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Melodies of Oral Hygiene: Enhancing Brushing Skills in Mentally Disabled Children Through the Singing Method in SLB Paedagogia Surabaya

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ABSTRACT One of the effects of a lack of knowledge about how to maintain dental hygiene is having dental health problems such as cavities. In certain circumstances, especially in mentally retarded children, the health of their teeth and mouth is neglected. A study has shown that mentally retarded children have a risk of poor dental and oral health. It is important for mentally retarded children to gain knowledge, so they can take care of and develop themselves. The problem in this study is the lack of knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya. This study aims to determine the effectiveness of the singing method on knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya. This type of research is a true experiment with a pretest-posttest design with a control group, with research subjects as many as 30 mentally retarded children who were divided into 2 groups. The data collection instrument used was a questionnaire. The data analysis technique uses the Wilcoxon test and the Mann-Whitney test. Wilcoxon test results in the intervention group (p value 0.001), while in the control group (p value 0.083) for the Mann-Whitney p value: $0.000 < 0.05$, so it can be concluded there is the effectiveness of the singing method on knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya in 2023, so it is important for mentally retarded children to be given activities using the singing method accompanied by brushing their teeth together every week.

INDEX TERMS Knowledge of Brushing Teeth, Mentally Retarded Child, Singing Method.

I. INTRODUCTION

Dental and oral health can affect the health of the body because dental and oral health is an integral part of the overall health of the body [1]. People in Indonesia do not pay attention to dental and oral health, people tend not to care about the pain caused by toothache [2]. Mentally retarded children are at risk of poor dental and oral health due to their limitations making it difficult to receive dental and oral health knowledge it is supported by Sari's research (2022) shows that the average knowledge of mentally retarded children at Karya Bhakti SLB is in the low category [3].

Children with special needs are one of the human resources whose quality must be improved so that they can participate in development in the future. Improving the quality of life of children must be developed and implemented by means of quality health programs for children with special needs because their rights to quality services are the same as those of normal children [4].

In certain circumstances, especially in mentally retarded children, the health of their teeth and mouth is neglected. A study has shown that mentally retarded children have a risk of poor dental and oral health [5]. Lack of attention to oral hygiene is the main reason for the emergence of various problems in the teeth and mouth such as cavities or dental

caries, tartar or calculus, inflammation of the gums or gingivitis, inflammation of the supporting tissues of the teeth or periodontitis, and so on [6]. How to brush your teeth is important in maintaining dental and oral hygiene [7].

The cleanliness of a person's teeth and mouth can be determined by his behavior. High dental and oral health knowledge will be able to influence a person's behavior in maintaining dental and oral hygiene [8], however, several groups of children with special needs, such as mentally retarded children, continue to be neglected in receiving dental and oral health education. [9]. The way to improve children's behavior in maintaining dental and oral health is to provide dental health education about how to brush their teeth properly and correctly using appropriate and appropriate methods [10]. The method is a way that is usually used by the teacher in interacting with students when learning, there are many methods that can be used in learning such as demonstration methods, lectures, singing, simulations and so on [11].

The singing method is a method that turns a word into a song so that learning material is more easily accepted and understood by children. The singing method can be done optimally to stimulate children's thinking [12]. The singing method is a way of conveying learning by using songs that are sung [13]. The advantages of the singing method are that it can help students to develop, arouse student enthusiasm for learning, provide opportunities for students to develop and progress according to their respective abilities, and be able to direct student learning methods, so that they have greater motivation in participating in learning more actively again [14]. Singing can add a sense of enthusiasm and enthusiasm. This can make it easier for children to accept what is taught. Because the child's world is playing and singing, it tends to be easier to understand learning.

Based on several previous studies, one of which was research conducted by Sari et al. entitled development of demonstration and video animation (davim) in DHE as an effort to increase knowledge of brushing the teeth of mentally impaired children at SLB Karya Bhakti Surabaya [3], then research conducted by Eni et al. entitled dental hygiene tell-show-do model to improve teeth brushing skills for mentally impaired children [15], and research conducted by Muhammad et al. entitled the effectiveness of the picture and picture learning model to improve the teeth brushing ability of intellectual disability [10]. These previous studies examined the demonstration method, the Tell-Show-Do method and the picture and picture method, while this research examined the singing method.

This research contributes to the application of knowledge about methods that can be used to convey information about dental and oral health. Increasing knowledge about dental and oral health can be done by providing dental and oral health education using appropriate media and methods. The use of this singing method is expected to increase the knowledge of mentally retarded children. This aims to

improve the degree of dental and oral health, especially in mentally retarded children.

The information obtained is that Paedagogia SLB students are assisted by the Kedungdoro Health Center which is still active in providing activities every two months. One of the activities of the Kedungdoro health center is counseling about dental and oral health, how to brush your teeth and have had tooth brushing activities together. Paedagogia Surabaya SLB students have also received counseling about dental health from the Health Polytechnic of the Surabaya Ministry of Health, Department of Dental Health and also PTGMI.

In fact, based on the results of an initial survey conducted on October 25, 2022, from the results of interviews regarding knowledge about brushing teeth properly and correctly, it was found that 6 mentally retarded children had knowledge about brushing their teeth still in the poor category, 3 mentally retarded children had knowledge about brushing their teeth in the category moderate, and 1 other mentally retarded child in the good category. Thus, the problem in this study is the lack of knowledge about brushing teeth properly and correctly in mentally retarded children at SLB Paedagogia Surabaya.

This study identified the effectiveness of the singing method on knowledge about brushing teeth in disabled children at SLB Paedagogia Surabaya in 2023.

II. METHOD

This research has been declared ethically feasible by the Health Research Ethics Commission Ministry of Health Surabaya Health Polytechnic on January 25, 2023 with number EA/1382/KEPK-Poltekkes_Sby/V/2023.

This research was conducted at SLB Paedagogia Jl. Kaliasin I, Kedungdoro, Tegalsari District, Surabaya City, which was conducted in January-February 2023. This type of research was a true experiment with a pretest-posttest design with a control group. The population in this study were all mentally retarded children at SLB Paedagogia Surabaya, totaling 30.

The data collection method in this study was pretest and posttest with data collection instruments in the form of questionnaires. The data collection technique in this study uses the theory of behavior change where it takes 21 days to change one's habits. The 21 days itself is divided into three stages, namely, the first 7 days are introduction, the second 7 days are repetition, entering the training stage. . and finally the third 7 days are more towards strengthening which leads to stabilization [16].

The data analysis technique of this study was data on knowledge about tooth brushing per test and post test from the intervention group and the control group which would be analyzed using the Wilcoxon test, then a Mann Whitney test was carried out to find out the comparison of the results of knowledge about brushing teeth in the control group and the intervention group.

III. RESULT

This research was conducted to determine the effectiveness of brushing teeth using the singing method in increasing knowledge about brushing the teeth of mentally retarded children at SLB Paedagogia Surabaya. The location is easily accessible, close to residential areas and the population is relatively dense. SLB Paedagogia Surabaya has 12 classes including 6 classes at the elementary school, 3 classes at the junior high school and 3 classes at the senior high school. Learning activities at SLB Paedagogia Surabaya are carried out every Monday-Friday, on Friday one class is made available for sports, arts and scouting lessons, and in the month of Ramadan children at SLB Paedagogia Surabaya are given arts lessons such as dancing and making crafts.

TABLE 1
Respondent Characteristics

| Characteristic variables | | Frequency | Percentage (%) |
|--------------------------|--------------------|-----------|----------------|
| Gender | Male | 16 | 53.3 |
| | Female | 14 | 46.7 |
| Educational level | Elementary school | 16 | 53.3 |
| | Junior high school | 3 | 10 |
| | Senior high School | 11 | 36.7 |
| Age | 7-8 | 4 | 13.3 |
| | 10-15 | 12 | 40 |
| | 16-19 | 8 | 26.7 |
| | 20-25 | 6 | 20 |

Based on the data in TABLE 1, it is known that most of the respondents in this study were male, 16 mentally retarded children, 53.3%, while a small number of respondents were female, namely 14 mentally retarded children, 46.7%. Judging from the level of education, most of the respondents at the elementary school had 16 children at 53.3%, while a small proportion of respondents were at the junior high school, namely 3 children at 10%. In terms of age, most of the respondents aged 10-15 years were 12 children by 40%, while a small number of respondents aged 7-8 years were 4 children by 13.3%.

TABLE 2
Frequency Distribution of Knowledge Levels About Brushing Teeth of Mentally Disabled Children Before and After Counseling with the Singing Method at SLB Paedagogia Surabaya in 2023

| Knowledge level | Before | | After | |
|-----------------|--------|------|-------|-----|
| | N | % | N | % |
| Good | 0 | 0 | 12 | 80 |
| Moderate | 2 | 13.3 | 3 | 20 |
| Less | 13 | 86.7 | 0 | 0 |
| Total | 15 | 100 | 15 | 100 |

TABLE 2 shows that the level of knowledge about brushing the teeth of the respondents before being given counseling

using the singing method was mostly in the less category, namely 86.7%, and in the moderate category, 13.3%. The level of knowledge about brushing the teeth of the respondents after being given counseling using the singing method was mostly in the good category, which was 80%, and in the medium category, which was 20%.

TABLE 3
Frequency Distribution of Knowledge Levels About Brushing the Teeth of Mentally Disabled Children Before and After in the Control Group at SLB Paedagogia Surabaya in 2023

| Knowledge level | Before | | After | |
|-----------------|--------|------|-------|------|
| | N | % | N | % |
| Good | 1 | 6.7 | 1 | 6.7 |
| Moderate | 1 | 6.7 | 2 | 13.3 |
| Less | 13 | 86.7 | 12 | 80 |
| Total | 15 | 100 | 15 | 100 |

TABLE 3 shows that the level of knowledge about brushing the teeth of the respondents before being in the control group was mostly in the less category, namely 86.7%, in the moderate category, namely 6.7%, and in the good category, namely 6.7%. The level of knowledge about brushing the teeth of the respondents after being in the control group was mostly in the less category, namely 80%, in the moderate category, namely 13.3% and in the good category, namely 6.7%.

TABLE 4
Normality test

| Group | Shapiro-Wilk | |
|---------------------|--------------|------|
| | p | α |
| Before Intervention | 0.025 | 0.05 |
| After Intervention | 0.003 | |
| Before Control | 0.005 | |
| After Control | 0.022 | |

Based on TABLE 4, it shows that the value of α is 0.05 and the value in the group before the intervention is 0.025, after the intervention is 0.003, before the control is 0.005 and the p value in the group after the control is 0.022. The four groups have a p value less than α, meaning that the data is not normally distributed.

TABLE 5
Differences in the Value of Knowledge About Brushing the Teeth of Mentally Disabled Children Before and After Being Given Counseling with the Singing Method at SLB Paedagogia Surabaya in 2023

| Variable | Category | | | p |
|---------------------|----------|----------|------|------|
| | Good | Moderate | Less | |
| Before Intervention | 0 | 2 | 13 | 0.00 |
| After Intervention | 12 | 3 | 0 | 1 |

Based on TABLE 5 it can be seen that the significance value before and after being given knowledge about brushing your teeth with the singing method is 0.001 (<0.05), meaning that there is a difference in the value of knowledge about brushing your teeth before and after being

given knowledge about brushing your teeth with the singing method.

TABLE 6

Differences in the Value of Knowledge About Brushing the Teeth of Mentally Disabled Children Before and After the Control Group at SLB Paedagogia Surabaya in 2023

| Variable | Category | | | p |
|----------------|----------|----------|------|-------|
| | Good | Moderate | Less | |
| Before Control | 1 | 1 | 13 | 0.083 |
| After Control | 1 | 2 | 12 | |

Based on TABLE 6 it can be seen that the significance value before and after in the control group is 0.083 (> 0.05), meaning that there is no difference in the value of knowledge about brushing teeth before and after in the control group.

TABLE 7

Data Analysis of Knowledge Value of Tooth Brushing After Control Group and Knowledge Value of Tooth Brushing After Being Given Counseling with the Singing Method in the Intervention Group at SLB Paedagogia Surabaya in 2023

| Group | Mann Whitney | |
|--------------|--------------|----------|
| | p | α |
| Intervention | 0.000 | 0.05 |
| Control | | |

Based on TABLE 7 it can be seen that the α value is 0.05 and the p value is 0.000 ($0.000 < 0.05$) meaning that there is effectiveness in using the singing method on knowledge about brushing teeth in the intervention group compared to the control group at SLB Paedagogia Surabaya in 2023.

IV. DISCUSSION

This study aims to determine the effectiveness of the singing method on knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya. Mentally retarded children are children who experience delays and limitations in the development of intelligence, they have difficulty in thinking abstractly, learning must be related to concrete objects, are already in memory, have difficulty in sharing the knowledge they already have, have difficulty in self-care and have difficulty focusing their minds on some information, but when given art lessons they show they ask for a good study [17].

One of the causes of the emergence of dental and oral health problems in society is the behavioral factor or attitude of not paying attention to dental and oral hygiene. This is based on a lack of knowledge about dental and oral health and its treatment [18]. Knowledge is strongly related to dental and oral hygiene status. The better the knowledge in maintaining dental and oral hygiene, the better the dental hygiene status [19]. Based on data analysis conducted on respondents, the average knowledge of mentally retarded children before being given knowledge about brushing their teeth using the singing method is included in the less category.

An effort is needed to increase knowledge about dental and oral health. Increased knowledge can be done by providing counseling [20]. Health education is an activity or effort to provide health messages to communities, groups or individuals. With the aim of this message, communities, groups or individuals gain knowledge about better health [1]. It is necessary to choose the correct learning method because the learning method can influence children's learning motivation besides that it can also help children's understanding of receiving the material provided [21].

Based on the results of the study, the value of knowledge about brushing teeth after being in the control group and the value of knowledge about brushing teeth after being given counseling using the singing method in the intervention group showed that there was a difference in the average value of knowledge. Where the average value of knowledge in the intervention group showed a significant increase compared to the control group which was not given any treatment, meaning that the singing method was effective in increasing knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya in 2023. This is in line with Yuntina's research (2021), namely that there is a significant increase or effectiveness of children's language skills through the singing method [22].

The lack of knowledge about brushing the teeth of mentally retarded children at SLB Paedagogia Surabaya, who had previously received counseling about brushing their teeth, was caused by the use of an inappropriate method. The use of methods that are not appropriate with the characteristics of mentally retarded children causes mentally retarded children to experience difficulties in accepting learning. This is also in line with Prayudha and Malik (2021) that the selection of learning methods must be adapted to the characteristics of the child so that the child can easily accept the information provided [23].

Most of the knowledge of mentally retarded children at SLB Paedagogia Surabaya after being given counseling with the singing method increased from the less category to the better. This is due to the use of methods that are in accordance with the characteristics of mentally retarded children. The use of the right method affects the success of a lesson. This is in line with Purwati's statement (2019) that the use of methods that are appropriate to the characteristics of the child, approaches and strategies will have a major effect on the achievement of student learning outcomes [24].

The difference in the average value of knowledge in the control group and the intervention group at SLB Paedagogia Surabaya in 2023 is due to the use of a method in which the control group is not given any treatment so that no information is received and there is no increase in knowledge. This is in accordance with the statement of Melo et al (2020) that respondents in the control group will not be given any intervention [25], while the intervention group was given knowledge about brushing teeth using the singing method. Where this method is in accordance with the general characteristics in the intellectual field of

intellectually retarded children, namely when given art lessons they show a good interest in learning.

Music is the brain's first language, and singing is the earliest kind of music. Music including singing has an effect on the brain through intellectual and emotional stimulation [26], besides that the singing method is a method that is liked by children [27]. Singing and movement activities give children an exhilarating experience so that they don't get bored quickly, learning is easy and the information conveyed is easily captured by children. According to Ginting (2020) singing is an activity that can bring joy and a cheerful atmosphere [26]. This is in line with the research results of Putri et al (2023) that the singing method affects the ease of memorizing [27].

This singing method is effective in increasing the knowledge of mentally retarded children because this method is in accordance with the character of mentally retarded children who prefer skills and arts lessons, so that this method attracts the attention of mentally retarded children when given learning with this singing method. The use of the singing method can be a way of providing knowledge to mentally retarded children to achieve success in learning.

This study has weaknesses due to limitations on the authors. One of these weaknesses is that the variables used in this study do not represent all the factors that influence the lack of knowledge about brushing teeth in mentally retarded children.

V. CONCLUSION

This study aims to determine the effectiveness of the singing method for increasing knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya in 2023. Based on the results of the research and discussion on "Effectiveness of the Singing Method on Knowledge About Brushing Teeth in Mentally Disabled Children at SLB Paedagogia Surabaya in 2023" it can be concluded that there is the effectiveness of the singing method on knowledge about brushing teeth in mentally retarded children at SLB Paedagogia Surabaya in 2023 with the value in the intervention group (p value 0.001), while in the control group (p value 0.083) and after the Mann-Whitney test, the results obtained were p value: 0.000 < 0.05. The results of this study can be used as input for SLB Paedagogia Surabaya to use the singing method every week accompanied by brushing their teeth together, and for further research it is necessary to develop variables to find out other factors that can influence knowledge about brushing teeth in mentally retarded children.

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