



## "The Effectiveness of Storytelling on Personal Hygiene Knowledge Among Elementary School Children in Aceh Besar"

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### Keywords

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### Abstract

Personal hygiene is a fundamental aspect of health maintenance, particularly for elementary school students who are in a critical period of growth and habit formation. However, hygiene education is often delivered in ways that are unengaging, leading to limited understanding and poor application among students. Storytelling is considered an effective educational approach, as it conveys messages contextually, emotionally, and in a way that is easily understood by children. This study aims to examine the effectiveness of storytelling on personal hygiene knowledge among elementary school-aged children. A quasi-experimental design with a one-group pre-post-test was used, involving a sample of 64 elementary school students selected through purposive sampling. A self-reported personal hygiene knowledge questionnaire was used to collect data before and after the intervention. The storytelling intervention was conducted over six sessions across three days, utilizing animated video media focused on personal hygiene topics. The results showed an increase in the average knowledge score from 27.5 before the intervention to 37.5 afterward. The Wilcoxon test revealed a significant effect of storytelling on students' personal hygiene knowledge. These findings demonstrate that storytelling is effective in enhancing personal hygiene knowledge among elementary school children. Therefore, it is recommended that health and education stakeholders, as well as parents, continue and sustain similar programs.



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### Introduction

In school-aged children, exposure to various diseases is common, mainly due to poor personal hygiene and improper hygiene practices, which can result in school absenteeism and affect their academic performance (Pradhan et al., 2020). In low- and middle-income countries, this problem is exacerbated by inadequate health facilities (Antoli et al., 2022). The urgency of addressing personal hygiene among elementary school children is critical, as poor hygiene contributes to preventable diseases such as diarrhea, respiratory infections, and intestinal worm infestations—leading causes of morbidity and mortality in this age group (Kemenkes RI, 2022).

Diarrhea and respiratory diseases, as well as infectious diseases related to poor hygiene, are considered the most deadly causes of death for children. Intestinal worm infections are also a common problem among school-aged children in developing countries, especially in the 6–12 years age range (primary school children) due to frequent interaction with soil. In addition, dental caries is a frequent chronic disease in children, with approximately 60% to 90% of primary school-aged children worldwide affected by dental caries (Tusi et al., 2025). Diarrhea affects an estimated 836 million people each year, of whom 678 million are children aged 2 to 14 years, making diarrhea one of the top five diseases in terms of mortality or disease burden (Cha et al., 2021). In *Indonesia*, the diarrhea problem reached 7.20%, with high cases in several provinces such as *Southeast Sulawesi* (57.03%), *North Sulawesi* (36.25%), *North Maluku* (29.24%), *South Sumatra* (27.27%), and *Aceh* (25.95%) (Kemenkes RI, 2022).

Previous research has demonstrated the potential of health education interventions in improving hygiene practices. For example, Admasie et al. (2022) found that structured handwashing programs in schools significantly reduced hygiene-related illnesses. Similarly, Cha et al. (2021) showed that children who received targeted hygiene education had better knowledge and practices compared to their peers. However, a significant research gap remains: many existing interventions rely on conventional methods like lectures, which often fail to engage children effectively, leading to limited retention and application of hygiene knowledge (Untari et al., 2023).

The novelty of this study lies in its use of storytelling as an educational tool—a method that combines emotional engagement, contextual relevance, and multimodal learning (visual, auditory, kinesthetic) to enhance knowledge retention (Christin et al., 2021; Ghufon et al., 2023). Unlike traditional approaches, storytelling leverages relatable narratives and interactive elements, making it particularly effective for children’s cognitive and emotional development stages.

Hygiene practices in school children need great attention to control the spread of infection. Primary school students are more exposed to infectious diseases such as diarrhea, acute respiratory infections, and other diseases associated with poor personal hygiene (Minda et al., 2024). Promotion and improvement of handwashing practices through the preparation of handwashing systems in schools is essential to address personal hygiene issues in primary school students (Admasie et al., 2022; Enkhbat et al., 2022). Therefore, effective health promotion efforts are needed to improve personal hygiene knowledge in primary school-aged children.

Storytelling is the delivery of health information through stories that are interesting and easily understood by school-age children (Conner et al., 2024). Storytelling is an effective solution in providing health education to school-age children by choosing the right tools according to the chosen method, children’s learning needs, and learning abilities (Abiyoga et al., 2017). The emergence of digital storytelling in learning greatly helps students learn by providing imagery related to their daily lives (Putri et al., 2023). In the digital era, social media has also become a very effective platform for spreading health stories. Utilizing engaging images, videos, and narratives, health campaigns can reach a wider and more diverse audience (Ghahramani et al., 2025). A prominent characteristic is the ability to deliver multimodal learning by combining visual (images or illustrations), auditory (voice intonation, sound effects), and kinesthetic (body movements or expressions) elements (Ghufon et al., 2023).

Based on the above explanation, knowledge of personal hygiene in school-age children is a crucial aspect in efforts to control the spread of infection. The high prevalence of infectious diseases, such as diarrhea and acute respiratory infections, in elementary school students is often correlated with a lack of personal hygiene. Therefore, this study aims to determine the effectiveness of storytelling on the personal hygiene knowledge of elementary school-age students. The broader

benefits include practical applications for schools, health professionals, and policymakers. If proven effective, storytelling could be integrated into national health promotion programs, offering a scalable and sustainable solution to improve hygiene practices and reduce preventable diseases among children.

## Materials and Methods

This type of research is quasi-experimental, using a one-group pre–posttest design. Knowledge assessment was carried out based on pre-test and post-test scores. The pre-test was given before the intervention, while the post-test was administered after the intervention. Data were collected in June 2025. The population in this study consisted of all elementary school students in *Aceh Besar*, totaling 448 students at one of the *Aceh Besar* elementary schools. The sample size of 64 was determined using non-probability sampling with a purposive sampling technique, and participants were selected according to the inclusion criteria.

The main instrument was a 20-item questionnaire on personal hygiene knowledge, which included regular bathing, handwashing, nail clipping, changing clothes, hair washing, and tooth brushing. For each correct answer, a score of 2 (two) was given, and a score of 1 (one) was assigned for each incorrect answer; the scoring was reversed on negatively worded questions. After obtaining permission from the *Nursing Research Ethics Committee* of the *Faculty of Nursing, Universitas Syiah Kuala* with the research code 111014030525 and consent from parents, the questionnaires were distributed during break time and conducted within one to three days. Data analysis was conducted using the Wilcoxon test with significance set at  $\alpha = 0.05$ . The odds ratio and 95% confidence interval were reported.

## Results and Discussions

The profile of 64 respondents (Table 1) shows that the age of the respondents is mostly at the age of 11 years, namely 28 people (43.8%). The characteristics of respondents based on gender were mostly male as many as 36 people (56.3%).

**Table 1. respondent profile**

No	Respondent Characteristics	Total	
		f	%
1.	<b>Age</b>		
	10 years old	26	40.6
	11 years old	28	43.8
	12 years old	10	15.6
2.	<b>Gender</b>		
	Male	36	56.3
	Female	28	43.8
	<b>Total</b>	<b>64</b>	<b>100,0</b>

Based on **Table 1**, shows that the mean value before being given an intervention is 27.64 with SD 2.82 and after being given an intervention the mean value is 37.50 with SD 2.63, The results show an increase in personal hygiene knowledge before and after the storytelling intervention among elementary school children in Aceh Besar.

**Table 2 Frequency Distribution of Personal Hygiene Knowledge Before and After**

Variable		Mean	SD	Min-Max
Knowledge	Before	27.64	2.82	24.00-34.00
	After	37.50	2.63	28.00-40.00

Based on **Table 2**, storytelling had an effect on personal hygiene knowledge among elementary school children in Aceh Besar in 2025, the results of statistical tests with the Wilcoxon test obtained a mean rank has a positive impact, where 64 respondents have increased knowledge with a p value of  $0.000 < 0.05$ .

**Table 3 Effectiveness of Storytelling on Knowledge of Personal Hygiene Among Elementary School Children**

	Z	P value
Pretest and Posttest	-6.965	0.000

Based on the research results in **table 3**, there is an increase in personal hygiene knowledge in elementary school children after storytelling, this shows that there is an effectiveness of storytelling on personal hygiene knowledge in elementary school children in Aceh Besar.

The results of this study are in line with the results of research by Nurul Fadilah (2025) the results of this study indicate that the storytelling method is more effective than the lecture method in improving the oral health of students at SDN 101921 Beringin. The increase in knowledge, behavior, and dental health of students was more significant in the group that received counseling through storytelling (Fadhilah, 2025). Storytelling is able to bridge health information in a fun way, thus, students become easier to understand and remember the information conveyed (Hursting & Comello, 2021). Health counseling methods such as storytelling have several advantages, including the use of simple language, reflecting daily habits, and presenting information both orally and in writing (Untari et al., 2023). Storytelling creates meaningful and memorable learning experiences that are key to long-term learning. Through stories, information is conveyed in an emotional and narrative context, making it easier for students to remember and internalize, where storytelling is proven to be an effective method in developing cognitive, affective, and conative aspects in children (Christin et al., 2021).

Based on research that has been done before (pre-test) counseling using storytelling there are 38 children (59.4%) who have less knowledge in personal hygiene then as many as 25 people (39.1%) children with sufficient knowledge and as many as 1 person (1.6%) with good knowledge. This shows that there are still many elementary school children who do not understand about personal hygiene.

Children's knowledge about personal hygiene such as brushing teeth, washing hands, bathing and other body cleaning will affect their daily skills. There are several factors that can cause a child's lack of knowledge, including limited information, low awareness of the importance of personal hygiene such as bathing, oral hygiene, hand washing, and ear cleaning, resulting in a low desire to find out. The increase in students' personal hygiene knowledge was more improved after receiving the intervention through storytelling. This method makes the information easier to remember and apply due to its interactive and engaging approach, which makes students more enthusiastic.

Storytelling has an important role in improving personal hygiene knowledge in elementary school-aged children because this approach is able to deliver health messages in an interesting,

emotional, and easy-to-understand manner. Through stories packed with characters and plots that are relevant to children's daily lives, they can more easily identify positive and negative behaviors related to personal hygiene, such as washing hands, brushing teeth, or bathing regularly. When children are emotionally involved in the story, they tend to be more motivated to emulate the healthy behaviors exhibited by the characters in the story. In addition, strong narratives help children remember information longer than conventional information delivery, making storytelling an effective educational method in shaping personal hygiene knowledge and habits from an early age.

After the intervention or post-test, it was obtained that there were 61 children (95.3%) who had sufficient knowledge in personal hygiene and as many as 3 people (4.7%), indicating that there was an increase in the knowledge of elementary school children after being given storytelling counseling on personal hygiene.

## Conclusion

This study confirms that storytelling effectively enhances personal hygiene knowledge among elementary school children in *Aceh Besar*, as evidenced by the significant improvement in post-test scores. The engaging nature of storytelling makes it an ideal method for delivering health education to young learners. To build on these findings, several recommendations are proposed. Schools should incorporate storytelling modules into their health curricula and provide teacher training on effective storytelling techniques. Health authorities should develop storytelling-based hygiene campaigns tailored to local needs, while parents can reinforce these messages at home through discussion and practice. Future research should explore the long-term behavioral impacts of storytelling interventions and examine peer-led storytelling approaches. By implementing these strategies, storytelling can become a powerful, sustainable tool for improving children's hygiene practices and overall health outcomes. Its cost-effectiveness and adaptability make it particularly valuable for widespread use in educational and public health initiatives.

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