

THE DIFFERENCE IN EFFECTIVENESS BETWEEN DEMONSTRATION AND STORYTELLING METHODS OF HANDWASHING KNOWLEDGE OF FIRST- GRADERS ELEMENTARY SCHOOL CHILDREN

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ABSTRACT

Background: School-age children are vulnerable to infectious diseases that can potentially lead to death. Proper handwashing is one of the effective measures for prevention. Preventive actions become more effective when health education is delivered using demonstration and storytelling methods. This study aimed to determine the effectiveness of health education using demonstration and storytelling methods on the level of handwashing knowledge among first-grade elementary school students in Krogowanan Village, Sawangan, Magelang.

Methods: The research was a quasi-experimental study using a pre-test and post-test design without a control group. A total sampling technique was employed, involving 42 respondents who were divided into two groups based on the method used: demonstration and storytelling. A questionnaire was used as the research instrument. Data were analysed using the Paired T-Test and the Independent T-Test.

Results: The results of the Independent T-Test revealed a statistically significant difference ($p = 0.000 < 0.05$) in handwashing knowledge between the groups that received demonstration and storytelling interventions. The mean increase was higher in the storytelling group (2.1429) than in the demonstration group (1.8571).

Conclusions: It indicates that the storytelling method was more effective in improving handwashing skills in first-grade elementary school children.

Keywords: demonstration, handwashing, knowledge, storytelling

INTRODUCTION

School age is a period in which children continue to mature in physical, social, and psychological aspects. At this stage, children begin to develop abstract thinking skills and show the need for recognition from peers, teachers, and parents. Children aged 6 to 12 years experience a progressive slowdown in physical growth, but their social and emotional development becomes more complex and accelerates (Sartika et al., 2023). School-age children are a group that is vulnerable to various diseases or health problems. This is mainly because they are still in the process of learning and getting used to living clean and healthy behaviours (PHBS) (Bur & Septiyanti, 2020).

Clean and healthy living behaviour (PHBS) is one of the promotive and preventive efforts in improving the degree of public health, including in elementary school-age children. One of the important indicators in PHBS is the habit of washing hands with soap (CTPS), which has been proven to be effective in preventing the transmission of various infectious diseases such as diarrhoea, influenza, ISPA, and worms (Ayatullah, 2023).

Maintaining hand hygiene by washing hands well and properly using soap is one of the right preventive measures to prevent various diseases. Preventive measures will be more effective if health education is provided first about the 6 steps of good and correct hand washing. There are several ways or methods for providing handwashing health education. Two examples of several health education methods are the demonstration method and the storytelling method. The demonstration method allows children to see and practice directly the correct handwashing steps, thereby strengthening the visual and motor aspects of the learning process (Notoatmojo, 2018). The storytelling method has been shown to be very effective in increasing the compliance of children aged 6–7 years to wash their hands with soap (CTPS). Through stories, children not only learn about the importance of cleanliness but also develop the ability to absorb information, understand messages, think critically, concentrate, and imagine (Yudiarini et al., 2020).

The use of interactive and creative methods, such as demonstrations and storytelling, is more effective in improving children's knowledge and attitudes towards healthy living behaviours compared to conventional lecture methods (Handayani et al., 2022; Perdani, 2018). However, studies on the comparison of effectiveness between these two methods are still limited, especially in the context of handwashing education in elementary school-age children.

This study aims to determine the difference in the effectiveness of health education demonstration methods and storytelling methods on the level of handwashing knowledge in elementary school-age children.

RESEARCH METHOD

A type of quasi-experimental quantitative research with a pre- and post-test design without control. This research was carried out in 2021, in Krogowanan Village, Sawangan, Magelang, which was divided into 2, namely the demonstration group and the storytelling group. The researcher used handwashing demonstration tools and picture storybooks as media. The intervention was conducted once for 30 minutes, with a pretest given before and a posttest administered after the intervention. The population and sample of 42 Grade 1 elementary school children in Krogowanan Village were obtained using the total sampling technique and were selected according to the inclusion and exclusion criteria that had been determined by the researcher and followed by the willingness of the respondents. The instruments in this study used questionnaires, demonstration method instruments and storytelling method instruments. The questionnaire in this study consisted of 24 items that measured students' knowledge about handwashing. The domains covered included the definition of handwashing, its benefits, appropriate times to wash hands, handwashing steps, and the equipment used for handwashing. Each correct answer was scored 1, while incorrect answers were scored 0. The total score ranged from 0 to 24. Validity and reliability tests were conducted through expert judgment, resulting in a score of 0.875. Data analysis was conducted using a paired t-test and an independent t-test. This research has been declared to have passed the ethics approval from the Health Research Ethics Committee of Universitas Kusuma Husada Surakarta with No. 2973/UKH.L02/EC/VII/2025.

RESULTS

Effectiveness of the Demonstration Method on Handwashing Knowledge in Elementary School Children

The results of the study in Figure 1 were obtained with an average score of hand washing knowledge at the pretest results, or before the intervention was given, which was 18.9524 and at the posttest results of the group that was given health education intervention through the demonstration method, which was 20.8095. The *mean difference* between the *pretest* and *posttest* is 1.8571

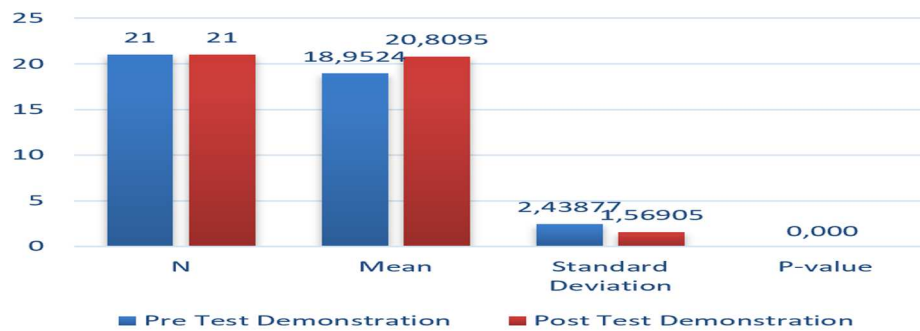


Figure 1. Difference in Average Score of Hand-Washing Knowledge Pre-Test and Post-Test Health Education Demonstration Method

The results of the *T-Test Paired statistical test* on the demonstration method were obtained *p value* $(0.000) < (0.05)$, then it can be concluded that there is a difference in the score of hand washing knowledge before and after being given health education intervention through the demonstration method, in other words, the demonstration method is effective in improving handwashing knowledge in elementary school-age children.

The Effectiveness of the Storytelling Method on Handwashing Knowledge in Elementary School Children

The results of the study in Figure 2 obtained an average score of handwashing knowledge in the *pretest*, which was 20.2857 and, in the *posttest*, the group was given a health education intervention of the *storytelling* method, which was 22.4286. The *mean difference* between the *pretest* and *posttest* is 2.1429.



Figure 2. Difference in Average Score of Hand-Washing Knowledge Pre-Test and Post-Test Health Education Storytelling Method

The results of the *T-Test Paired statistical test* on the storytelling method were obtained with a *p-value* $(0.000) < (0.05)$, so it can be concluded that there is a difference in the score

of handwashing knowledge before and after being given a health education intervention of the storytelling method, which means that the storytelling method is effective in increasing handwashing knowledge in elementary school children.

Differences in the Effectiveness of Demonstration and *Storytelling* Methods on Handwashing Knowledge in Elementary School Children

The results of the study in Table 1 are known to have significant values in both groups of p-values of $0.000 < 0.005$, which means that there is a difference in the effectiveness of demonstration and storytelling methods on handwashing knowledge in elementary school children.

Table 1. Difference in Average Score of Hand Washing Knowledge Post Test, Health Education Demonstration and Storytelling Methods

Intervention Groups	n	Mean Difference	P value
Demonstration	21	1,8571	0,000
Storytelling	21	2,1429	

The mean difference in the demonstration group was 1.8571 smaller than the mean difference in the storytelling group, which was 2.1429. This shows that the storytelling method of health education is more effective than the demonstration method in increasing children's knowledge. While demonstration is indeed a form of health education, storytelling may be more engaging and memorable for children, thus helping them to better understand and retain health information.

DISCUSSION

The results of this study are in accordance with the previous research, which obtained the results of the score of handwashing skills before health education of 19.95 and after health education of 20.20, which shows a significant difference in the skills of students to do CPTS before and after being given a CPTS demonstration. This study proves that the demonstration method as a health education medium is effective in improving CPTS skills with a p-value of 0.000 (Itsna et al., 2018).

The effectiveness of this method is because, through the demonstration method, students not only understand theoretically, but also witness firsthand examples of CPTS implementation. This happens because through the demonstration method, students can directly see and listen to how the CPTS procedure is carried out by the researcher. They were also given the opportunity to try for themselves the steps that had been exemplified. In this way, students' understanding becomes faster because they not only hear but also experience the process firsthand. In addition, the demonstration method provides a real experience that leaves a deep impression on the learning process (Handayani et al., 2022).

The results of this study are supported by the other research, which obtained the results of the average behavioural value before being given an intervention of 12.74 and after the intervention of 25.52, with a p-value of 0.000, which shows that there is a significant influence of storytelling on the behaviour of washing hands using soap (Perdani, 2018). Health education can be delivered with the help of various methods, including the storytelling method. This method is a creative process that involves children, where, in its application, not only develops intellectual aspects, but also fosters emotional sensitivity, aesthetic values, meekness, and the ability to imagine and fantasise. Storytelling encourages the development of the right brain in addition to the left brain. In general, almost everyone, from toddlers, elementary school children, to teenagers, and even adults, tends to like listening to stories.

The next supporting study is a study conducted by in 2024 which showed the average result of knowledge before being given an intervention of 69.6471 and after being given an intervention of 81.1765 with a p-value of 0.000 (Nurfalya, T.; Sulaeman; Saputra, 2024). The storytelling method is a technique of conveying information in the form of stories aimed at listeners, with fun characteristics and able to stimulate the development of children's imagination. Stories told through this method have the potential to enrich children's memory and improve their knowledge effectively (Haerudin & Cahyati, 2018; Srinatania et al., 2022). The storytelling method has a positive impact on children's development, especially through the delivery of moral values contained in stories. Through understanding these moral messages, children can form better perceptions and show behavioural changes in a more positive direction (Wahyuni et al., 2023).

Health education is a form of intervention that aims to equip every individual with knowledge and skills in maintaining health and implementing clean and healthy living behaviours in daily life. The selection of the right method determines the success of the health education carried out. The demonstration method is one of the learning approaches that is carried out by demonstrating, practising, and showing students a certain situation, object, or process that is the topic of learning. This approach is in line with the opinion that states that demonstration is a method of presenting learning materials through demonstrations of a process, condition, or object being studied, thus allowing the cultivation of healthy attitudes and living behaviours in students (Stiyapranomo, 2023).

The demonstration method can be applied if supporting media or props are available. The use of this tool aims to optimise the involvement of the senses as much as possible in observing the objects being studied, so that it can increase students' understanding of the material presented. The more senses involved in the learning process, the greater the chance of a person understanding and remembering the material more clearly. This indicates that media as a teaching tool has an important role in directing as many senses as possible to an object to facilitate understanding. Some experts also state that the sense of sight (eyes) is the main channel in conveying information to the brain, with a contribution of about 75% to 87%, while the rest, about 13% to 25%, is conveyed through other senses (Soekidjo, 2018).

The results of the study showed that the storytelling method was more effective than the demonstration method. One of the advantages of the storytelling method is that it is a more fun approach compared to other learning methods. Through this method, children have a wider space to develop their imagination and fantasies. This makes the delivery of health education materials more interesting and does not cause boredom. The effectiveness of this method will increase if it is supported by attractive supporting media, such as leaflets, booklets, or cards with cartoon symbols with colourful and eye-catching visual appearances (Cunha et al., 2022; Juniawan et al., 2021; Susanti et al., 2024).

The storytelling method is one of the effective ways to convey health education to school-age children. In order for the delivery to be optimal, the selection of aids needs to be adjusted to the method used, the needs of the child, and their ability to absorb information. One of the suitable media is picture books because of their attractive, cheerful, and close appearance to the world of children. However, telling a story that is really interesting to children is not easy. Creativity and understanding of how children think and respond to stories are needed (Yudiarini et al., 2020).

The effectiveness of the storytelling method is also proven by its various benefits and advantages, including being able to develop affective, cognitive, and psychomotor aspects, as well as helping in learning character values and traits. The use of storytelling as an educational means can be conveyed through media such as flipcharts that contain narratives about health protocols, accompanied by demonstrations of the stages in implementing the protocol. Characters in the story play a role in conveying information, which at the same

time trains the ability to capture information and the child's mindset (Fadillah & Dini, 2021; Handrayani, 2022; Rahmatyas & Dhiah Anggraeni, 2023).

CONCLUSION

The demonstration method was effective in increasing handwashing knowledge in elementary school-age children. Storytelling is effective in increasing handwashing knowledge in elementary school-age children. There is a difference in the effectiveness of the demonstration and storytelling methods on the knowledge of handwashing in elementary school children, where the results of the storytelling method are more effective than the demonstration method

RECOMMENDATIONS

The results of this study can be used as an educational method to improve knowledge about handwashing among elementary school children. Future researchers should develop media used for handwashing education.

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