



Empowering preschool students to improve personal hygiene skills through storytelling and interactive video methods in children at Jaddih, Bangkalan

Sisca Meida Wati^{1*}, Retno Pudji Rahayu¹, Theresia Indah Budhy¹, Astari Puteri¹, Nadila Tahta Fidari² and Amanda Ayu Aprilia²

¹Department of Oral and Maxillofacial Pathology, Universitas Airlangga, Surabaya, Indonesia

²Research Scholar, Faculty of Dental Medicine, Universitas Airlangga, Surabaya, Indonesia

Correspondence Author: Sisca Meida Wati

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Abstract

Background: Personal hygiene is crucial for preventing health issues like diarrhea and gastroenteritis in preschool children. However, preschoolers often neglect hygiene due to their focus on play. Effective education for this age group should be engaging and suited to their cognitive development to ensure proper understanding and application.

Purpose: This program aimed to educate kindergarten students on personal hygiene targeting students within the Jaddih Health Center service area.

Methods: An observational study in August 2022 involved 56 kindergarten students from two schools. A pre- and post-test design was used to evaluate the impact of the personal hygiene education program, which included storytelling and interactive videos on oral hygiene, handwashing, and COVID-19 protocols. Hands-on activities helped students practice these skills.

Results: Significant improvements were observed in students' understanding of personal hygiene after the sessions. Dharma Wanita Persatuan 06 Kindergarten students increased from 60.7% to 100% ($p = 0.000$), while Insan Aqilin Kindergarten students improved from 92.8% to 100% ($p = 0.000$). These results suggest that dental professionals, particularly Oral and Maxillofacial Pathologists, can play a key role in promoting healthier behaviors.

Conclusion: The community service activity in Puskesmas Jaddih, Bangkalan, successfully enhanced preschool students' knowledge and skills in maintaining oral health through Storytelling and Interactive Video methods. Regular educational and training programs on oral health are recommended to further improve young children's oral health.

Keywords: Personal hygiene, Storytelling, Interactive videos, Preschool students, Good health and well being

Introduction

The Healthy Indonesia Program is part of the 5th Nawa Cita initiative, which aims to improve the quality of life for the Indonesian people [1]. This program is supported by other sectoral initiatives, such as the Smart Indonesia Program, the Working Indonesia Program, and the Prosperous Indonesia Program [2].

Children's health is a key indicator of progress in Indonesia's health development. The well-being and proper growth of children are significantly influenced by Clean and Healthy Living Behavior (PHBS), which is a crucial effort to improve public health [3]. Moreover, the PHBS framework seeks to encourage children to actively participate in maintaining their health and physical fitness, including personal hygiene [4].

Personal hygiene refers to the practices aimed at maintaining the cleanliness and health of individuals, both physically and psychologically, to prevent disease in themselves and others. This includes care of the scalp, hair, eyes, nose, ears, nails, skin, hands, feet, and genital area [5]. Poor personal hygiene can lead to an increase in diseases related to inadequate clean and healthy living behaviors, particularly among school-aged children, such as diarrhea, Acute Respiratory Tract Infections

(ARI), Dengue Hemorrhagic Fever (DHF), and intestinal worms [6]. Maintaining good personal hygiene is vital for supporting overall health and well-being. To achieve this, the development of an effective health system, especially within schools, is essential [4]. Teaching children about personal hygiene helps to raise their awareness and plays an important role in preventing various diseases throughout their lives [6].

Bangkalan Regency, a crucial connector between Java and Madura [1]. Continues to face high incidences of personal hygiene-related diseases, such as diarrhea and gastroenteritis, alongside low public awareness of hygiene practices [7]. According to the 2018 East Java Riskesdas report, 35% of Bangkalan residents experience dental and oral health issues, yet less than 10% seek medical attention for these conditions. Additionally, Bangkalan ranks 11th lowest out of 38 regencies in East Java for proper tooth-brushing habits in children aged 3 and above [8]. These statistics highlight the overall lack of understanding and skill in maintaining personal hygiene among Bangkalan residents.

Jaddih Village, located in the Socah District of Bangkalan, is gaining attention for its tourism potential, particularly through the Bukit Jaddih limestone mining site. A preliminary study

conducted in February 2022, through observations and interviews with Kindergarten teachers and parents, indicated that while children's independence in personal hygiene practices was relatively good, they lacked a proper understanding of the correct methods for maintaining hygiene. To enhance kindergarten children's comprehension of personal hygiene, engaging and age-appropriate learning methods are necessary. Techniques such as storytelling and interactive videos can effectively capture children's attention and deepen their understanding of the importance of personal hygiene ^[1]. These methods are expected to be effective in providing personal hygiene education within the Jaddih Health Center area.

Method

This analytical observational study was conducted in Jaddih, Bangkalan, East Java, Indonesia, in August 2022. The activity involved a total of 56 kindergartens (TK) students from two schools: 28 students from TK Insan Aqilin and 28 students from TK Dharma Wanita Persatuan 06, in the Puskesmas Jaddih area. The education was part of a community service program organized by the committee from the Faculty of Dentistry, Universitas Airlangga, Surabaya. The goal of this education was to enhance preschool children's knowledge and ability to maintain personal hygiene through the methods of storytelling and interactive videos.

The activity began with the distribution of knowledge tests consisting of two phases: pre-socialization (pre-test) and post-socialization (post-test). The health socialization was conducted in person, following the Covid-19 health protocols, including education on oral health, hygiene protocols, and proper handwashing and tooth-brushing techniques. The methods of storytelling and interactive videos were used to make the material easier for the children to understand, with songs included to increase the participants' enthusiasm. The education covered the introduction of oral cavity structures such as teeth, gums, and tongue, along with their functions; how to maintain oral health, including diet and good and bad habits for dental health; proper tooth brushing techniques; and recommendations for visiting a dentist every six months. Additionally, education on proper handwashing and the importance of following COVID-19 health protocols was provided to instill good health habits from an early age.

After the education, the students were asked to practice proper tooth brushing and handwashing techniques in a group activity, where health protocols were strictly observed throughout the event. Based on the pre-test and post-test results, it was found that this activity successfully improved the student's understanding of the importance of maintaining personal hygiene in the Puskesmas Jaddih area.



Fig 1: Preschool children participating in a pre-test activity focused on oral hygiene.



Fig 2: Education about maintaining oral hygiene using interactive stories and videos for preschool children



Fig 3: Education on how to brush teeth and wash hands properly through joint toothbrushing and hand washing activities.



(4)



(5)

Fig 4: Our team in community service activities, (5) Our team and kindergarten students

Data collection and analysis

A pre-test and post-test were administered to evaluate participants knowledge of personal hygiene. Both tests were conducted offline under the full supervision of the committee team. To ensure data quality, supervision was applied

throughout data collection, extraction, entry into the program, and analysis. An independent samples t-test was used to analyze the knowledge variables from the pre-and post-tests, with a p-value below 0.05 indicating statistical significance.

Results

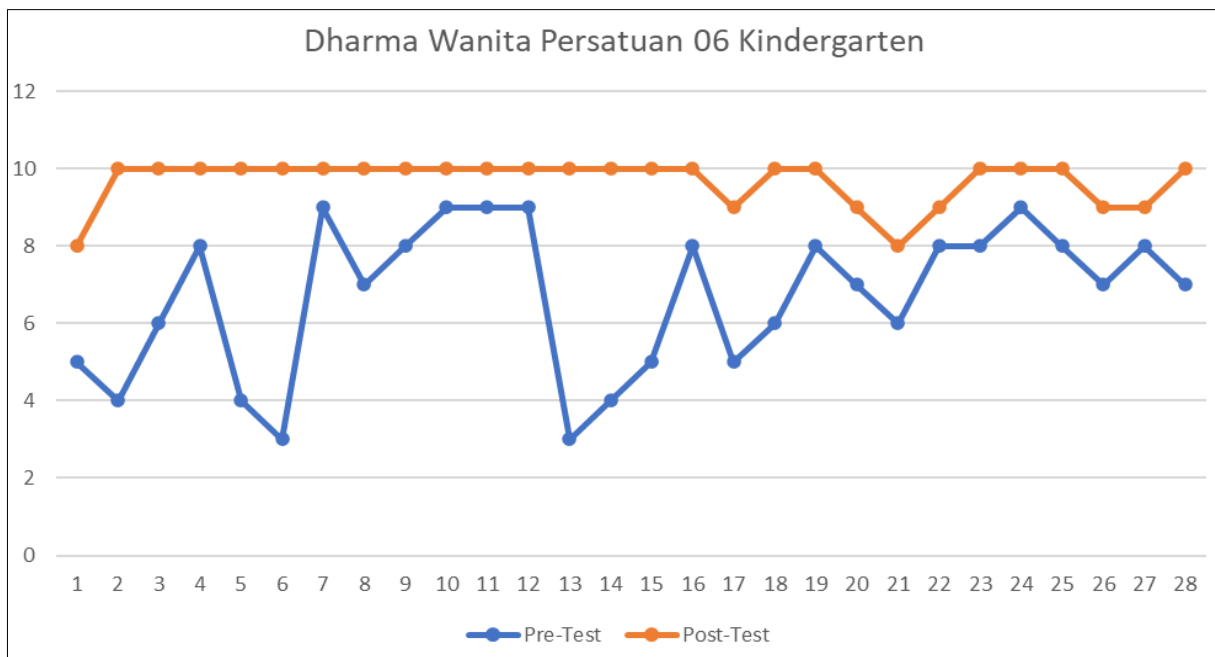


Fig 6: Pre- and Post-test result. The pre-test was shown by blue dotted line and the post-test was shown by orange dotted line

A total of 28 students from TK Dharma Wanita Persatuan 06 participated in the socialization session. The results of the pre-test and post-test were analyzed to assess the student's understanding of personal hygiene. A significant improvement was observed in the understanding of personal hygiene among

the students of TK Dharma Wanita Persatuan 06 after receiving education through the socialization session. The students' understanding before the socialization was approximately 60,7%, and after the education, it increased to 100% (Figure 1).

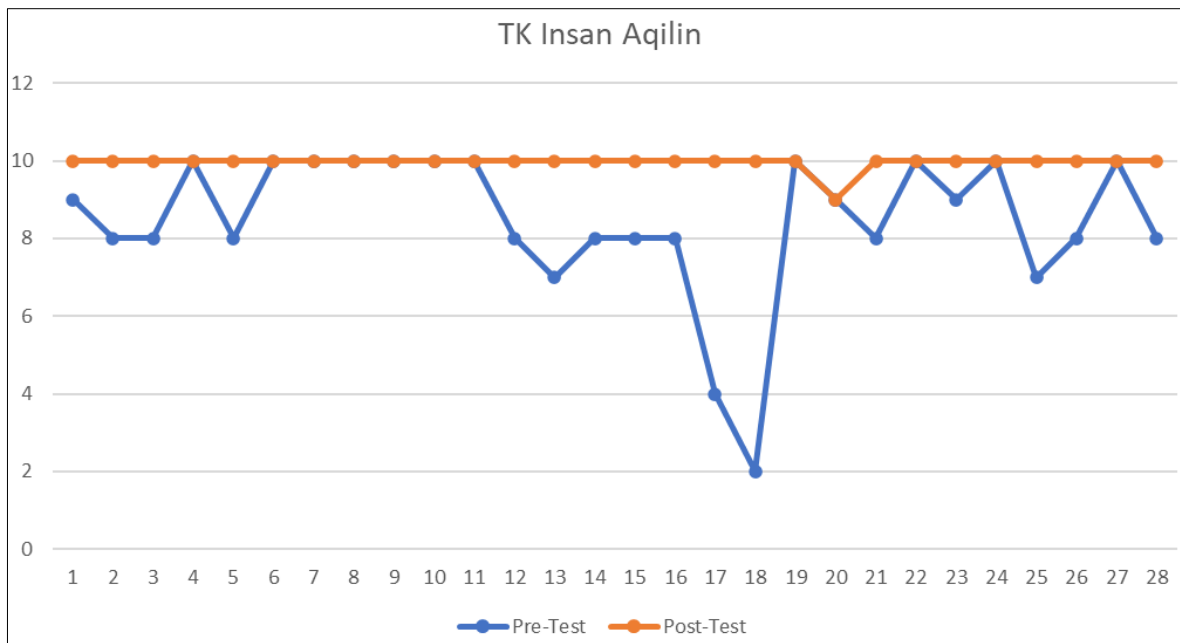


Fig 7: Pre- and Post-test result. The pre-test was shown by blue dotted line and the post-test was shown by orange dotted line

A total of 28 students from TK Insan Aqilin participated in the socialization session. The results of the pre-test and post-test were analyzed to assess the student's understanding of personal hygiene. A significant improvement was observed in the understanding of personal hygiene among the students of TK

Insan Aqilin after receiving education through the socialization session. The students' understanding before the socialization was approximately 92.8%, and after the education, it increased to 100% (Figure 2).

Table 1: Mean, standard deviation (SD), and *p* value between pre- test and post-test result. The different superscript letters are statistically different (T-test , *p*<0.05)

No	School	Pre-Test Results	Post Test Results	<i>p</i> value
1.	Dharma Wanita Persatuan 06 Kindergarten	60,7%	100%	0.000
2.	Insan Aqilin Kindergarten	92,8%	100%	0.000

The results presented in Table 1 show the mean, standard deviation (SD), and *p*-value for the pre-test and post-test outcomes. The *p*-value obtained between the pre-test and post-test results was 0.000. This indicates a statistically significant improvement in the participants knowledge. Therefore, it can be concluded that the knowledge of the students at TK Dharma Wanita Persatuan 06 and TK Insan Aqilin Bangkalan significantly increased as a result of the education provided offline.

Discussion

The results of this study show a significant increase in preschool children's knowledge about personal hygiene after receiving education through storytelling and interactive video methods. The use of pre-tests and post-tests in this activity provides a clear picture of the effectiveness of the methods used in improving children's understanding. At the beginning of the activity, a pre-test was conducted to assess participants basic knowledge about personal hygiene. The pre-test scores showed a lower level of initial understanding, possibly due to a lack of information and motivation regarding the importance of personal hygiene in early childhood.

The storytelling method using puppets or story books plays an important role as an educational medium that can attract

children's attention. Through storytelling, children receive information through visual and auditory stimuli, which trigger positive responses in the brain, increasing dopamine production which helps the learning process. This stimulation helps them connect information with positive emotional experiences, making it easier to understand and remember.

After the educational activity was completed, a post-test was conducted to assess changes in children's knowledge about personal hygiene. The post-test results showed a significant increase compared to the pre-test, indicating that the storytelling and interactive video methods successfully facilitated an increase in understanding of the importance of personal hygiene. Interactive videos also play an important role in triggering children's curiosity, because they not only provide information but are also accompanied by simple questions that challenge students to think and ask further questions. This shows that children do not only receive information passively but are also actively involved in the learning process.

The significant change in scores between pre-test and post-test (*p* < 0.05) proves that this method is effective in educating preschool children, who require a different approach from older age groups. This effectiveness highlights the importance of teaching methods that are in line with children's cognitive characteristics, especially since preschool children tend to have

a short attention span and require stimulation that involves visuals and auditory. Thus, the application of interactive stories and videos has proven to be an effective catalyst in improving preschool children's knowledge and potential health behaviors related to personal hygiene.

Conclusion and suggestion

The community service activity, which aimed to empower preschool students to improve their personal hygiene knowledge using Storytelling and Interactive Video methods at kindergartens in the Puskesmas Jaddih area, Bangkalan, was successful in enhancing the student's knowledge and ability to maintain oral health. The authors hope that educational and training activities on oral health can be carried out regularly as part of efforts to improve the oral health of young children.

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