

# THE DIFFERENCE OF HEALTH EDUCATION THROUGH DEMONSTRATION AND SINGING VIDEO METHODS ON HAND-WASHING SOAP SKILL IN PRESCHOOL CHILDREN

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## Abstract

*The importance of hand cleanliness needs to be paid attention by preschool-aged children in order not to become disease germs' medium of transfer, such as diarrhea. Health education is needed to improve children's skills in washing their hands. Demonstration method can get students actively involved while paying attention to the lesson being explained, and singing video media can encourage a learning motivation through interesting graphic display and lyrics about the steps to wash the hands. The study aimed to determine the difference between health education using demonstration and singing video methods' influence on preschool-aged students' handwashing with soap skills. This is a quasi-experiment research which used a pretest and posttest nonequivalent control group. There were 24 samples involved as respondents, divided into two groups which consist of 12 students each. The research instruments used were checklist sheets. Bivariate tests for both the demonstration and the video methods were conducted using a paired t-test. A difference test between the demonstration and the video methods was conducted using an independent t-test. The average score for the demonstration method before intervention was 39.5 and after intervention was 90.2; the average score for the singing video method before intervention was 47.5 and after intervention was 89.9. Results of the difference test between pretest and posttest in the demonstration method group showed a p-value = 0.000, and in the singing video method showed a p-value = 0.901. There was no score difference for handwashing with soap skills. The use of demonstration and singing video methods were equally effective in improving handwashing with soap skills.*

**Keywords:** Demonstration; Singing Video; Preschool Children

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## 1. Introduction

The development aspects of preschool children include motoric, cognitive, moral, psychosocial, and language developments. The preschool age is the right period to introduce children to their surrounding environment (Potter & Perry, 2010).

High curiosity of children upon external environment will cause the children in preschool age to be more active, such as playing with the toys at school environment (Potter & Perry, 2010). After playing, sometimes children do not pay attention to their hygiene, for instance, not washing their hands before touching foods or drinks. The transmission of disease through hands will happen if the children hands are unwashed. The personal hygiene that should be put into an attention for preschool children is hand hygiene in aim to prevent one of the infectious diseases, namely diarrhea (Irianto, 2014).

According to WHO and UNICEF, 1.9 millions of toddler died every year due to diarrhea, mostly occurred in developing countries (Dinas Kesehatan Kabupaten Sleman, 2018). The highest number of diarrhea occurrence in 2014 in Indonesia was detected in children (1-4 years old), i.e. 12.2% (Rikesdas, 2013). The estimation of diarrhea case in DIY was 101,579 cases, and the handled cases of diarrhea were 41,066 or (40.4%), it means that 60,513 or (59.4%) of cases have yet to be managed in DIY area (Ministry of Health of RI, 2018 (Kementerian Kesehatan Republik Indonesia, 2014). According to Integrated Surveillance of Diseases of Public Health Centers, diarrhea was ranked second. According to the data of Central Statistical Bureau (BPS) in 2018, the highest number of diarrhea occurrence from 17 districts in Sleman Regency was in Depok District with 1,175 cases of diarrhea (Badan Pusat Statistik (BPS) Kabupaten Sleman, 2018).

The high number of diarrhea cases was caused by several factors, namely due to the lack of hygiene both personal or environmental, sanitation, and habit of hand-washing with soap (CTPS), diarrhea will cause death if it's not handled optimally. The practical prevention of diarrhea is by breaking the transmission chain through a clean-healthy behavior by getting used to washing hand with soap (CTPS) (Proverawati & Rahmawati, (2016).

The healthy behavior in children should be taught at the early stage by make hand-washing with soap as a habit (Maryunani, 2013). Therefore, health workers should conduct health education regarding the importance of hand-washing with soap as the prevention of disease transmission (Notoatmodjo, 2014).

The selection of methods and media of education should be adjusted to the target of health education for the health education to be accepted optimally. The target of health education in this study was preschool children seen from the aspect of cognitive development. The learning in this age uses learning through play principle. Children tend to have high interest in learning on a learning process that is pleasuring that can be supported by props, music, singings, and videos (Solang et all, 2017). A demonstration method is a attractive learning process, because students not only hear but also observe and practice the materials taught directly by the presenters/educators (Suryani et al, 2012). One of the media in health education is electronic medium that uses videos. This medium can enhance the interest to learn of students to be more independent and motivated to practice the learning materials presented in the video (Daryanto, 2011).

According to the result of preliminary study on January 21, 2019 in Pamardi Siwi Kindergarten toward 24 children. When they were asked to practice six steps of hand-washing, the students have yet to be able of performing the hand-washing steps. The result of the interview toward the Headmaster of Pamardi Siwi Kindergarten showed that the students were never provided with is counseling the right term in this study concerning the health education of hand-washing.

## 2. Research Method

This study used quasi-experiment type of research with pre and post test non-equivalent control group design. This study at Pamardi Siwi Kindergarten in Depok, Sleman, Yogyakarta on March 10, 2019, with 24 respondents, divided into two groups, namely demonstration and singing video groups. The intervention group is demonstration and control groups issinging video. The population of this research was the entire students of Pamardi Siwi Kindergarten that amounted to 24 people. A total sampling was used as the sample collection technique by using the entire study subjects that amounted to 24 students.

The instruments used in this study were checklist sheet , SOP , and a singing video about hand-washing steps by WHO. The duration for intervention Univariate test was used in this study by using frequency and percentage to uncover the characteristics of respondents based on sex, the skill before and after the health education through demonstration and singing video methods. Data normality test through Shapiro wilk was used because the number of sample was < 50, paired t-test was used for the bivariate analysis on pre-post demonstration and singing video, and independent t-test was used to discover the disparity between demonstration and singing video methods.

Step to wash hands according to WHO

1. Wash hands with water
2. Pour enough soap on the palm of the hand
3. Flatten with both hands.
4. Rub the back and between the fingers of the left hand with the right hand and vice versa.
5. Rub the palms and between the fingers.
6. Rubbing the inside fingers with both hands interlocked
7. Rub the rotating thumb in the palm of the hand and do the opposite.
8. Rubbing and turning the tips of the fingers of the right hand on the left palm and vice versa.
9. Rinse both hands with running water.
10. Dry with disposable tissue or towel until it is completely dry.
11. Using tissue or towel to coat when closing the water faucet

## 3. Research Results

### Univariate Analysis

Table 1. The Frequency Distribution of the Respondents Characteristics of Demonstration and Singing Video Respondents Based on Sex

Sex	Demonstration		Singing Video	
	(n)	(%)	(n)	(%)
Male	7	58.3	3	25
Female	5	41.7	9	75
Total	12	100	12	100

According to Table 1, it is known that the intervention of demonstration method is mostly on male students which amount to 58.3% (7 respondents). The students who use singing video medium is mostly on female students which amount to 75% (9 respondents)

According to Table 2, it is known that the mean value of hand-washing skill before the implementation of health education through demonstration method is 39.2. The mean increases to 90.2 after the intervention of health education through demonstration method.

Table 2. The Hand-Washing Skill Before and After the Health Education Through Demonstration Method

	Min	Max	Mean	Sd
Before	25.0	71.0	47.5	14.0
After	77.0	100	89.9	5.67

Table 3. The Hand-Washing Skill Before and After the Health Education through a Singing Video

	Min	Max	Mean	Sd
Before	25,0	58,0	39,2	11,7
After	75,0	100	90,2	8,01

According to Table 3, it is known that the mean value of hand-washing with soap skill before the health education through a singing video medium is 47.5. The mean increases to 89.9 after the intervention of health education through demonstration method.

#### Bivariate Analysis

Table 4. The Disparity of Score of Hand-Washing Skill Before and After the Health Education of ctps through Demonstration (n=12)

	Min	Max	Mean	Sd	p-value
Before	25.0	58.0	39.2	11.7	0.000
After	75.0	100	90.2	8.01	

According to Table 4, after the statistic test through the paired t-test is used, 0.000 p-value or  $0.000 < 0.05$  Sig (2-tailed) value is acquired. The conclusion of this result is there is a disparity between the value of hand-washing with soap skill before and after the health education through the demonstration method.

Table 5. The Differene of Hand-Washing Skill Before and After the Health Education of CTPS through a Singing Video (n=12)

	Min	Max	Mean	Sd	p-value
Before	25,0	71,0	47,5	14,0	0,000
After	77,0	100	89,9	5,67	

According to Table 5, after the statistic test through the paired t-test is used, 0.000 p-value is acquired. The conclusion of this result is there is a disparity between the value of hand-washing with soap skill before and after the health education through the singing video medium.

According to Table 6, it is known in the independent t-test that Sig (2-tailed) value is 0.901, thus it can be concluded that there is no disparity of skill between demonstration and singing video methods because p-value  $> 0.05$ .

Table 6. The difference of demonstration and singing video methods on hand-washing skill after the health education on students of Pamardi Siwi Kindergarten

Group	Before		After		The Difference	
	Mean	SD	Mean	SD	In mean	p—Value
Demnstration	39.2	11.7	90.2	8.01	51	.00
Single Video	47.5	14	89.9	5.61	42.4	.00
Sig (2-tailed)	0.125		0.901			

#### 4. Discussion

##### The differene of hand-washing values before and after the health education of CTPS through demonstration method on Pamardi Siwi Kindergarten

According to Table 4, it is known that the values of hand-washing skill with soap skill before the health education through demonstration on 12 individuals is resulting in of median value, this condition was caused by the students who did not conduct several steps of hand-washing, including: step 5 (rubbing between fingers) was not performed by 9 students, step 6 (rubbing the inside fingers with both hands interlocked) was not done by 10 students, step 7 (clasping right hand around left thumb and rub thumb in rotational manner and vice versa) was not done by 11 students, and step 8 (rotational rubbing, backwards, and forwards by placing fingertips of right hand in left palm and vice versa) was not done by 11 students.

Based on the information of the Headmaster, Pamardi Siwi Kindergarten has yet to receive a health education concerning hand-washing with soap. Therefore, a health education regarding hand-washing with soap should be done in aim to sanitize hands and prevent the entrance of germs through hands. Providing a health education through a demonstration method is aimed to stimulate students to be active, because they are asked to pay attention and practice directly the lesson that being taught (Suryani et al, 2012).

The intervention through a demonstration method has resulted it means that there was a significant difference between the skill scores before and after the health education through a demonstration method.

The way of learning through a demonstration method is suitable to be applied on preschool children because this demonstration method makes students receive a clear perception from direct observation. Students obtain practical experiences to develop their proficiency and skill. The learning process through a demonstration method is one of best learning methods because this method can help students in seeking answers with their own effort

based on the actual facts for them to acquire clear descriptions (Rohendi et al, 2010).

### **The Difference Of Hand-Washing With Soap Skill Before And After The Health Education Of CTPS Through Singing Video Medium On The Students Of Pamardi Siwi Kindergarten**

According to Table 5, it is known that, this condition caused by some students who did not conduct some steps of hand-washing, including step 6 (rubbing the inside fingers with both hands interlocked) was not done by 9 students, step 7 (clasping right hand around left thumb and rub thumb in rotational manner and vice versa) was not done by 9 students, and step 8 (rotational rubbing, backwards, and forwards by placing fingertips of right hand in left palm and vice versa) was not done by 10 students.

After the intervention through a singing video was given, it means that there was a significant different between the skill scores before and after the health education through a singing video.

The implementation of learning process through singing video medium or audiovisual is one of the learning media that can motivate and increase the learning motivation of students, it capable of training students to develop their abstract imagination and stimulating the active participation of the students (Ribawati, 2015). This study result is parallel with the student conducted by Amelina (2015) with her study result that showed the increase in hand-washing skill from 11.37% before the health education to 19.39% after the health facilitation through a video.

### **The Difference of Hand-Washing Skill Scores After the Health Education of CTPS through Demonstration and Singing Video Methods on the Students of Pamardi Siwi Kindergarten.**

According to Table 6, it is known that independent t-test was used to see the difference of hand-washing with soap skill after the health education through demonstration and singing video methods, resulted, it can be concluded that there was no difference of skill scores between demonstration and singing video methods due to  $p\text{-value} > 0.05$ . This condition indicated that the education of health of hand-washing with soap through demonstration and singing video methods are both effective in improving the hand-washing with soap skill on preschool children. De Porter's theory (in Ferina, et al, 2016) explains that exerting the five senses more in conducting the learning process will help accelerate the comprehension process. In this study, there was no difference between demonstration and singing video groups because both methods are using two senses, i.e. eyes and ears during the health education. Therefore, both groups can accept properly the information about hand-washing and the hand-washing skill had increased.

On the aspect of cognitive development in preschool children, children tend to own massive learning interest on attractive learning processes that supported by props, different methods, music, singings, and video, children could also be active in conducting the learning process which being taught directly (Solang & Tando, 2017)

In this study, although both demonstration and singing video methods were effective to increase the hand-washing with soap skill on students, however, if seen from the difference of mean scores between demonstration and singing video methods, it has been acquired that the increase of hand-washing with soap skill was higher on the demonstration method compared to the singing video. Based on the health education through a demonstration, 51.0 of mean score difference was acquired. For the singing video, the difference of median score was 42.4. These results were acquired because in the demonstration method, students and the presenter can interact directly in practicing the steps of hand-washing with soap. The use of demonstration in the health education makes the students to not only imagining the knowledge or action in performing hand-washing with soap, but could also observe the steps of performing hand-washing which being practiced directly by the presenter, therefore, their understanding regarding hand-washing is increasing (Indrastuti et al, 2013). The advantage of this demonstration method is the easiness in understanding something, more attractive, and the students are stimulated to observe, and to do the thing by themselves (re-demonstrate) (Ariyadi, 2015). The provision of materials by playing a singing video can also improve hand-washing with soap skill because it can stimulate the active participation of children to learn to the singing video about the hand-washing steps, presenting the message and information correctly. The singing video can illustrate a process and can be watched repeatedly (Daryanto, 2011).

This result is also consistent with the study done by Widayanti (2018, this study resulted in no disparity of mean scores of hand-washing with soap skill between demonstration and video methods. However, if seen from the difference of mean scores on the pre-post implementation of demonstration and video methods, the difference of mean of the demonstration method was higher compared to the difference of mean of video method.

### **5. Conclusion**

1. There was a difference of score of ctps skill before and after the implementation of demonstration method in which of mean value with 0.000 of p-value were acquired after the health education through the demonstration method.
2. There was a difference of score of ctps skill before and after the implementation of singing video in which of mean value and 0.000 of p-

value were acquired after the implementation health education through singing video.

3. There was no difference of scores of hand-washing with soap skill between demonstration and singing video methods. The implementation of demonstration and singing video methods are both capable to improve the ctps skill on students in Pamardi Siwi Kindergarten with 0.901 of p-value.

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