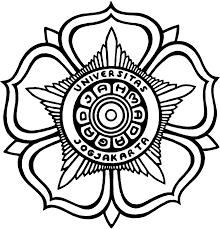
**RESEARCH ARTICLES**

**COMPARISON OF EFFECTS BETWEEN ROLE PLAYING METHOD AND STORYTELLING METHOD IN EDUCATION ON KNOWLEDGE AND ATTITUDES ABOUT DENTAL HYGIENE**

**OF ELEMENTARY SCHOOL STUDENTS**

Proposed to fulfill part of the Master degree requirement

on Preventive Dentistry and Promotion of Dental Health Study

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**Submitted by:**

**NENNY WURI PRABAWATI**

**17/418434/PKG/01130**

**STUDY PROGRAM OF MASTER OF DENTAL SCIENCE**

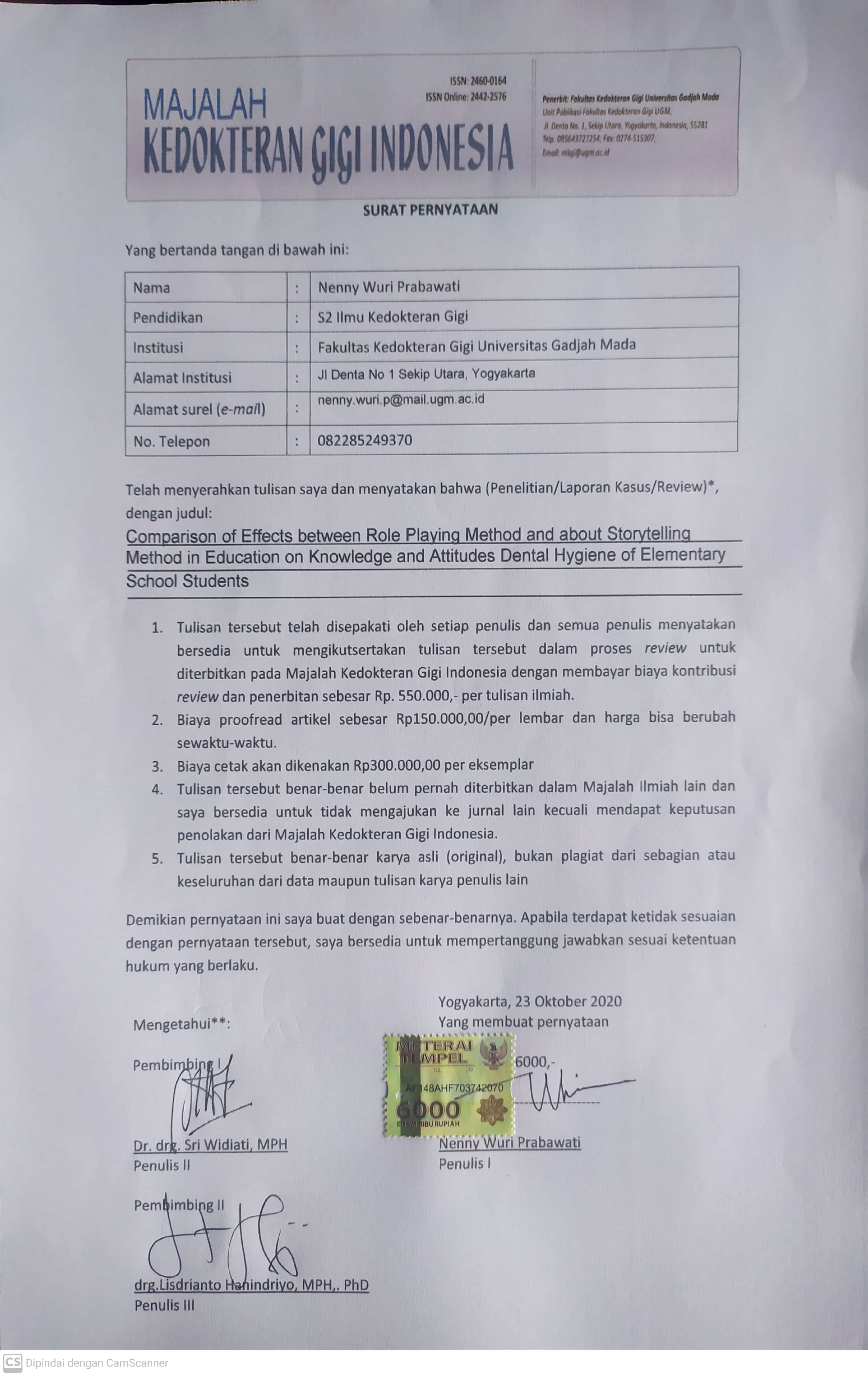
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**Research article**

**Comparison of Effects between Role Playing Method and Storytelling Method in Education on Knowledge and Attitudes about Dental Hygiene of Elementary School Students**

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**ABSTRACT**

Selection of appropriate dental health education methods will be very helpful in promoting dental health. This study aims to determine the difference in the effect of role playing method and storytelling method on knowledge and attitudes about oral hygiene in elementary school students. The research was conducted on the research subjects as many as 112 students in grade 5. The research subjects were divided into 2 different treatment groups, 56 students in grade 5 at SD Negeri Tegalrejo I with the storytelling method and 56 students in grade 5 at SD Negeri Tegalrejo II using the role playing method. The measuring instrument in this research is a questionnaire. Data analysis used the Mann-Whitney test and Wilcoxon Signed Ranks test because the data were not normally distributed. The results of the analysis showed that there was a significant increase over time in knowledge and attitudes carried out in 3 assessments. Mean rank delta pre test - post test 2 variable knowledge of role playing method 51.29 while storytelling method 61.71 and attitude of role playing method 49.93, while storytelling method 63.07. The results of delta analysis from pre-test to post-test 1 and pre-test to post-test 2 showed that the storytelling group increased knowledge and attitudes higher than the role playing group (p <0.05). Conclusion: Provision of education with the storytelling method increases ctknowledge and attitudes about the respondent's oral hygiene higher than role playing method.

Keywords: Role Playing Method, Storytelling Method, Education, Knowledge, Attitude

**INTRODUCTION**

Changes in knowledge and attitudes towards maintaining dental and oral hygiene can occur naturally, namely changes due to environmental influences and changes intentionally and systematically through counseling. 4.7 The process of changing knowledge and attitudes naturally is usually slower than through counseling.5 Dental hygiene education and the mouth will be more effective if it is started from an early age regarding the importance of maintaining oral hygiene. 17, 23

Primary school students are very much needed to maintain and maintain the cleanliness of their teeth and mouth from an early age, because elementary school students are very vulnerable to dental and oral hygiene problems, one of which is dental caries. flower. 17 The process of dental and oral hygiene education must be carried out using appropriate learning methods so that the information on dental and oral health presented is more attractive, easy to understand and can have a positive impact on changes in knowledge and attitudes to elementary school students. 5, 23

The use of appropriate learning methods should be collaborated from several methods such as the role playing method and the storytelling method, so as to provide good results. The role playing method will help students, because the role playing method is an action by acting out a situation in human life. The results showed that dental hygiene education using the role playing method could increase knowledge and attitudes to prevent dental and oral diseases. 1, 22

Use The storytelling method is very well used in the extension process because it is fast to convey large amounts of information in a short time to a group of listeners. The storytelling method is a simple fictional story that doesn't actually happen that serves to both educate and entertain. The results of the study stated that counseling using the storytelling method could increase knowledge and attitudes of elementary school students in improving oral and dental hygiene. 1, 11

Measurement of the results of dental hygiene education can be seen through knowledge and attitudes. Knowledge is the result of a very important domain for the formation of action.4 Attitude is a tendency to act (practice) and is not necessarily manifested in action.4 Teeth and mouth must be kept clean because various germs can enter the body. Good oral and dental hygiene will make the teeth and surrounding tissues healthy and function properly, while poor oral and dental hygiene will form plaque and tartar which can lead to dental and oral diseases such as dental caries, gingivitis and periodontal disease.

The results of data from the Ministry of Health of the Republic of Indonesia in 2013 and 2018 show that the number of Indonesians and residents of the Special Region of Yogyakarta Province who behave properly in brushing their teeth according to recommendations, namely after breakfast and before going to bed at night tend to decrease. 12, 13 This shows that people do not understand how to brush their teeth properly. This study aims to determine the difference in the effect of role playing method and storytelling method on knowledge and attitudes about oral hygiene among elementary school students.

**MATERIALS AND METHODS**

A certificate of ethical eligibility was obtained from the Research Ethics Commission of the Faculty of Dentistry, Gadjah Mada University No. 00287 / KKEP / FKG-UGM / EC / 2019. This type of research is quasi experimental or quasi-experimental research design with pre-test and posttest group design.

The research subjects were grade 5 students, which were divided into 2 different treatment groups, 56 grade 5 students at SD Negeri Tegalrejo I with the storytelling method and 56 grade 5 students at SD Negeri Tegalrejo II using the role playing method. The influence variables in this study were the role playing method and the storytelling method, while the affected variables were knowledge, attitudes and oral hygiene status.

The measuring instrument used was a questionnaire to measure students' knowledge and attitudes about oral and dental hygiene. The validity and reliability tests were carried out on 30 students at SD Negeri Tegalrejo III, Tegalrejo District, Yogyakarta City, Special Region of Yogyakarta. The results of the questionnaire validity test showed that 10 knowledge statement items were declared valid (r between 0.534-0.798) and reliable (Cronbach α = 0.872) and 18 attitude statement items were declared valid (r between 0.401-0.754) and reliable (Cronbach α = 0.846).

The initial measurement of students' knowledge and attitudes about dental and oral hygiene was carried out before the treatment (pre-test). Post-test 1 was carried out two weeks after treatment and post-test 2 was carried out three months after treatment. Data analysis used the Mann-Whitney test and Wilcoxon Signed Ranks test because the data were not normally distributed. 2,15, 20, 21

**RESULTS**

Characteristics of respondents based on gender and age in the group using the role playing method and storytelling method can be seen in Table

Table 1. Distribution of Respondents by Gender and Age in the Group with

the Role Playing Method and the Storytelling

| Respondent Characteristics | Method Role Playing | | Methods Storytelling | | Total | | p sig. |
| --- | --- | --- | --- | --- | --- | --- | --- |
| n | % | n | % | N | % |  |
| Gender |  |  |  |  |  |  | **0,571c** |
| Male | 27 | 48,2 | 30 | 53,6 | 57 | 50,9 |  |
| Female | 29 | 51,8 | 26 | 46,4 | 55 | 49,1 |  |
| Age |  |  |  |  |  |  | **0,376c** |
| 11 years | 48 | 85,7 | 51 | 91,1 | 99 | 88,4 |  |
| 12 years | 8 | 14,3 | 5 | 8,9 | 13 | 11,6 |  |
| **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

Table 1 shows that there is no gender difference between groups with the role playing method and the storytelling method (p> 0.05). The majority of study respondents were 11 years old. There is no age difference between groups with role playing and storytelling methods (p> 0.05).

Table 2. Results of the Chi Square Test for Knowledge Variables about dental and oral hygiene based on the Role Playing Method and Storytelling Method groups in the respondents.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment | Variable | Role Playing    Method | | Storytelling Method | | Total | | p sig. |
|  |  | n | % | n | % | n | % |  |
| ***Pre-test*** | Knowledge |  |  |  |  |  |  | **0,815c** |
|  | Less (0-33) | 3 | 5,4 | 3 | 5,4 | 6 | 5,4 |  |
|  | Sufficient (34-67) | 36 | 64,3 | 39 | 69,6 | 75 | 67 |  |
|  | Good (68-100) | 17 | 30,4 | 14 | 25,0 | 31 | 27,2 |  |
| ***Post-test* 1** | Knowledge |  |  |  |  |  |  | **0,036c** |
|  | Less (0-33) | 1 | 1,8 | 1 | 1,8 | 2 | 1,8 |  |
|  | Sufficient (34-67) | 35 | 62,5 | 27 | 48,2 | 62 | 55,4 |  |
|  | Good (68-100) | 20 | 35,7 | 28 | 50 | 48 | 42,9 |  |
| ***Post-test* 2** | Knowledge |  |  |  |  |  |  | **0,019c** |
|  | Less (0-33) | 1 | 1,8 | 0 | 0 | 1 | 0,9 |  |
|  | Sufficient (34-67) | 32 | 57,1 | 23 | 41,1 | 55 | 49,1 |  |
|  | Good (68-100) | 23 | 41,1 | 33 | 58,9 | 56 | 50 |  |
|  | **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

   Table 2 shows that respondents were in the role playing method group and the storytelling method group before the treatment (pre-test) has no different knowledge. After treatment, both groups experienced an increase in knowledge from before treatment (pre-test) to post-test 1 and to post-test 2.

Table 3. Chi Square Test Results for Attitude Variables about dental and oral hygiene based on the Role Playing Method and Storytelling Method groups on the respondent.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment | Variable | Role Playing  Method | | Storytelling Method | | Total | | p sig. |
|  |  | N | % | n | % | n | % |  |
| ***Pre-test*** | **Attitude** |  |  |  |  |  |  | **0,085c** |
|  | Less (20-40) | 0 | 0,0 | 0 | 0,0 | 0 | 0,0 |  |
|  | Enough (41-55) | 28 | 50,0 | 37 | 66,1 | 65 | 58,0 |  |
|  | Good (56-80) | 28 | 50,0 | 19 | 33,9 | 47 | 42,0 |  |
| ***Post-test* 1** | **Attitude** |  |  |  |  |  |  | **0,033c** |
|  | Less (20-40) | 0 | 0,0 | 0 | 0,0 | 0 | 0,0 |  |
|  | Enough (41-55) | 26 | 46,4 | 21 | 37,5 | 47 | 42,0 |  |
|  | Good (56-80) | 30 | 53,6 | 35 | 62,5 | 65 | 58,0 |  |
| ***Post-test* 2** | **Attitude** |  |  |  |  |  |  | **0,021c** |
|  | Less (20-40) | 0 | 0,0 | 0 | 0,0 | 0 | 0,0 |  |
|  | Enough (41-55) | 22 | 39,3 | 17 | 30,4 | 39 | 34,8 |  |
|  | Good (56-80) | 34 | 60,7 | 39 | 69,6 | 73 | 65,2 |  |
|  | **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

 Table 3 shows that respondents the group with the role playing method and the group with the storytelling method before treatment (pre-test) had no different attitudes (p> 0.05). After the treatment, there was an increase in the attitudes of the respondents in both groups in post-test 1 and post-test 2.The results of the analysis of differences in the mean ranking of knowledge about dental and oral hygiene before and after treatment in the Role Playing Method group with the Storytelling Method using the Wilcoxom Signed Rank Test were presented in Table 4.

Table 4. Results of the Wilcoxon Signed Rank Test Variable Knowledge about dental and oral hygiene before and after treatment in the Role Playing

Method and Storytelling Method of the respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Knowledge Variable | Role Playing Method | | Storytelling Method | |
| Z hitung | p sig. | Z hitung | p sig. |
| *Pre-test* ke *Post-test* 1 | 3,632 | 0,000 | 3,969 | 0,000 |
| *Pre-test* ke *Post-test* 2 | 4,099 | 0,000 | 4,893 | 0,000 |
| *Post-test* 1 ke *Post-test* 2 | 3,051 | 0,000 | 3,779 | 0,000 |

Table 4 shows that in the two treatment groups there was a significant increase in knowledge from pre-test to post-test 2 (p <0.05). It can be concluded that counseling with the role playing method and storytelling method is statistically significant in increasing knowledge about oral and dental hygiene.

Table 5. Results of the Mann Whitney test. The variables of knowledge about oral and dental hygiene before and after treatment in the Role Playing Method and

Storytelling Method groups in the respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Knowledge Variable | Role Playing  Method  *(Mean rank)* | Storytelling Method *(Mean rank)* | p sig. | .    Information |
| *Pre-test* | 56,79 | 56,21 | 0,922 | Not significant |
| *Post-test 1* | 50,13 | 62,87 | 0,034 | significant |
| *Post-test 2* | 47,38 | 65,63 | 0,002 | significant |

Table 5 shows that there is no significant difference in respondent's knowledge before treatment (pre-test) between groups using the role playing method and the storytelling method (p> 0.05). Respondents' knowledge after treatment (post-test 1 and 2) there were significant differences between groups using the role playing method and the storytelling method. The mean ranking of the group subject's knowledge using the storytelling method was higher than the group with the role playing method (p <0.05).

The results of the analysis of the mean difference in the ranking of attitudes about dental and oral hygiene before and after treatment in the Role Playing Method group with the Storytelling Method using the Wilcoxom Signed Rank Test are presented in6.Table

Table 6.The Wilcoxon Signed Rank Test Results Attitude variables before and after treatment in the Method group Role Playing and

Storytelling Methods for respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attitude Variable** | **Role Playing Method** | | **Storytelling Method** | |
| **Z/t Count** | **p sig.** | **Z Count** | **p sig.** |
| *Pre-test* ke *Post-test* 1 | 1,508 | 0,137 | 4,061 | 0,000 |
| *Pre-test* ke *Post-test* 2 | 3,171 | 0,002 | 4,836 | 0,000 |
| *Post-test* 1 ke *Post-test* 2 | 2,952 | 0,003 | 3,805 | 0,000 |

Table 6 shows that both treatment groups the results are equally increased attitudes about dental and oral hygiene before and after significant treatment from pre-test to post-test 2, (p <0.05), except that the pre-test to post-test 1 data on the Role Playing Method did not increase. It can be concluded that the Role Playing Method and the Storytelling Method are significant in improving attitudes about oral and dental hygiene.

The results of the analysis of the mean difference in the ranking of attitudes about oral hygiene between the Role Playing Method and the Storytelling Method, the pre-test, post-test 1 and post-test data using the Mann Whitney test, the results are presented in table 7.

Table 7.Mann Whitney test Variable results Attitudes about dental and oral hygiene before and after treatment in the Role Playing Method and Storytelling Method groups on the respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attitude Variable** | **Method**  **Role Playing**  ***(Mean rank)*** | **Storytelling Method**  ***(Mean rank)*** | **p sig.** | .    **Information** |
| *Pre-test* | 59,35 | 53,65 | 0,351 | Not significant |
| *Post-test 1* | 55,54 | 58,54 | 0,003 | significant |
| *Post-test 2* | 47,74 | 65,26 | 0,004 | significant |

Table 7 shows that there is no significant difference in the attitude of the respondents before treatment (pre-test) between the groups using the role playing method and the storytelling method (p> 0.05), while the attitude of the respondents after treatment (post-test 1 and 2) there was a significant difference between the group using the role playing method and the storytelling method (p. <0.05). The average ranking of group respondents' attitudes using the storytelling method was higher than that of the group using the role playing method.

Table 8. Delta test results with U-Mann Whitney variables of knowledge, attitudes, dental and oral hygiene status based on the group Role Playing Method and

Storytelling Method on respondents.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment** | **Variable** | ***Mann Whitney*** | | | **Information** |
| ***Role***  ***Playing***  ***(Mean***  ***rank)*** | ***Storytelling***  ***(Mean***  ***rank)*** | **p sig.** |
| *Pre-test to post-test 1* | Knowledge | 52,99 | 60,01 | 0,183 | Not significant |
| Attitude | 49,52 | 63,48 | 0,009 | significant |
|  |  |  |  |  |
| *Pre-test to*  *post-test 2* | Knowledge | 49,50 | 63,50 | 0,014 | significant |
| Attitude | 47,15 | 65,85 | 0,001 | significant |
|  |  |  |  |  |
| *Post-test 1 to*  *Post-test 2* | Knowledge | 51,29 | 61,71 | 0,037 | significant |
| Attitude | 49,93 | 63,07 | 0,010 | significant |
|  |  |  |  |  |

Based on the results of the Mann-Whitney test with delta data, it shows that there is a difference in increased knowledge and attitudes about dental hygiene and Oral significance from pre-test to post-test 1, pre-test to post-test 2, and post-test 1 to post-test 2 in the Storytelling Method group was higher than the Role Playing Method group (p <0.05) . Except in pre-test to post-test 1, there was no significant difference in increasing knowledge (p> 0.05). Based on the results of delta analysis, it can be concluded that the Storytelling Method group increased knowledge and attitudes about oral hygiene compared to the Role Playing Method group for grade 5 students of SD Negeri in Tegalrejo sub-district, Yogyakarta City.

Characteristics of respondents based on gender and age in the group using the *role playing* method andmethod *storytelling* can be seen in Table

Table 1. Distribution of Respondents Based on Gender and Age in Groups with *Role Playing* Method and *Storytelling*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Respondents Characteristics** | **Method *Role Playing*** | | **MethodMethod *Storytelling*** | | **Total** | | **p sig.** |
| **n** | **%** | **n** | **%** | **n** | **%** |  |
| **Gender** |  |  |  |  |  |  | **0.571c** |
| Male | 27 | 48.2 | 30 | 53.6 | 57 | 50.9 |  |
| Female | 29 | 51.8 | 26 | 46.4 | 55 | 49.1 |  |
| **Age** |  |  |  |  |  |  | **0.376c** |
| 11 years | 48 | 85.7 | 51 | 91.1 | 99 | 88.4 |  |
| 12 years | 8 | 14.3 | 5 | 8.9 | 13 | 11.6 |  |
| **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

          Table 1 shows that there is no gender difference between groups with the *role playing* method and themethod *storytelling* (p> 0.05).The majority of study respondents were 11 years old. There is no age difference between groups withmethods *role playing* and *storytelling* (p> 0.05).

Table 2. Results of theTest for *Chi Square* Knowledge Variables about dental and oral hygiene based on thegroups *Role Playing* Method andMethod *Storytelling* in the respondents.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Treatment** | **Variable** | **Method *Role Playing*** | | **Method *Storytelling*** | | **Total** | | **p sig.** |
|  |  | **n** | **%** | **n** | **%** | **n** | **%** |  |
| ***Pre-test*** | **Knowledge** |  |  |  |  |  |  | **0.815c** |
|  | Less (0-33) | 3 | 5,4 | 3 | 5,4 | 6 | 5,4 |  |
|  | Enough (34-67) | 36 | 64.3 | 39 | 69.6 | 75 | 67 |  |
|  | Good (68-100) | 17 | 30.4 | 14 | 25.0 | 31 | 27.2 |  |
| ***Post-test* 1** | **Knowledge** |  |  |  |  |  |  | **0.036c** |
|  | Less (0-33) | 1 | 1.8 | 1 | 1.8 | 2 | 1.8 |  |
|  | Enough (34-67) | 35 | 62.5 | 27 | 48.2 | 62 | 55.4 |  |
|  | Good (68-100) | 20 | 35.7 | 28 | 50 | 48 | 42.9 |  |
| ***Post-test* 2** | **Knowledge** |  |  |  |  |  |  | **0.019c** |
|  | Less (0-33) | 1 | 1.8 | 0 | 0 | 1 | 0.9 |  |
|  | Enough (34-67) | 32 | 57.1 | 23 | 41.1 | 55 | 49.1 |  |
|  | Good (68-100) | 23 | 41.1 | 33 | 58.9 | 56 | 50 |  |
|  | **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

Table 2 shows that respondents from the *role playing* method group and themethod group *storytelling* before the treatment (*pre-test)* had no different knowledge. After treatment, both groups experienced an increase in knowledge from before treatment (*pre-test*) to *post-test* 1 and to *post-test* 2.

Table 3.Test Results for *Chi Square* Attitude Variables about dental and oral hygiene based on thegroups *Role Playing* Method andMethod *Storytelling* on the respondent.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Treatment** | **Variable** | **Method *Role Playing*** | | **Method *Storytelling*** | | **Total** | | **p sig.** |
|  |  | **n** | **%** | **n** | **%** | **n** | **%** |  |
| ***pre-test*** | **Attitude** |  |  |  |  |  |  | **0.085c** |
|  | Less (20-40) | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |  |
|  | Enough (41-55) | 28 | 50.0 | 37 | 66.1 | 65 | 58.0 |  |
|  | Good (56-80) | 28 | 50.0 | 19 | 33.9 | 47 | 42.0 |  |
| ***Post-test* 1** | **Attitude** |  |  |  |  |  |  | **0.033c** |
|  | Less (20-40) | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |  |
|  | Enough (41-55) | 26 | 46.4 | 21 | 37.5 | 47 | 42.0 |  |
|  | Good (56-80) | 30 | 53.6 | 35 | 62.5 | 65 | 58.0 |  |
| ***Post-test* 2** | **Attitude** |  |  |  |  |  |  | **0.021c** |
|  | Less (20-40) | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |  |
|  | Enough (41-55) | 22 | 39.3 | 17 | 30.4 | 39 | 34.8 |  |
|  | Good (56-80) | 34 | 60.7 | 39 | 69.6 | 73 | 65.2 |  |
|  | **Total** | **56** | **100** | **56** | **100** | **112** | **100** |  |

Table 3 shows that group respondents using themethod *role playing* and the group using themethod *storytelling* before treatment (*pre-test*) had no different attitudes (p> 0.05). After the treatment, there was an increase in the attitudes of the respondents in both groups in *post-test* 1 and *post-test* 2.The results of the analysis of differences in the mean ranking of knowledge about dental and oral hygiene before and after treatment in theMethod group *Role Playing* with theMethod *Storytelling* using the *Wilcoxom Signed Rank Test were* presented in Table 4.

Table 4. Results of the *Wilcoxon Signed Rank Test* Variable Knowledge about dental and oral hygiene before and after treatment in the *Role Playing* Method andMethod of the *Storytelling* respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable Knowledge** | ***Role Playing* Method** | | ***Storytelling* Method** | |
| **Z count** | **p sig.** | **Z count** | **p sig.** |
| *Pre-test* to *Post-test* 1 | 3,632 | 0,000 | 3,969 | 0,000 |
| *Pre-test* to *Post-test* 2 | 4,099 | 0,000 | 4,893 | 0,000 |
| *Post-test* 1 to *Post-test* 2 | 3,051 | 0,000 | 3,779 | 0,000 |

Table 4 shows that in the two treatment groups there was a significant increase in knowledge from *pre-test* to *post-test* 2 (p <0.05). It can be concluded that counseling with the *Role Playing* Method and theMethod *Storytelling* statisticallysignificant increase in knowledge about dental and oral hygiene.

Table 5. results *Mann Whitney* *Test* Knowledge variables about dental and oral hygiene before and after treatment in thegroups *Role Playing* Method andMethod *Storytelling* on the respondent.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Knowledge Variable** | **Method**  ***Role Playing***  ***(Mean rank)*** | **Method *Storytelling***  ***(Mean rank)*** | **p sig.** | **Information** |
| *Pre-test* | 56.79 | 56.21 | 0.922 | Not significant |
| *Post-test 1* | 50.13 | 62.87 | 0.034 | Significant |
| *Post-test 2* | 47.38 | 65.63 | 0.002 | Significant |

Table 5 shows that there is no significant difference in the knowledge of respondents before treatment (*pre-test*) between groups using the *role playing* method and themethod *storytelling* (p> 0.05). Respondents' knowledge after treatment (*post-test* 1 and 2) there were significant differences between groups using the *role playing* method and themethod *storytelling*. The mean ranking of the group subject's knowledge using themethod *storytelling* was higher than the group with themethod *role playing* (p <0.05).

The results of the analysis of the mean difference in the ranking of attitudes about dental and oral hygiene before and after treatment in theMethod group *Role Playing* with theMethod *Storytelling* using the *Wilcoxom Signed Rank Test are6.Table* presented in

Table 6.The Results *Wilcoxon Signed Rank Test* Attitude variables before and after treatment in the Method group *Role Playing* andMethods *Storytelling* for respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable Attitude** | **Method *Role Playing*** | | **Method *Storytelling*** | |
| **Z / t** | **p sig.** | **Z count** | **p sig.** |
| *Pre-test* to *Post-test* 1 | 1,508 | 0,137 | 4,061 | 0,000 |
| *Pre-test* to *Post-test* 2 | 3,171 | 0,002 | 4,836 | 0,000 |
| *Post-test* 1 to *Post-test* 2 | 2,952 | 0,003 | 3,805 | 0,000 |

Table 6 shows that both treatment groups the results are equally increased attitudes about oral hygiene before and after treatment were significantly from *pre-test* to *post-test* 2 (p <0.05), except the data *pre-test* to *post-test* 1 on theMethod *Role Playing* did not increase. It can be concluded that the *Role Playing* Method and theMethod are *Storytelling* significant in improving attitudes about oral and dental hygiene.

The results of the analysis of the mean difference in the ranking of attitudes about dental and oral hygiene between the *Role Playing* Method and theMethod, *Storytelling* thedata *pre-test*, *post-test* 1, and *post-test* 2 used *Mann Whitney.* *The test* results are presented in Table 7.

Table 7.results *Mann Whitney* *test* Attitude variableabout dental and oral hygiene before and after treatment in thegroups *Role Playing* Method andMethod

*Storytelling* on the respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attitude Variable** | **Method**  ***Role Playing***  ***(Mean rank)*** | **Method *Storytelling***  ***(Mean rank)*** | **p sig.** | **Information** |
| *Pre-test* | 59.35 | 53.65 | 0.351 | Not significant |
| *Post-test 1* | 55.54 | 58.54 | 0.003 | Significant |
| *Post-test 2* | 47.74 | 65.26 | 0.004 | Significant |

Table 7 shows that there is no significant difference in the attitude of the respondents before treatment (*pre-test*) between the groups using the *role playing* method and themethod *storytelling* (p> 0.05), while the attitude of the respondents after treatment (*post-test* 1 and 2) is different. which is significant between groups with the *role playing* method and themethod *storytelling* (p <0.05). The average ranking of group respondents' attitudes using themethod *storytelling* was higher than that of the group using themethod *role playing*.

Table 8. Delta test results with *U-Mann Whitney* variables of knowledge, attitudes, dental and oral hygiene status based on the group *Role Playing* Method andMethod *Storytelling* on respondents.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment of** | **Variable** | ***Mann Whitney*** | | | **Information** |
| ***Role***  ***Playing***  ***(Mean***  ***rank)*** | ***Story***  ***telling***  ***(Mean***  ***rank)*** | **p sig.** |
| *Pre-test to post-test 1* | Knowledge | 52.99 | 60.01 | 0.183 | Not significant |
| Attitude | 49.52 | 63.48 | 0.009 | Significant |
|  |  |  |  |  |
| *Pre-test to post-test 2* | Knowledge | 49.50 | 63.50 | 0.014 | Significant |
| Attitude | 47.15 | 65.85 | 0.001 | Significant |
|  |  |  |  |  |
| *Post-test 1 to Post-test 2* | Knowledge | 51.29 | 61.71 | 0.037 | Significant |
| Attitude | 49.93 | 63.07 | 0.010 | Significant |
|  |  |  |  |  |

Based on the results oftest *the Mann-Whitney* data shows the differences delta increased knowledge and attitudes about oral hygiene significantly from *pre-test* to *post-test* 1, *a pre-test* to *post-test* 2, and *post-test* 1 to *post- Test* 2 in theMethod group *Storytelling* was higher than theMethod group *Role Playing* (p <0.05). Except in *pre-test* to *post-test* 1, there was no significant difference in increasing knowledge (p> 0.05). Based on the results of delta analysis, it can be concluded that theMethod group *Storytelling* increased knowledge and attitudes about oral hygiene compared to theMethod group for *Role Playing* grade 5 students of SD Negeri in Tegalrejo sub-district, Yogyakarta City.

**DISCUSSION**

The results of descriptive analysis showed that changes in subjects with subject knowledge about oral hygiene in the good category in treatment group II (storytelling) were more increased than in treatment groups I in treatment groups I and II. The results of delta analysis showed that there was a significant difference in the increase in knowledge in the treatment group II which was higher than the treatment group I. This indicated that the storytelling method increased the subject's knowledge more than the role playing method. 1, 22, 24

Knowledge is something that is formed by the basic epistemic components, namely belief, truth, and justification or justification.4 According to traditional theory, knowledge is obtained when our beliefs are correct, and when conditions of justification are also satisfying.4 Knowledge can be obtained from direct experience or through counseling , both individually and in groups to increase health knowledge, which aims to achieve changes in the behavior of individuals, families and communities in realizing optimal health degrees.4 Behavior begins to be formed from knowledge and is a cognitive domain that is very important for the formation of action.5

Knowledge of dental and oral hygiene should be given from an early age, because at an early age children begin to understand the importance of health and the prohibitions that must be avoided or habits that can affect the condition of their teeth. Teaching and oral hygiene knowledge should be given to school age children

Changes in knowledge regarding the maintenance of dental and oral hygiene can occur naturally, namely changes due to environmental influences and changes intentionally and systematically through counseling. The process of changing knowledge and attitudes naturally is usually slower than through counseling.10 Extension of dental and oral hygiene will be more effective if it is started early on regarding the importance of maintaining dental and oral hygiene.10

The increase in knowledge was higher in treatment group II because after getting the storytelling method, the subject had the opportunity to ask questions about the material provided through teaching aids using hand puppets to solve problems related to the material that had been received. In providing the storytelling method, students are more active in asking and answering questions to find various things related to good learning, understanding the concepts of reasoning and communication as well as problem solving. In the storytelling method, the subject can immediately ask if there are things that are not understood then analyze and conclude by themselves what has been done, and involve students in digging up information, asking questions, doing activities, finding, collecting data and analyzing and making their own conclusions. , 14

The results of descriptive analysis of changes in the subject's attitude about oral hygiene in the good category in treatment group II (storytelling method) were found to be more increased than in treatment group I (role playing method). The results of the mean difference analysis showed that the mean attitude of the treatment group II was higher than that of the treatment group I.

The results of the analysis of attitude improvement found that there was a significant increase in attitudes in the treatment groups I and II. The results of delta analysis showed that there was a significant difference in the increase in attitudes in the treatment group II which was higher than the treatment group I. This indicated that the storytelling method improved the subject's attitude more than the role playing method.

Attitude is a predisposing factor for behavior change. Attitude has 3 (three) components, namely: a) The cognitive component is the intellectual aspect that is related to what a person knows based on the results of thoughts on external conditions or stimuli b) The affective component is the emotional aspect related to assessing what is known. someone has knowledge of external stimuli or conditions, then will process it again by involving emotional b) The conative component is the visional aspect that is related to the tendency or willingness to act. 3 Attitudes have levels based on their intensity, namely: a) Accepting means that the subject is willing to accept a given stimulus b) Respect means that the subject gives a positive value to the object or stimulus d) Responsible means that the subject is responsible for what he believes. Attitude is the result of a person's socialization process who reacts in accordance with stimuli in the form of objects. 3

The storytelling method can be done individually or in groups. The technique is the same as the demonstration method, but in the storytelling method students are more active in asking and answering questions which are expected to be able to find various things related to learning both understanding the concepts of reasoning and communication as well as problem solving. 1,9,11,24

The increase in attitude score which was higher in the treatment group II who was given the storytelling method using hand puppet props showed that the subject responded more to the information received from the instructor and could lead to understanding, thus affecting the subject's attitude. Subjects' reactions were also more positive towards stimuli they received through a process carried out by the instructor himself using hand puppets, so as to increase the subject's confidence and tendency to act.8

Attitude is a closed reaction from a person to a certain stimulus or object that already involves the opinion and emotional factors involved (happy-displeased, agree-disagree, good-bad, and so on). Attitude is the tendency to act (practice) and it is not necessarily manifested in action, because for the realization of action, other factors are needed, including the existence of facilities or infrastructure.

**CONCLUSION**

Extension with the storytelling method increases the knowledge and attitudes of elementary school students about dental and oral hygiene compared to the role playing method.

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