

# The Effect of Snake and Ladder Playing Method Counseling on Knowledge and Teeth Brushing Skills in SDN 7 Baranti Students

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## Abstract:-

### ➤ *Background:*

According to the Ministry of Health, (2018) Only 2.8% of the Indonesian population has behaved properly in brushing their teeth at least 2 times a day. The population in Indonesia experiences dental and oral problems 57.6%. The initial data obtained from each of the 10 students of grade IV and class V who were examined were 16 students with debris and 5 students with calculus. So the researcher wants to improve the degree of dental and oral hygiene in students through counseling on brushing teeth using snake and ladder media which is done by learning while playing so that the material is easy to understand and not easily saturated.

### ➤ *Research Objectives:*

The purpose of this study is to determine the influence of counseling on the snake and ladder playing method on knowledge and skills of brushing teeth.

### ➤ *Methods:*

The type of research used is quantitative with a one-group pretest-posttest research design. The sampling technique is total sampling with a sample of 43 students.

### ➤ *Results:*

The results of Wilcoxon's differential test on the treatment before and after counseling with the media of playing snakes and ladders, student knowledge with a p-value of 0.00 ( $p < 0.05$ ), student skills with a p-value of 0.00 ( $p < 0.05$ ) which showed that the hypothesis in this study was acceptable.

### ➤ *Conclusion:*

There is an effect of counseling on the method of playing snakes and ladders on the knowledge and skills of brushing teeth in grade IV and V students of SDN 7 Baranti, Sidenreng Rappang Regency in 2024.

**Keywords:-** Snake Ladder, Knowledge, Skills.

## I. INTRODUCTION

In its 2019 report, the World Health Organization (WHO) emphasized the significant impact of dental and oral health on overall health. This includes the prevention of serious conditions such as throat cancer, infections, tooth loss, decay, and periodontal disease, all of which can inhibit important functions such as chewing, speaking, and smiling (Maharani et al., 2022). The World Health Organization (WHO) emphasizes the importance of oral hygiene as a routine practice of caring for teeth and gums through brushing and cleaning teeth regularly to prevent dental problems (Antika, 2018).

As per the findings of the Ministry of Health in 2018, taking care of teeth and mouth begins with simple daily habits such as proper brushing, a balanced diet, and awareness of the importance of oral health. It is sad to see that only a small percentage of Indonesians brush their teeth twice a day. Dental and oral health statistics in Indonesia provide a worrying picture, with the majority of the population facing problems and only a few seeking professional treatment (Yulistina et al., 2023).

To maintain dental and oral health at the highest level, it is important to consistently perform correct maintenance practices. This includes brushing your teeth gently and effectively to remove plaque and leftover food particles without causing damage to your teeth and gums. It also involves regular visits to the dentist for dental and oral cleanings, cavities fillings, and extractions when needed. It is important to prioritize these precautions by scheduling check-ups every six months, regardless of any concerns or symptoms that may exist at this time (Agung et al., 2022).

Knowledge can be beneficial for school-age children, as they have a natural curiosity and a tendency to explore new experiences. At this stage, their cognitive abilities are progressing towards the concrete operational stage so that they can think more logically. Providing health education to children at this age can further improve their cognitive development (Bintari & Prasetyowati, 2022).

Based on the findings of research conducted at SDN Gunung Sari I, Makassar City, it can be concluded that the snake and ladder simulation game has the potential to improve the understanding of dental and oral health in elementary school children. By turning traditional games into a tool that combines images and questions related to dental health, these games serve as an interesting educational resource for students, especially elementary schools, making the topic more interesting and fostering their curiosity and enthusiasm (Sitanaya et al., 2021).

The maintenance of dental and oral health is influenced by various factors, one of the crucial aspects is proficiency in brushing techniques. It is important to know that children often have difficulty cleaning their teeth effectively due to the challenges posed by sticky foods and residues that are difficult to reach with a toothbrush (Martin & Sirat, 2018).

From the initial data obtained directly from the research location at SDN 7 Baranti, class IV which totaled 27 students and class V with a total of 17 students, preliminary data was taken by examining each of 10 students from grades IV and V related to their dental hygiene and health. From the results of the grade IV examination, there were 9 students with debris and 3 students with calculus on their teeth. The number of caries is 32. While in class V there were 7 students with debris and 2 students had calculus on their teeth. The number of caries is 24.

Based on the information presented, the researcher wants to offer a unique approach in educating students at SDN 7 Baranti about the correct brushing technique through the use of the snake and ladder method. The main goal is to improve overall dental and oral hygiene among students,

with the hope of improving better dental health outcomes in the long run.

## II. METHODS

The type of research used is quantitative with a one-group pretest posttest research design. This research was carried out at SDN 7 Baranti, Sidenreng Rappang Regency, for one month, from February 13, 2024 to March 13, 2024. The population in this study is 43 students in grades IV and V of SDN 7 Baranti, Sidenreng Rappang Regency. The sampling technique is total sampling with a sample of 43 students. The data collection technique in this study is to use primary data, namely in the form of test results and pre-test and post test checklists, as well as secondary data, namely data that has previously been available and reported by a person or body other than the researcher himself to be used in supporting the research such as name, gender, and age.

The data analysis used in this study is univariate analysis and bivariate analysis. Univariate analysis involves analyzing a frequency distribution table for each variable that is considered relevant to the research objectives. Bivariate analysis was carried out by normality test used to analyze variables, but because the distribution of data was abnormal, a non-parametric Wilcoxon test was carried out with the help of SPSS computer. The presentation of data is collected in a detailed distribution table of frequencies, percentages, and explanations to provide structured and easily digestible information, aiding in efficient data analysis and simplifying the decision-making process and drawing conclusions. As for this study, snakes and ladders were used as a means of teaching about how to brush teeth properly and correctly, questionnaires to collect information from respondents in the form of written questions, and checklist sheets used to check the observed phenomena.

## III. RESULT

Table 1 Distribution of Respondent Characteristics by Age

Age	Frequency	Percentage
9 th	14	32,6
10 th	23	53,5
11 th	6	14
<b>Total</b>	<b>43</b>	<b>100</b>

Based on table 1, it shows that the characteristics of the respondents based on the age of grade IV and V children out of a total of 43 respondents. For students aged 9 years there were 14 students (32%), those who were 10 years old were 23 students (53.5%), and those who were 11 years old were 6 students (14.0%).

Table 2 Distribution of Respondent Characteristics by Gender

Gender	Frequency	Percentage
Male	21	48.8
Female	22	51.2
<b>Total</b>	<b>43</b>	<b>100</b>

Based on table 2, it shows that the characteristics of the respondents based on the gender of grade IV and V children out of a total of 43 respondents. For male students, there were 21 students (48.8%), and female students amounted to 22 students (51.2%).

Table 3 Distribution of Respondents Based on Knowledge of Brushing Teeth Before and After Counseling with the Method of Playing Snakes and Ladders

Knowledge	Pre-test		Post-Test	
	Amount	Percentage	Amount	Percentage
Good	6	14	41	95,3
Medium	17	39,5	2	4,7
Simply	20	46,5	0	0
<b>Total</b>	<b>43</b>	<b>100</b>	<b>43</b>	<b>100</b>

Based on table 3, it shows that the knowledge of the respondents before being given counseling on the method of playing snakes and ladders, most of them are included in the category of quite as many as 20 students (46.5%). However, after being given counseling with the snake and ladder playing method, the respondents experienced a significant change in knowledge, namely in the good category as many as 41 students (95.3%).

Table 4 Distribution of Respondents Based on Teeth Brushing Skills Before and After Counseling with the Method of Playing Snakes and Ladders

Knowledge	Pre-test		Post-Test	
	Amount	Percentage	Amount	Percentage
Good	3	7	43	100
Medium	19	44,2	0	0
Simply	21	48,8	0	0
<b>Total</b>	<b>43</b>	<b>100</b>	<b>43</b>	<b>100</b>

Based on table 4, it shows that the skills of the respondents before being given counseling with the snake and ladder playing method, most of them are in the category of sufficient as many as 21 students (48.8%). However, after being given counseling with the snake and ladder playing method, the respondents experienced an increase in skills, namely in the good category as many as 43 students (100%).

Table 5 Wilxoson Test Results of Respondent Knowledge and Skills

Brushing teeth		Mean	Sig.
Knowledge	Pre-test	5,98	0.00
	Post-test	9,70	
Skills	Pre-test	5.53	0.00
	Post-test	9.81	

The results of Table 5 can be seen that there is a difference in knowledge before and after counseling with the media of playing snakes and ladders. The results of the differential test using Wilcoxon obtained a p-value of 0.00 ( $p < 0.05$ ) which means that there was a difference in the knowledge of the respondents before and after counseling with the snake and ladder media, so it can be concluded that counseling with the snake and ladder media has a significant influence on the improvement of knowledge in the

#### IV. DISCUSSION

##### ➤ Knowledge of Brushing Teeth before Counseling on Methods of Playing Snakes and Ladders

Based on the results of the research conducted on students in grades IV and V of SDN 7 Baranti by providing a questionnaire sheet to measure knowledge of brushing teeth before counseling (pre-test) with the method of playing snakes and ladders, the most in the category of sufficient were 20 students (46.6%). This problem arises from students' limited understanding of correct oral care habits. Many students only brush their teeth in the morning and evening, and there are mistakes in the use of toothpaste, such as excessive use of toothpaste. In addition, there are mistakes in choosing toothbrushes, because students often

respondents. From table 6, it is also known that there are differences in skills before and after counseling with snake and ladder media. The results of the differential test using Wilcoxon obtained a p-value of 0.00 ( $p < 0.05$ ) which means that there was a difference in the skills of the respondents before and after being given counseling with the snake and ladder media, so it can be concluded that the skills with the snake and ladder media have a significant influence on the improvement of skills in the respondents.

choose toothbrushes with hard bristles that have the potential to harm their teeth and gums. In line with research (Kurniawan et al., 2024) which states that the lack of understanding around the correct brushing technique, including the correct use of toothbrushes, brushing time, toothpaste selection, and preference for soft-bristled toothbrushes, contributes to the poor categorization of knowledge in this field.

Another factor that affects the lack of knowledge is that students have not been maximized in acquiring knowledge about brushing their teeth. In line with research (Larasati et al, 2023) It is important to consider various factors that contribute to the lack of knowledge about proper brushing, such as limited access to information and the absence of consistent education on the topic. Therefore, it is

important to prioritize the education of elementary school children about the importance of proper oral hygiene practices.

➤ *Knowledge of Brushing Teeth after Counseling on how to Play Snakes and Ladders*

Based on the results of the research conducted on grade IV and V students of SDN 7 Baranti by filling out a questionnaire to measure knowledge of brushing teeth after counseling (post test) with the snake and ladder playing method, the most in the good category were 41 students (95.3%) which showed that there was an increase in knowledge of brushing teeth after counseling on snake and ladder media. The increase in knowledge occurred due to the influence of the media used, namely snake and ladder games that increased students' enthusiasm for learning about brushing their teeth. Learning while playing can make a positive contribution in refreshing the learning atmosphere, so that the passive atmosphere becomes active, building a saturated atmosphere to be carefree and full of enthusiasm. It is evidenced by the enthusiasm of students in studying every material in each snake and ladder box so that they can reach the finish line quickly. This is in line with research (Sabila et al., 2021) The use of snake and ladder games in health education can effectively increase student understanding and engagement. By incorporating elements of competition and skills, this game not only has the potential to attract students' interest but also increases learning motivation.

In addition, the test results obtained that counseling with snake and ladder media had a significant influence on increasing knowledge in respondents. In line with research (Dini et al., 2021) The use of snake and ladder games in counseling has a significant impact on increasing individual understanding of dental and oral health.

➤ *Teeth Brushing Skills before Counseling on Snake and Ladder Playing Methods*

Based on the results of research conducted on students in grades IV and V of SDN 7 Baranti by filling out a checklist to measure teeth brushing skills before counseling (pre-test) with the method of playing snakes and ladders with the most in the category of sufficient as many as 21 students (48.8%), this occurred because of the wrong way and steps to brush the teeth on the right tooth surface, the tooth surface on the left, the tooth surface on the front, and the tooth surface on the inside. Based on this data, the reason students make mistakes is because they do not know the right and correct ways and steps to brush their teeth. In line with the research (Nurzamilah et al., 2020), the reason respondents did not apply the brushing skills was because the respondents did not know about how to brush their teeth in accordance with efforts to maintain dental and oral health.

➤ *Teeth Brushing Skills after Counseling on Methods of Playing Snakes and Ladders*

Based on the results of research conducted on grade IV and V students of SDN 7 Baranti by filling out a checklist to measure teeth brushing skills after counseling (post test) with the snake and ladder playing method, it shows that all

students are in the good category, this happens because students have experienced an increase in knowledge so that it affects the level of teeth brushing skills. Students pay attention and follow the counseling enthusiastically so that they can understand the ways and steps of brushing their teeth so that they practice it correctly. In line with research (Sariyem et al., 2023) Children's understanding of the importance of brushing their teeth will greatly affect their ability to maintain oral hygiene effectively.

## V. CONCLUSION

Knowledge of brushing teeth before counseling on snake and ladder playing methods for students in grades IV and V of SDN 7 Baranti, Sidenreng Rappang Regency showed that most of them were in the category of enough as many as 20 respondents. After counseling, most of them were in the good category as many as 41 respondents. Meanwhile, the skill of brushing teeth before the counseling on the method of playing snakes and ladders in grades IV and V of SDN 7 Baranti, Sidenreng Rappang Regency showed that most of them were in sufficient categories as many as 21 respondents. After counseling, all respondents with good categories were 43 respondents. This shows that there is an influence of counseling on the snake and ladder playing method on the knowledge and skills of brushing teeth in grade IV and V students of SDN 7 Baranti, Sidenreng Rappang Regency in 2024.

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