



# ROMPI Si Gigi game media as an effort to improve knowledge and tooth brushing skills of preschool children

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## ABSTRACT

**Background:** In general, learning while playing is popular among children, especially kindergarten students, besides being interesting, children do not get bored easily. To improve knowledge and motivation to learn, one of them is by playing the ROMPI Si Gigi media game. The material in this media is shaped like a spinning wheel and is equipped with pictures of the steps for brushing teeth. **Objective:** To analyze knowledge and skills before and after being given education on how to brush teeth through the ROMPI Si Gigi game media in preschool children. **Method:** This research employs a quasi-experimental method with a one-group pretest-posttest design. It was conducted at TK Bakti Mulya 400 South Jakarta, using a purposive sampling technique of 36 respondents. The independent variable is the ROMPI Si Gigi game media and the dependent variable is the knowledge and skills of brushing teeth. The instruments are in the form of questionnaire sheets (pretest and posttest), checklist sheets for brushing teeth skills. **Results:** This study shows that the results of respondents' knowledge before the ROMPI Si Gigi media game education were mostly in the sufficient criteria of 18 students (50.0%) and after being given education, most were in the good criteria of 21 students (58.4%). Respondents' skills before the ROMPI Si Gigi media game education were mostly in the sufficient criteria of 14 students (38.9%) and after education, most were in the very good criteria of 36 students (100%). **Conclusion:** There was an increase in knowledge and skills in brushing teeth after being given ROMPI Si Gigi media game education.

## INTRODUCTION

World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity (Eliana & Sumiati, 2016). Health is a valuable thing, when health is disturbed it can interfere with all activities and activities carried out. Maintaining personal and environmental cleanliness and eating nutritious food and getting enough exercise are some of the ways to maintain health (Kurniastuti, 2015).

Dental and oral health is very important for the health of the body (Purnama et al., 2022). Bacteria and germs can enter through the teeth and mouth, which are the gateways to the entire body, and can then cause problems in other organs (Nurilawaty et al., 2023). Teeth and mouth can be said to be clean if they are free from dirt and plaque, tartar and bad breath (Suparyanto & Rosad, 2020). In addition to a lack of knowledge about how to maintain dental and oral health, attitudes and behavior can also contribute to dental and oral diseases, one of which is being lazy about brushing your teeth, the wrong time and method of brushing your teeth, and the habit of eating and drinking sweet things (Simaremare & Wulandari, 2021).

Basic Health Research in 2018 showed that the prevalence of dental and oral problems in Indonesia in the population aged  $\geq 3$  years was 57.6%. The percentage based on DKI Jakarta Province with dental and oral problems was 59.1%, but only 16.4% received treatment from medical personnel (Riskesdas, 2018). The prevalence of daily tooth brushing behavior in Indonesia among the population aged  $\geq 3$  years is 94.7% and the correct tooth brushing behavior is 2.8%. The percentage of people who brush their teeth every day in DKI Jakarta Province is 97.5%, but only 2.7% brush their teeth at the right time (Riskesdas, 2018). When viewed from the age group of 3-4 years, the percentage of daily brushing is 86.7%, but only 1.1% brush their teeth at the right time. As for the age group of 5-9 years, the percentage of daily brushing is 93.2%, but only 1.4% brush their teeth at the right time (Riskesdas, 2018).

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The most effective way to prevent dental problems is by brushing your teeth (Purnama et al., 2020). Children should be taught and motivated to be independent in taking care of their teeth. Children who brush their teeth frequently and are accustomed to maintaining oral hygiene from an early age usually maintain this habit throughout their lives (Razi & Rosmawati, 2018).

Health education is needed to improve skills, awareness, attitudes, and actions (Purnama et al., 2019). Dental health education is a planned and directed effort to create an atmosphere so that a person or group of people want to change old behaviors that are less beneficial in the field of dental health to be more beneficial to improve their standard of living. The educational method used affects learning success. Educational methods using educational aids that involve as many senses as possible will affect the success of understanding educational goals (Razi & Rosmawati, 2018). Usually, when explaining material to young children, they are more interested in interesting, innovative and creative methods so that students do not get bored easily and can understand the extension material being delivered.

Media that can be used to provide interesting health education can use rotating wheel media. The rotating wheel is a wheel with a sufficient diameter that is divided into several colored spaces, each of which represents the material to be conveyed (Handayani et al., 2023). The rotating wheel prop used as a learning aid is considered appropriate for use by school children because it can convey material effectively and can stimulate students' interest in learning (Maisaroh & Surya, 2022).

Based on the results of an interview with one of the teachers, Bakti Mulya Kindergarten 400 South Jakarta has a toothbrushing program, but there has never been an evaluation of whether students brush their teeth correctly or not. So, the researcher wants to know about the extent to which students understand and are skilled in brushing their teeth.

## METHOD

This research is a quasi-experimental method with a one-group pretest-posttest design. It was conducted at TK Bakti Mulya 400 South Jakarta. The implementation of this research was carried out on May 20-29, 2024. The sampling technique used a purposive sampling technique of 36 respondents. The independent variable is the ROMPI Si Gigi game media and the dependent variable is the knowledge and skills of brushing teeth. The instruments used in this study were questionnaire sheets (pretest and posttest) to obtain knowledge data on how to brush teeth properly, checklist sheets to obtain skills data on how to brush teeth, and ROMPI Si Gigi game media containing material on how to brush teeth. The stages of implementing the research with the following stages:

1. On the first day, the researcher provided a pretest sheet and explained how to fill out the pretest sheet, and helped read 10 pretest questions on how to brush teeth properly, because there were some students who could not read. The second stage, students were directed to brush their teeth in turns as a pretest assessment of their brushing skills. The third stage, students are invited to play ROMPI Si Gigi which contains material on how to brush their teeth properly and correctly in groups, one group consists of 6 students, and each group gets 1 ROMPI Si Gigi media.
2. On the second day, the researcher provides a posttest sheet and helps read 10 posttest questions on how to brush their teeth properly and correctly, then students are directed to brush their teeth in turns until the fifth day as a monitoring of their brushing skills.
3. On the sixth day, students are directed to brush their teeth in turns as a posttest assessment of their brushing skills.

## RESULT

**Table 1.** Knowledge Before and after ROMPI Si Gigi media game education

Knowledge	Before		After	
	F	%	F	%
Good	5	13.9	21	58.4
Sufficient	18	50.0	12	33.3
Less	13	36.1	3	8.3
Total	36	100	36	100

Table 1 shows that of the 36 respondents who were studied before being given the ROMPI Si Gigi media game education, the results obtained were 5 students (13.9%) had knowledge with good criteria, 18 students (50.0%) had sufficient knowledge criteria, and 13 students (36.1%) had knowledge with poor criteria. Meanwhile, knowledge after the ROMPI Si Gigi game education, the results obtained were 21 students (58.4%) had knowledge with good criteria, 12 students (33.3%) had sufficient knowledge criteria, and 3 students (8.3%) had knowledge with poor criteria.

**Table 2.** Frequency Distribution of Tooth Brushing Skills Before and after ROMPI Si Gigi media game education

Knowledge	Percentage (%)					
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Very Good	25	22.2	58.3	91.7	97.2	100
Good	33.3	44.4	33.3	8.3	2.8	0
Sufficient	38.9	2.8	25	8.3	0	0
Need guidance	8.3	0	0	0	0	0
Total	100	100	100	100	100	100

Based on table 2, it shows that out of 36 respondents, the results of the tooth brushing skills on the first day before the ROMPI Si Gigi media game education were 25% with very good criteria, 33.3% with good criteria, 38.9% with sufficient criteria, and 2.8% with skills with the criteria of needing guidance. Meanwhile, the tooth brushing skills on the sixth day after the game education with the ROMPI Si Gigi media, the results were 100% with very good criteria, 0% with good criteria, 0% with sufficient criteria, and 0% with skills with the criteria of needing guidance.

## DISCUSSION

The results of the study showed that from a sample of 36 students, the results of the level of student knowledge before the ROMPI Si Gigi media game education with the highest percentage was knowledge with sufficient criteria of 18 students (50.0%) and the lowest percentage was knowledge with good criteria of 5 students (13.9%). Meanwhile, the results of the level of student knowledge after the ROMPI Si Gigi media game education showed significant changes with the highest percentage being knowledge with good criteria of 21 students (58.4%) and the lowest percentage being knowledge with less criteria of 3 students (8.3%). The results of this study are in line with research (Ilham, 2020), shows that the level of knowledge of children before counseling with the rotating wheel media with the highest percentage is the level of knowledge with moderate criteria of 74.2% and the lowest percentage is the level of knowledge with good criteria of 3.2%. The theory that supports this research is that the rotating wheel media is effective in increasing children's knowledge because it is designed as attractively as possible by containing images that can attract respondents' interest, and in this study, respondents were directly involved in playing the rotating wheel media. Counseling with rotating wheel media received a good response and the children were quite conducive, this was because previously they had never been given counseling using game media about brushing their teeth (Ilham, 2020).

Counseling using rotating wheel media can develop children's thinking power, increase motivation, help children remember and accelerate children's understanding (Salsabila et al., 2020). Counseling using rotating wheel media received a good response and the children were quite conducive, this was because previously they had never been given counseling using game media about brushing their teeth.

The results of the study showed that from a sample of 36 students, the level of tooth brushing skills before the ROMPI Si Gigi media game education on the first day, the highest percentage was obtained for skills with sufficient criteria of 14 students (38.9%) and the lowest percentage was for skills with the criteria of needing guidance of 1 student (2.8%). This shows that there is still a lack of knowledge in improving the skills of how to brush teeth properly. While the level of tooth brushing skills after the ROMPI Si Gigi media game education on the sixth day, the highest percentage was obtained for skills with very good criteria of 36 students (100%). There was a significant increase in students' tooth brushing skills from the first day to the sixth day with the achievement of very good criteria on the sixth day and no criteria of needing guidance on the third day after the ROMPI Si Gigi media game education.

This shows the effectiveness of the ROMPI Si Gigi media and is in line with research conducted by (Nurzamilah et al., 2020), The results obtained from this study were the influence of health education on

tooth brushing skills, where there was a significant influence of providing education using the simulation method. According to (Ulya, 2019), learning and interaction of guidance to children does not always have to come from direct experience. Instead, it can start with the type of experience that suits the desires and abilities of the group of children, while considering their learning conditions. Direct experience provides information and insight through the five senses such as sight, hearing, feeling, smell, and touch. Innovation in game-based learning media can be a solution to increase the enthusiasm for learning in elementary school students that can be applied in everyday life.

## CONCLUSION

The results of the research conducted by researchers, it can be concluded that the educational game media ROMPI Si Gigi is effective in improving children's knowledge and skills in brushing their teeth. Improving knowledge and skills in brushing teeth can improve the degree of dental and oral health because brushing skills are one of the preventive measures to prevent dental and oral diseases.

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