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## THE MEASUREMENT OF PROPER HANDWASH KNOWLEDGE ON ELEMENTARY AND HIGHSCHOOL STUDENTS

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**Abstract:** *Washing hands has proven to be one of the most crucial ways of preventing diseases from entering our body, as it is an effort to kill the pathogenic microorganisms that come in contact with the body surface. However, due to its simplicity in doing, the behavior of proper hand washing has been ignored by many, leading to increased susceptibility of diseases, particularly of the gastrointestinal system, including diarrhea. This study is done to measure the knowledge of elementary and high school students of SD and SMP Advent Setiabudi on proper hand washing, including 13 participants, extracted from 195 students as population. It is done systematically utilizing the qualitative method. It is found that the knowledge of handwashing and its procedure have been introduced to most of the students yet some participants have been found to not apply the behavior of washing hands with soap which have been proven to kill more microorganisms than just flowing water without soap. It is concluded that the application of proper handwashing must be promoted more among the general population as knowing is not enough. The researchers then recommend for the healthcare and school personnel to hold community health educations as a contribution in raising the awareness which can raise the implementation of proper hand washing with soap in order to prevent diseases from happening.*

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## PENDAHULUAN

Our hands can be the source of diseases entering our body (Rabie & Curtis, 2006 in Jess, 2020). Everything we touch and everyone we meet may bring invisible germs, parasites and viruses that can be in contact with our hands, bringing it closer to the open entrance of our body, such as the nostrils, the mouth, and our eyes (Haryani, 2021). Washing hands with soap can protect us from various diseases, including the most common, the digestive tract diseases or diarrhea, yet many are still ignoring this crucial health behavior (Nicolaidis et al, 2020). In an effort to improve CTPS behavior, world organizations have set October 15 as World Handwashing Day (Global Handwashing Day) so that the morbidity and mortality of diarrheal diseases can be reduced. CTPS is one of the most cost-effective forms of health intervention when compared to the results obtained (Maryunani, 2020). Washing hands with

soap is scientifically proven to prevent the spread of infectious diseases such as diarrhea, upper respiratory tract infections (ARI), pneumonia, worm infections, eye infections and skin diseases. According to the World Health Organization (WHO) washing hands with soap and clean water can reduce the risk of diarrhea by up to 45%.

The behavior of washing hands with soap after defecating and before eating is closely related to the prevention of diarrhea. Diarrheal disease which is a disease that often attacks school-age children is also an endemic disease in Indonesia which has the potential to become an extraordinary event (KLB) which is often accompanied by death. Diarrhea is the main cause of death for children in the world. Around 525,000 children die every year because of the incidence of diarrhea (WHO, 2022). The morbidity and mortality rates for diarrhea are in the high category and are influenced by several factors, namely the lack of clean and healthy living behavior. One of the PHBS activities is to increase the attitude of washing hands with soap and running water. Washing hands properly can reduce the risk of diarrhea by 42-47%.

The behavior of washing hands using soap that is not correct is still high in children, this is influenced by the low knowledge and skills of children in washing hands. So that health education is needed to increase their knowledge and awareness of the importance of washing hands with soap and can be applied in everyday life. Kartika (2016) in Yusuf (2020) states that children are the most vulnerable group to disease as a result of unhealthy behavior. Even though children are the nation's most important asset for generations to come. Thus, it can be understood how important children's knowledge and skills are in behavior which can cause hundreds of children to die every year because washing their hands with water alone is not enough.

The focus of the CTPS (Cuci tangan pakai sabun; hand wash with soap) activity is school-age children who are a critical age group, because at that age a child is vulnerable to health problems. School-age children are expected to be able to become "agents of change" with the symbolism of uniting all components of the family, home, and community in celebrating a commitment to change for the better in healthy behavior through CTPS. This is supported because school-age children are also in conditions that are very sensitive to stimuli so that they are easily guided, directed, and instilled good habits, including clean and healthy living habits. In general, children of this age also have the trait of always wanting to convey what they receive and know from other people.

This study is done with the aim of knowing the effect of community health education about Handwashing with Soap on knowledge of the students of SD and SMP Advent Setiabudi Bandung. It is hoped that the result of this study can contribute to raising awareness for the school personnel and also be an additional knowledge that serves as a base information about the hand hygiene behavior for the health field personnel.

## METHODS

The research design is a systematic method used to produce answers to each question from researchers (Masturoh & Anggita, 2021). This type of research is included in qualitative research with the results of research data in the form of numbers with a research design using descriptive methods, namely looking at hand washing behavior in SD and SMP Adventist Setiabudi Bandung students through data from research samples.

The research was done on November 2022 in SD and SMP Advent Setiabudi Bandung. The target population of this study include 195, with 13 extracted from the population as the samples using the technique of proportionate stratified random sampling. The research instrument is a measuring tool used to measure observed natural phenomena (Sugiyono, 2020). The instrument used to collect data in this study was to use a questionnaire to see a description of the behavior of washing hands with soap in Adventist elementary and junior high school students in Setiabudi Bandung.

## RESULT

Based on the data from the characteristics of the respondents in table 3.5.1 it shows that the most respondents were female as many as 10 people (77%) while the male respondents were 3 people (23%), then the most dominant age was 8-11 years ( 53.8%), compared to age> 11 years (46.2%) of the total number of respondents, while class IV respondents were 3 people (23.0%), class V were 2 people (15.4%), 2 people in class VI (15.4%), 2 people in class VII (15.4%), 2 people in class VIII (15.4%) and 2 people in class IX (15.4%).

Variables	Frequency	Percentage (%)
<b>Gender</b>		
Male	3	23%
Female	10	77%
Total	13	100%
<b>Age</b>		
8-11 years old	7	53,8%
Above 11 years old	6	46,2%
Total	13	100%
<b>Classes</b>		
IV	3	23,0%
V	2	15,4%
VI	2	15,4%
VII SMP	2	15,4%
VIII SMP	2	15,4%
IX SMP	2	15,4%
<b>Total</b>	<b>13</b>	<b>100%</b>

The questionnaire of based on the behavioral theory of Dorothy E. Johnson was handed out with a total of 17 questions was handed to the participants. The first section assessed the knowledge of the students regarding proper hand wash and the second section of the questionnaire assessed the application of proper hand wash behavior. The said results are shown in the tables provided below.

**Table 1.1 - Assessment of Proper Hand Wash Knowledge**

No.	Item	Yes	%	No	%
1	Washing hands is an act of cleaning the hands and fingers using flowing water and soap.	13	100	-	-
2	Proper hand wash can prevent diseases and stops the spread of germs.	12	92,3	1	7,7

3	I need to wash my hands with soap before and after having a meal.	13	100	-	-
4	Washing hands with soap is not needed after playing and physical exercises.	1	7,7	12	92,3
5	The right moment to wash my hands with soap is after throwing the trash.	8	61,5	5	38,5
6	I do not need to wash my hands after touching animals/poulties including my pets.	1	7,7	12	92,3
7	Not washing hands with soap can cause diarrhea	12	92,3	1	7,7
8	Not washing hands with soap can cause the infection of worms in my body.	13	100	-	-
9	After washing hands, I do not need to dry my hands with dry cloth/tissue.	2	15,4	11	84,6

In the table 1.1, assessing the knowledge of proper handwash among the students, it can be inferred that all of the participants know the definition of hand wash referring to its act of cleaning the hands and finger using flowing water and soap. The whole percentage of the sample also are aware of having to wash the hand before and after having a meal, along with how infections of worms can occur by not washing hands. In the next statements, 92,3% are aware of how hand wash can prevent diseases and stops the spread of germs while 7.7% are not aware. The same number of percentage (92,3%) do not agree on having the wash the hands after playing and physical exercises. Eight participants (61,5%) agree on throwing thrash as the right moment to wash the hands while 38,5% do not agree. The total percentage of 92,3% do not agree on not washing hands after touching animals while 7,7% still agrees.

**Table 2 - Assessment of Hand Wash Behavior Application**

No	Items	Options	Answer	%
1	I wash my hands with soap before eating.	Always	8	61.5
		Sometimes	5	38.5
		Never	-	-
2	I wash my hands with soap after eating.	Always	6	46.2
		Sometimes	7	53.8
		Never	-	-
3	I wash my hands with soap after defecating.	Always	11	84.6
		Sometimes	2	15.4
		Never	-	-
4	I do not wash my hands after playing and physical exercises.	Always	-	-
		Sometimes	12	92.3
		Never	1	7.7
5	I do not wash my hands after touching my pet.	Always	1	7.7
		Sometimes	8	61.5
		Never	4	30.8
6	I do not dry my hands with dry cloth/tissue after washing my hands.	Always	3	23.1
		Sometimes	6	46.2
		Never	4	30.7
7	I wash my hands only using water.	Always	1	7.7
		Sometimes	8	61.5
		Never	4	30.8
8	I wash my hands with flowing water and soap.	Always	6	46.2

		Sometimes	7	53.8
		Never	-	-

Table 2 shows the result of the assessment of the application of hand washing behavior among the participants. The first statement of washing hands before eating was found to be applied by 8 participants (61.5%) always, while the rest of the participants (38.5%) admit to be washing hands before eating only sometimes. After eating, 46.2% participants always wash their hands with soap, while the rest 53.8% do not do it all the time. It is found that 11 participants (84.6%) always wash their hands with soap after defecating while 2 of them only apply this behavior sometimes. The next statement of washing hands after playing and physical exercises was done sometimes by 92.3% of the participants (12) while 7.7% never washes their hands after physical activities. After touching their pets, only 1 participant (7.7%) always washes their hands, 61.5% washes their hands sometimes while the rest 30.7% never washes their hands. One participant always washes their hands only using water, 8 (61.5%) washes their hands only using water sometimes, while 4 (30.8%) admits to never washing hands with only water. For the proper behavior of washing hand with flowing water and soap, 6 participants (46.2%) admit to always implying this behavior, while 7 others (53.8%) only do it sometimes.

## DISCUSSION

Children and adolescents tend to not pay much attention on the simple health efforts that can protect them from diseases. The result of this study has found that students still have not imply the correct behavior of washing hands with soap and flowing water. In their research article, Nakoe et al (2020) mentions how washing hands with water is not as effective as washing hands with flowing water and soap, because the bacteria killed with water is very little in amount compared to the number of bacteria killed when hands are washed with flowing water and soap.

The result also found, as seen on the tables previously, that even though the total number of the samples have the adequate knowledge on hand wash and how it prevents infections from occurring, the behavior of implying this effort is not thorough. This corresponds the study conducted by Pratiwi (2017), a good knowledge of washing hands is not enough in preventing the spread of infection. A good knowledge must be hand in hand with the application of the knowledge learnt.

After assessing the knowledge of the participants and finding that the behavior of proper hand washing is not thoroughly implied, the researchers held a community health education on hand washing which resulted in a positive evaluation since the participants can retell or verbalize the material given on washing the hands properly. Even so, the researchers still seek the collaboration from the school to regularly remind the healthy behavior of hand hygiene so that the good habit can be built and kept among the students.

## CONCLUSION

Based on the study done and the result found, the researchers conclude that: All data collected based on the questionnaire was tabulated and it was found that in the Setiabudi Bandung Adventist Elementary and Middle School student communities as follows:

1. Students' knowledge about washing hands with soap is almost completely known by students.

2. Students know that washing hands is cleaning hands and fingers using running water and soap (as much as 100% are known by students).
3. It was found that 92.3% (12 respondents) said that they sometimes wash their hands using running water and soap after playing or exercising.
4. Students sometimes only wash their hands using running water without having to use soap.

### Recommendation

The researchers recommend the health care personnel to highly promote the behavior of washing hands properly with soap in order to minimize the vulnerability and risks of students in being infected with diseases and to the school, the researchers seek to encourage the implication of such health behavior of proper hand wash and for it to be reminded in the everyday meeting setting of the school, between the teachers and the students. These recommendations are delivered in expectations to contribute to the positive change in knowledge which can lead to a positive change in behavior of each individual in reducing the risk of infection.

### REFERENCES

- [1] Haryani, S., Astuti, A. P., Minardo, J. (2021). Pengetahuan dan Perilaku Mencuci Tangan pada Siswa SMK sebagai Upaya Pencegahan COVID-19. *Jurnal Keperawatan dan Kesehatan Masyarakat*, 10(1). 85-91.
- [2] Jess, R. L., & Dozier, C. L. (2020). Increasing handwashing in young children: A brief review. *Journal of Applied Behavior Analysis*, 53(3), 1219-1224.
- [3] Kementerian Kesehatan RI. (2020). *Kebijakan Cuci Tangan Pakai Sabun*. Jakarta
- [4] Masturoh, I dan Anggita, N. 2020. Metodologi Penelitian Kesehatan. Kementerian Kesehatan RI. Jakarta
- [5] Nakoe, R., Lalu, N. A. S., & Mohamad, Y. A. (2020). Perbedaan efektivitas hand-sanitizer dengan cuci tangan menggunakan sabun sebagai bentuk pencegahan covid-19. *Jambura Journal of Health Sciences and Research*, 2(2), 65-70.
- [6] Nicolaides, C., Avraam, D., Cueto-Felgueroso, L., González, M. C., & Juanes, R. (2020). Hand-hygiene mitigation strategies against global disease spreading through the air transportation network. *Risk Analysis*, 40(4), 723-740.
- [7] Pratiwi, I. D. (2017). Pengetahuan dan perilaku cuci tangan pada anak sekolah dasar di Kota Malang.
- [8] Purwandari, R. 2020. Jurnal Keperawatan “ Hubungan Antara Perilaku Mencuci Tangan Dengan Insiden Diare Pada Anak Usia Sekolah”
- [9] Samsuridjal, D. (2020). *Panduan Hidup Sehat*. Penerbit : Buku Kompas
- [10] Sugiyono. (2020). Metodologi Penelitian Kuantitatif dan Kualitatif. Penerbit : Alfabeta
- [11] World Health Organization (2022). *Diarrhea*. Retrieved from [https://www.who.int/health-topics/diarrhoea#tab=tab\\_1](https://www.who.int/health-topics/diarrhoea#tab=tab_1)
- [12] Yusuf, Y. S. (2020) *Hubungan Cuci Tangan Sebelum Makan dengan Kejadian Diare pada Anak di Puskesmas Jagogn, Kabupaten Pangkajene Kepulauan tahun 2020*. Fakultas Kedokteran Universitas Hasanuddin.