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Use of Media Castle Pop-Up to Change Knowledge About Dental & Oral Hygiene

Diasta Ayomi^{1*}, Sunomo Hadi², Agus Marjianto³

Department of Dental Health, Poltekkes Kemenkes Surabaya, Indonesia

**Corresponding author: diastayomi@gmail.com*

ABSTRACT

Background: Poor oral hygiene can be one of the causes of problems that affect oral health that need to be considered in school-age children, especially elementary school children. This can happen because children are not yet accustomed to maintaining oral hygiene from an early age. **Problem** the researcher discovered a lack of knowledge about oral hygiene among school-age children. **Purpose** of this study was to assess whether there was a change in knowledge among grade 4 students at SDN Sidosermo 1 in Wonocolo District, Surabaya City. **Type of research** used was Quasi Experiment with a One-Group Pretest-Posttest design. **Method** used by the researcher to collect data was a questionnaire sheet given before and after counseling with Castle Pop-up media. **Result** the data analysis using the Wilcoxon test produced a significance value of 0.000, which is less than α 0.05. **Conclusion:** there is a change in knowledge about oral hygiene before and after counseling with castle pop-up media in grade 4 students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024.

Keywords: Knowledge, Hygiene, Castle pop-up

INTRODUCTION

Issues concerning dental and oral hygiene are crucial, particularly for enhancing overall health quality. Dental and oral health problems are often attributed to the susceptibility of both the elderly and school-age children (Yuniarly et al., 2019). According to Riskasdas 2018, looking at the number of hard tissue damage such as dental caries in Indonesia shows that the DMF-T Index is 4.6 while the WHO standard is 3.5. Also looking at the OHI-S Index figures for children in Indonesia, the average is 1.46 while the national target for the OHI-S index is ≤ 1.2 , so it can be concluded that this figure is still too high (Purnomowati & Prasetiowati, 2023).

According to Greene and Vermillion, the OHI-S assessment criteria are 0.0-1.2 good categories, 1.3-3.0 moderate categories and 3.1-6.0 bad (Anwar et al., 2019). The initial survey conducted on Tuesday, October 17, 2023 on 10 students at SDN Sidosermo 1, Surabaya Regency,

obtained the results of the examination with OHI-S in the good category for 1 student (10%), moderate for 3 students (30%), and bad for 6 children (60%) and the average OHI-S was 3.33. And also Based on the results of initial data on dental and oral hygiene in grade 4 students of SDN Sidosermo 1, Wonocolo District, Surabaya City, it was found that out of 10 people, 7 people had scores in the less than ideal category and 3 people had scores in the sufficient category.

Brushing teeth is an important factor in removing soft deposits attached to the surface of the teeth consisting of bacteria (plaque), Plaque itself is one of the causes of dental and oral health problems. This is continuous between the presence of plaque and the high OHI-S index (Widodorini et al., 2023). According to (Septianti & Afiani, 2020) School-age children are categorized into two groups: lower school age, encompassing grades 1, 2, and 3, and upper school age, which includes grades 4, 5, and 6. At the upper school age level,

children generally develop an interest in practical life, exhibit strong curiosity, and often form peer groups for play.

School-age children generally tend to play, so the appropriate media to implement is using the game method so that it can attract children's interest and can be a medium that is active and not monotonous. The media is also adjusted to the learning needs of school-age children, to support the motor development of school-age children, the media offered must be fun and easy to understand (Angelina et al., 2022).

RESEARCH METHOD

This study has received approval from the Health Research Ethics Commission of the Surabaya Health Polytechnic No. EA/2761/KEPK-Poltekkes_Sby/V/2024. The study used a Quasi Experiment with a One-Group Pretest-Posttest design. The method used by researchers to collect data was a questionnaire sheet given before and after counseling with Castle Pop-up media. The target of this study was 55 students in grade 4 at SDN Sidosermo 1, Wonocolo District, Surabaya City. The sampling technique was carried out using the total random sampling technique. In this study, the instrument used was a questionnaire to determine changes in students' knowledge about dental and oral hygiene. Analyzing changes in knowledge about dental and oral hygiene in grade 4 students at SDN Sidosermo 1, Wonocolo District, Surabaya City using the Statistical Package For The Social Science (SPSS) using the Wilcoxon test with a significance level (α) = 0.05.

RESULT AND DISCUSSION

Characteristics of Grade 4 Students of Sidosermo 1 Elementary School, Wonocolo District, Surabaya City

Research-based data collection on Use Of Media Castle Pop-Up to Change Knowledge About Dental & Oral Hygiene, obtained the following results

Table 1. Gender Characteristics of Respondents

Gender	f	%
Male	29	53
Female	26	47

Source: Primary data

From the table 1, it can be seen that out of 55 respondents, the majority of respondents were male, namely 29 students (53%) and female, namely 26 students (47%).

Table 2. Age Characteristics of Respondents

Age	f	%
9	2	4
10	44	80
11	9	16

Source: Primary data

Table 2 shows it can be seen that there were 2 students aged 9 years (4%), 44 students aged 10 years (80%), and 9 students aged 11 years (16%).

Knowledge about dental & oral hygiene time before and after counseling using Castle Pop-up Media

Table 3. Recapitulation of Pre-test Results of Knowledge About Dental and Oral Hygiene Before Counseling with Castle Pop-Up Media for Grade 4 Students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024.

Category	f	%
Good	11	20
Enough	19	34,55
Less	25	45,45

From table 3, it shows that knowledge about dental and oral hygiene pre-test in Grade 4 Elementary School Students of SDN Sidosermo 1, Wonocolo District, Surabaya City is still in the lacking category with a percentage of

45.45%. This can be a significant issue for children regarding dental and oral health at a young age, as this is when they start developing habits that often continue into adulthood, including the habit of maintaining oral hygiene (Yuniarly et al., 2019).

Children should be educated about dental health from an early age to help them understand how to effectively maintain oral hygiene (Manbait et al., 2019). In line with research by (Kantoh et al., 2019) damaged and untreated teeth and gums in children can lead to pain, chewing difficulties, and negatively impact their overall health. Also (Adam et al., 2022) that maintaining dental and oral hygiene is one way to improve health, because it can prevent various diseases in the oral cavity. And relevant to (Salim et al., 2020) that the highest prevalence of cavities was found in school-age children, which was caused by their habit of consuming sweet foods without knowledge about maintaining good oral hygiene.

Table 4. Recapitulation of Pre-test Results of Knowledge About Dental and Oral Hygiene After Counseling with Castle Pop-Up Media for Grade 4 Students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024

Category	f	%
Good	50	90,91
Enough	5	9,09
Less	0	0

Based on table 4, shows that knowledge about dental and oral hygiene post-test in Grade 4 Students of SDN Sidosermo 1, Wonocolo District, Surabaya City falls into the good category with a percentage of 90.91%. In a study conducted by (Jumriani et al., 2022), It was expressed that a successful approach to enhancing children's understanding of dental and oral hygiene is through implementing outreach programs focused

on educating them about health practices. These initiatives can boost children's knowledge, making them more aware of the importance of maintaining oral hygiene.

This study also aligns with research conducted by (Salamah et al., 2020) brushing teeth at least twice a day is very important to reduce the risk of erosion in teeth that have undergone demineralization, with the ideal time after breakfast and before going to bed to maintain dental hygiene. During sleep, saliva production decreases, which can reduce the buffer effect. Brushing teeth for less than 2 minutes is considered less effective in removing plaque, therefore it is recommended to brush teeth for at least 2 minutes.

This study is in accordance with the study conducted by (Abral et al., 2020) on the success of health education is highly dependent on the media used by the extension workers to encourage participation from the target. Media plays an important position in the field of health education, because it facilitates clear communication of health messages, ensuring that the intended audience can understand the information presented properly.

Table 5. Wilcoxon Test Results of Knowledge About Dental and Oral Hygiene Before and After Counseling with Castle Pop-Up Media for Grade 4 Students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024

Category	Category			p value
	Good	Enough	Less	
Pre-test	11	19	25	0,000
Post-test	50	5	0	

From on table 5, The data analysis results using the Wilcoxon test yielded a significance value of 0.000, which is less than α 0.05. This indicates a significant difference in knowledge about dental and

oral hygiene before and after counseling using castle pop-up media. This is due to changes in knowledge, where knowledge comes from information obtained through observation of certain objects with the five senses. This visual representation is facilitated by engaging the five human senses: sight, hearing, smell, taste, and perception. Understanding, as a key element of the cognitive domain, is essential in influencing a person's behavior.

In the context of teaching and learning itself, media functions as an intermediary for information from instructors to students to achieve effective learning. Media is often considered as a sophisticated graphic, photographic, or electronic instrument used to capture, process, and restructure visual and verbal information, allowing its use to communicate knowledge in the educational process (Hasan et al., 2021).

This refers to the S-O-R theory which consists of three main elements, namely stimulus, organism, and response. In the context of this study, the stimulus or stimulation is represented by the pop-up castle media (stimulus), which aims to trigger a specific response from grade 4 students (organism) through interesting message delivery techniques. This research is in accordance with research by (Husna & Prasko, 2019) that the achievement of positive dental health education outcomes among school-age children is significantly shaped by the pedagogical approach used and the important contribution of media involvement. Media enhances the educational experience by simplifying the understanding of concepts for students. Utilizing various media makes the message conveyed more interesting and easy to understand.

CONCLUSION AND RECOMMENDATION

Based on the study results on the dental and oral hygiene maintenance of grade 4 elementary school students after

using the Castle Pop-up media at SDN Sidosermo 1 in Wonocolo District, Surabaya City, it can be concluded that:

1. Understanding of dental and oral hygiene before counseling using Castle Pop-up media in grade 4 students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024 is still in the less category.
2. Understanding of dental and oral hygiene after counseling using Castle Pop-up media in grade 4 students of SDN Sidosermo 1, Wonocolo District, Surabaya City in 2024 is in the good category.
3. Evaluation of awareness of dental and oral hygiene among grade 4 students of SDN Sidosermo 1 in Wonocolo Regency, Surabaya City, in 2024 has shown real changes following the integration of Castle Pop-up media.

Based on the research results and conclusions above, the following suggestions can be given:

1. Parents
To always supervise and care about maintaining students' dental and oral hygiene.
2. Health Workers
Can provide information or knowledge about maintaining dental and oral hygiene not only to students but also to teachers in the students' environment.
3. For the school of SDN Sidosermo 1
It is recommended to continue to supervise students in the school environment and cooperate with health workers to provide counseling to teachers and students about maintaining dental and oral hygiene.

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