics contained in all research objects. The sampling technique used Accidental Sampling which according to Sugiyono (2009), Accidental Sampling is the determination of samples based on chance, namely consumers who coincidentally or incidentally meet with researchers can be used as samples. The sample in this study were 25 students.

Data collection technique

Data collection began after the researcher received a permit for conducting research from an educational institution, namely the Imelda Nursing S1 Study Program and a permit from the research location, namely Imelda Private Elementary School Medan. After getting the respondent, it was then explained to the respondent about the purpose, benefits of the study, and filling out the questionnaire, and asked for approval from the respondent, then the respondent filled out the questionnaire according to the needs of the researcher.

Data Processing Method

According to Hidayat, (2008) after the research data is collected, the data processing process is carried out through the following stages: a. Editing b. coding c. Data Entry and e. Perform analysis techniques

Data analysis

Data analysis was conducted to answer the research hypothesis. For this reason, statistical tests that match the research variables are used (Notoatmojo, 2005). In this study, data analysis is divided into two types, namely: a. Univariate Analysis and b. Bivariate Analysis

RESULTS AND DISCUSSION

The research data will describe the relationship between knowledge of hand washing and the incidence of diarrhea in Imelda Private Elementary School Medan. The characteristics of the respondents observed by the researchers were gender, age and class. As the table 1.

Table 1
Distribution Frequency of respondence

Carateristic Responden	Frequency	Percentase (%)
Gender		
Male	11	44,0
Female	14	56,0
Age		
8 Year	6	24,0
9 Year	9	36,0
10 Year	6	24,0
11 Year	4	16,0
Grade		
IV	9	36,0
V	16	64,0

Based on table 1 can be seen that the male sex as many as 11 people (44.0%) and the female sex as many as 14 people (56.0%). The table 1 also shows that the age of the respondents shows that there are 6 people aged 8 years (24.0%), 9 years old as many as 9 people (36.0%), age 10 years as many as 6 people (24.0%), age 11 years as much(14.0%). Shows that the number of respondents based on class 4 is 9 people (36.0%) and class 5 is (64.0%)

Table 2

Distribution of Knowledge level and Incidence of Diarrhea (N=25).

Variables	N	%
Hand Washing Knowledge		
Well	8	32
Enough	9	36
Not enough	8	32
Diarrhea		
Once	11	44
Never	14	56

Based on table 2 can be seen that the highest percentage of the characteristics of hand washing knowledge is the sufficient category as much as 36% while the good and less categories are 32%. The highest percentage of diarrhea events is in the never category, namely 56%, and for the never category it is 44%.

The following will describe the relationship between knowledge of hand washing and the incidence of diarrhea in students at Imelda Private Elementary School Medan.

Based on table 3 can be seen that respondents who have poor hand washing knowledge and have never experienced diarrhea are 2 people and have experienced diarrhea as many as 6 people. Respondents who have good knowledge of hand washing and have never experienced diarrhea are 5 people and have experienced diarrhea as many as 4 people. Respondents who have good knowledge of hand washing and have never experienced diarrhea are 7 people and have experienced diarrhea as many as 1 person

The bivariate analysis used in this study was the chi square test using the SPSS program. Hypothesis testing criteria; Accept Ho if the significance value is > 0.05; Reject Ho if the significance value is < 0.05

The summary of the results of hypothesis testing using chi square is seen that the significance value of Sig.(2-tailed) is 0.032. Because the significance value is <0.05, Ho is rejected, so it can be concluded that there is a relationship between knowledge of hand washing and the incidence of diarrhea in Imelda Private Elementary School Medan.

Table 3
The Relationship between Knowledge of Hand Washing and the Incidence of Diarrhea (N=25)

Hand Washing Knowledge	Diarrhea		Total	*p* value
	Once	Never		
Well	1	7	8	0,032
Enough	4	5	9	
Not Enough	6	2	8	

DICUSSION

Hand Washing Knowledge

Knowledge is the result of knowing, and this occurs after people have sensed a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. (Notoatmojo, 2012). The results of the study regarding the knowledge of hand washing in elementary school children are in table 4.2.1. known as many as 25 respondents. shows that for the knowledge of hand washing for the sufficient category 36% and for the good and less categories 32% are the same.

According to the researcher, knowledge of hand washing can be influenced by gender, age and class factors. Male sex is 11 people (44.0%) and female sex is 14 people (56.0% and for the age of the respondent it can be seen that the age of 8 years as many as 6 people (24.0%), age 9 years as many as 9 people (36.0%), age 10 years as many as 6 people (24.0%), age 11 years as many as (14.0%).

Diarrhea

Diarrhea is loose or even watery bowel movements (diarrhea) usually more than 3 times a day. Diarrhea or diarrheal disease (Diarrheal Disease) comes from the Greek language, namely Diarroi which means flowing continuously, is an abnormal condition of frequent expulsion of feces (Ariani, 2018). Diarrhea is a condition in which a person defecates with a soft or liquid consistency, it can even be in

the form of only water and the frequency is more frequent (usually three or more times) in one day (Depkes RI, 2015).

The results of the study on the incidence of diarrhea show that in table 4.2.2. it is known that 25 respondents, that as many as 56% have never experienced diarrhea during the last three months, while for the category of ever as much as 44%.

Knowledge Relationship of Handwashing with Diarrhea Incidence in Imelda Private Elementary School Medan.

The results of the study on Knowledge of hand washing with the incidence of diarrhea in Imelda Private Elementary School Medan are contained in Table 4.4. Based on the results of hypothesis testing, it was concluded that there was a relationship between knowledge of hand washing and the incidence of diarrhea in Imelda Private Elementary School Medan with a close relationship in the high category. Respondents who have poor hand washing knowledge and have never experienced diarrhea are 2 people and 6 people have experienced diarrhea. Respondents who have good knowledge of hand washing and have never experienced diarrhea are 5 people and have experienced diarrhea as many as 4 people. Respondents who have good knowledge of hand washing and have never experienced diarrhea are 7 people and have experienced diarrhea as many as 1 person. This shows that the better the knowledge of hand washing, the less chance of experiencing diarrhea.

Based on previous research conducted by Joni (2012), entitled the relationship of hand washing compliance with the incidence of diarrhea in students using the cohort method. It was found that there was a relationship between hand washing compliance with the incidence of diarrhea using a sample of 72 students in grades 4-5 at SD Pujokusumon. P value = 0.009 on hand washing compliance and p <0.05.

Based on previous research conducted by Qoriah, Siswani (2019), entitled the relationship between hand washing behavior and the incidence of diarrhea in children in the nursery room of Abepura Hospital using the Chi square statistical test. Using 30 samples with a p value = 0.007 where the p value is smaller from a value of <0.05, there is a significant relationship. The conclusion in this study is that respondents have good behavior in washing their hands and have good knowledge.

Based on previous research conducted by Annisa (2017) the relationship between mother's knowledge about hand washing with the incidence of diarrhea in toddlers using the chi square test obtained by 48 respondents obtained a significance value of 0.000 with p value <0.05 so it can be concluded that Ha is accepted, and Ho is rejected so that there is a relationship between mother's knowledge about hand washing with the incidence of diarrhea in toddlers.

CONCLUSIONS AND RECOMMENDATIONS

From the results of the research on the relationship between knowledge of hand washing and the incidence of diarrhea at SD Imelda Medan in 2020, the following conclusions were obtained:

1. Characteristics of handwashing knowledge in students at Imelda Private Elementary School Medan are in the good category as much as 32%, the sufficient category as much as 36%, the less category as much as 32%.
2. The incidence of diarrhea in students at Imelda Private Elementary School Medan is in the never category as much as 44%, the never category as much as 56%

There is a relationship between knowledge of hand washing and the incidence of diarrhea in students at Imelda Private Elementary School Medan. This is evidenced by testing the hypothesis using the chi square test where the significance value is 0.032 <0.05

Funding Statement

The publication of this article will be funded by the Fakultas Kesehatan Universitas Imelda Medan.

Conflict of Interest Statement

The authors declare that there is no potential conflict of interest in connection with the writing and publication of this article

REFERENCES

Ariani, P. A. (2019).*Diare Pencegahan Dan Pengobatannya.* Yogyakarta, Nuha Medika.

Debby., Daviani., Prawati., & Dani., Nasrul., Haqi (2019). faktor yang mempengaruhi kejadian diare di tambak sari, kota surabaya. *jurnal promkes: the indonesian jurnal of health education* vol. 7 no 1 (2019)

Depkes RI. (2013). *Buku Pedoman Pemberantasan Penyakit Diare Untuk Kader Pembangunan Desa Pramuka dan Dokter Kecil*, Dirjen P3M, Jakarta.

Gurning, T., Mulyadi, N., & Rompas, S. (2014). Pengaruh Pendidikan Kesehatan Tentang Diare Terhadap Pengetahuan Perilaku Pencegahan Diare Pada Anak Usia Sekolah Dasar Di Sekolah Dasar 69 Manado. *Jurnal Keperawatan UNSRAT*, *2*(2), 107554.

Hidayat, A. Aziz Alimul. (2015). *Pengantar Ilmu Keperawatan Anak I.* Jakarta: Salemba Medika

Hidayat, A.A.A. (2007). *Tehnik Sampling Analisis Opini Publik*.Yogyakarta : LkiS

http://www.go4healthylife.com/articles/2527/1/Cuci-Tangan-Pakai-Sabun-Tekan-Kejadian-Diare-45-Persen/Page1.html

Kompas.Com. (2013). http://www.kompas.com/angkakejadian-penyakit-diare.htm

Mansjoer, Arif dkk. (2016). *Kapita Selekta Kedokteran*. Jakarta : Media Aesculapius

Medicastore.(2012).*AkibatDiare*.http://www.medicastore.com/diare/pencegahan_diare.html.

Melanicyber. (2013). *Dampak Diare* .htm://www.google.penyakit diare/indeks.com

Ngastiyah.(2011). *Perawatan Anak Sakit*.Jakarta : EGC

Notoadmodjo, Soekidjo. (2015). *Pengantar Kesehatan Masyarakat*.Edisi 2. Jakarta: Rineka Cipta.

Nursalam.*Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan*.Jakarta : Salemba Medika, 2008

Purwandari, R., Ardiana, A., & Wantiyah. (2013). Hubungan antara Perilaku Mencuci Tangan dengan Insiden Diare pada Anak Usia Sekolah di Kabupaten Jember. *Keperawatan Universitas Jember*, *4*(2), 122–130.

Purnamawati. (2010). *Pengertian Diare*.http://www.google.teori tentang diare.blogspot.com.

Rompas, M., Tuda, J., & Ponidjan, T. (2013). Hubungan Antara Perilaku Cuci Tangan Pakai Sabun Dengan Terjadinya Diare Pada Anak Usia Sekolah Di Sd Gmim Dua Kecamatan Tareran. *Jurnal Keperawatan UNSRAT*, *1*(1), 112846.

Purwandari, R., Ardiana, A., & Wantiyah. (2013). Hubungan antara Perilaku Mencuci Tangan dengan Insiden Diare pada Anak Usia Sekolah di Kabupaten Jember. *Keperawatan Universitas Jember*, *4*(2), 122–130.

Setiawan, Ari dkk. 2019. Aplikasi Metodologi dan Statistik Penelitian.Yogyakarta: Nuha Medika s.

Siswidiasari, A., Widyani Astuti, K., & Chandra Yowani, S. (2014). Profil Terapi Obat Pada Pasien Rawat Inap Dengan Diare Akut Pada Anak Di Rumah Sakit Umum Negara. *Jurnal Kimia*, *8*(2), 183–190.

Sitorus, Ronald H. (2013). *Pedoman Perawatan Kesehatan Anak.* Bandung : Yrama Media

Suharyono,*Diare Akut Klinik Dan Laboratorik,* Jakarta, Rineka Cipta, 2019

Sulistyaningsih, *metodologi penelitian kebidananan: kuantitatif-kualitatif,* 2011