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Use of Board Game Media to Increase Knowledge about Maintaining Dental and Oral Hygiene in Class III A and III B Students at SDN Bendul Merisi in 2024

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ABSTRACT Debris is a soft material from food residue that is stuck. It is known from the initial examination data on September 4, 2023, students had a debris index score of 1.9, which is categorized as bad and not in accordance with WHO provisions, namely 0 - 1.6, which is categorized as good. The problem of this research is the high number of debris index in students in grades III A and III B at SDN Bendul Merisi in 2024. This condition is caused by a lack of knowledge about maintaining dental and oral hygiene. The purpose of this study was to determine the use of board game media in increasing knowledge about maintaining dental and oral hygiene. This type of research is descriptive research using pretest and posttest with a research target of 56 students in grades III A and III B at SDN Bendul Merisi. The data collection method used a questionnaire sheet with a pretest-posttest design. The results of the study were that students' knowledge before counseling was categorized as lacking, while students' knowledge after counseling was categorized as good and this showed a significant increase in knowledge after the intervention. So, it can be concluded that there is an increase in knowledge from poor to good after counseling using board game media was carried out on grade III A and III B students at SDN Bendul Merisi in 2024 and board game media is an effective media to increase students' knowledge about dental and oral hygiene.

INDEX TERMS Knowledge, Students, Board Game

I. INTRODUCTION

Oral and dental health are still not given much thought in Indonesian society. This is demonstrated by the fact that 50% of Indonesians over 10 have unresolved dental caries issues. Additional information suggests that a person has dental illness and that their mouth is cumulatively aggressive, which means that the affected area cannot be repaired [1]

The World Health Organization (WHO) states that periodontal disease and dental care are common problems in society and often occur in young children. This disease is caused by several factors, including microbiology, daily nutritional intake such as sweet foods (chocolate, candy, and ice cream), and oral hygiene conditions[2]

Up to 93% of youngsters have dental and oral health issues, according to the 2018 Basic Health Research results. Children in school, ages 6 to 12, comprise 40–50% of the overall population. In Indonesia, the prevalence of dental caries varies

by age group in schools. It is 92% for children aged 5 to 9 and 73.4% for those aged 10 to 14[3].

Based on data from the Ministry of Health, the Indonesian population brushes their teeth every day has a percentage of 94.7% while those who brush their teeth at the same time right, namely after breakfast and before going to bed at night, only 2.8%. This matter shows that knowledge about the frequency of brushing teeth is still low. A person's behavior is greatly influenced by knowledge. Behavior that is based on correct knowledge will last longer if compared to behavior that is not based on knowledge[4] [5].

From the survey data obtained through an examination by researchers on September 4, 2023, of students in grades III A and III B of SDN Bendul Merisi with a sample of 20 students from a total of 56 students, the average debris value was 1.9 which was in the bad category. It is necessary to provide

education and direction regarding maintenance dental and oral hygiene to avoid dental and oral health problems[6]. Knowledge can be provided using dental health promotion efforts with how to conduct counseling[7]. Success in efforts to provide dental health education to school children cannot be separated from educational methods and the importance of the role of useful media supports the learning process so that it makes it easier for students to understand material. Through media, the messages conveyed can be more interesting and easier to understand [8][9].

One form of educational game is a board game using a board) where the tools or parts of the game can be placed, moved, or moved on a marked surface or divided according to a set of rules. Board Game visual media is a good media for conveying information persuasively. The information conveyed is in the form of illustrative images that make it easier for message recipients to understand the content of the material[10].

II. METHOD

This research was conducted at SDN Bendul Merisi from September 2023 to January 2024. The design of this research is descriptive research. The target of this research is all students of grades III A and III B at SDN Bendul Merisi, totaling 56 students. The data collection method used is a questionnaire with a questionnaire sheet containing questions about dental and oral hygiene, such as the correct time and method of brushing teeth and foods that are good for dental and oral hygiene[11].

The data collection method in this study is by giving a pretest containing a questionnaire about maintaining dental and oral hygiene. Then dividing the respondents into 8 groups, each group consisting of 7 people and playing a board game as a health promotion media.

In this board game, there are 3 cards. The red card contains information about dental and oral hygiene, the yellow card contains questions, and the blue card contains a puzzle. The student who manages to collect the most puzzles will be the winner. Furthermore, a posttest was carried out to determine the level of knowledge before and after being given counseling using board game media[12].

III. RESULTS

Based on TABLE 1, you can see the results of the pretest knowledge of class III A students before and after counseling using different board game media. The pretest scores showed that 17 students (60.7%) had poor criteria, 10 students (35.7%), and 1 student (3.6%) had good criteria, while the posttest scores showed that 28 students gained knowledge with good category.

Based on TABLE 2, you can see the results of the pretest knowledge of class III B students before and after counseling using different board game media. The pretest scores showed that 15 students (53.6%) had less criteria, 10 students (35.7%),

and 3 students had good criteria (10.7%), while the posttest scores showed that 28 students gained knowledge with good

TABLE 1

Distribution of knowledge before and after counseling using board game media in class III

Knowledge Level	Before		After	
	Freq (f)	Perc (%)	Freq (f)	Perc (%)
Good	1	3,6	28	100
Enough	10	35,7	0	0
Less	17	60,7	0	0

category

TABLE 2

Distribution of knowledge before and after counseling using board game media in class III B

Knowledge Level	Before		After	
	Freq (f)	Perc (%)	Freq (f)	Perc (%)
Good	3	10,7	28	100
Enough	10	35,7	0	0
Less	15	53,6	0	0

IV. DISCUSSION

A. STUDENTS' KNOWLEDGE BEFORE COUNSELING USING BOARD GAME MEDIA

Based on the research results, it was found that knowledge about maintenance of dental and oral hygiene in students of class III A and III B at SDN Bendul Merisi before being given counseling using board game media overall is still in the poor category. This is because of various factors, one of which is the lack of information received about maintenance of dental and oral hygiene. Therefore, educational activities are necessary to increase knowledge, attitudes and skills through outreach with the media. This is in accordance with S-O-R theory in (Notoadmodjo, 2018) which explains that stimulus given to an organism can elicit an open response in the form of the practice of closed actions and responses in the form of attitude knowledge [13]

Providing media with education with easy information understood is the right intermediary and will influence a person's knowledge both in the long and short term. By therefore, as much as possible the material contained in it must be adapted to the target object so that it can be understood easily, so that the level of students' knowledge about dental hygiene and his mouth can touch either figure. Someone with high knowledge will have good dental and oral hygiene status, as well on the contrary.

B. STUDENTS' KNOWLEDGE AFTER COUNSELING USING BOARD GAME MEDIA

In this study, a stimulus in the form of board game media was given to students in class III A and III B so that a response was obtained in the form of improvement knowledge from poor to good. This is because of the media board game about maintaining oral hygiene. Media selection as a means of counseling is very important in influencing and increasing children's interest in learning so that information can be easily obtained digestible but still gives a pleasant impression. From the results obtained, this research is in line with the research results which was carried out by Alifunisa, et al (2023) on students at nggulsari 1 Pajang Elementary School which states that students' knowledge about maintaining cleanliness teeth and mouth improved after counseling with the media board games. These results are also supported by research conducted by Rahmawati (2020) to students at SDN 101 Bengkulu who stated that counseling using board game media is effective in increasing knowledge about maintaining dental and oral hygiene [14]

C. DIFFERENCES IN KNOWLEDGE BEFORE AND AFTER COUNSELING USING BOARD GAME MEDIA

Based on research that has been conducted, there are differences in knowledge about maintaining dental and oral hygiene before and after counseling using board game media. Before counseling, the knowledge of class III A and III B students is still in the poor category. Meanwhile, after counseling using board game media, knowledge students in class III A and III B improved until they were able to get a good category. Matter this is because board games are used as a medium. Counseling is an informative medium that can be used for learning while playing[15]. The components contained in it can also be interesting student interest and innovative. From the results obtained, this research is in line with the research results mentioned above.

In this research, knowledge is a type of response and board games are stimuli that stimulate these responses[16]. When students as the object can follow this activity carefully, then the results obtained will also show that there are differences from previous knowledge less to good. This cannot be separated from the choice of media type very influential on the success of delivering messages during counseling. Board games are media that can be seen, touched and moved its components are one of the right media to be used as an internal option implementation of counseling.

V. CONCLUSION

The knowledge of students in classes III A and III B at SDN Bendul Merisi before counseling was carried out using board game media was in the poor category. However, students' knowledge after counseling increased to the good category. So, there is a difference in the level of knowledge between before and after counseling using board game media.

REFERENCES

- [1] Kemenkes RI, "Peraturan Menteri Kesehatan Republik Indonesia No 43 Tahun 2016 Tentang Standar Pelayanan Minimal Bidang Kesehatan," 2016.
- [2] F. D. Cahyaningrum and Hermawati, "The Relationship Level of Knowledge of Teeth-Brushing to The Dental Caries Incidence in School-Age Children," *Jurnal Kesehatan Komunitas Indonesia*, vol. 3, no. 2, pp. 217–225, Aug. 2023, doi: 10.58545/jkki.v3i2.194.
- [3] Ismatul Waviroh, Endang Purwaningsih, and Sri Hidayati, "PENGETAHUAN IBU TENTANG KARIES GIGI MOLAR PERTAMA PERMANEN ANAK USIA 6-8 TAHUN DI RT 9 RW 2 KELURAHAN WONOKROMO SURABAYA," *Jurnal Ilmiah Keperawatan Gigi*, vol. 3, no. 3, Nov. 2022.
- [4] Kementerian Kesehatan RI, *Peraturan Menteri Kesehatan Republik Indonesia Nomor 21 Tahun 2021*, vol. 7, no. 2. 2020.
- [5] A. S. Meidina, S. Hidayati, and I. C. Mahirawatie, "Systematic Literature Review: Pengetahuan Pemeliharaan Kesehatan Gigi Dan Mulut Pada Anak Sekolah Dasar," *Indonesian Journal of Health and Medical*, vol. 3, no. 2, pp. 41–61, 2023.
- [6] C. M. Vargas and O. Arevalo, "How dental care can preserve and improve oral health," *Dental Clinics*, vol. 53, no. 3, pp. 399–420, 2009.
- [7] O. Rudak and J. Andruskienė, "IMPORTANCE OF INDIVIDUAL ORAL HYGIENE IN ORAL HEALTH MAINTENANCE: SCIENTIFIC LITERATURE REVIEW.," *Professional Studies: Theory & Practice/Profesines Studijos: Teorija ir Praktika*, no. 20, 2019.
- [8] A. H. Alifunisa, D. Kurniawati, A. Riolina, and N. D. A. M. Sari, "Peningkatan pengetahuan kesehatan gigi dan mulut anak sekolah dasar dengan penyuluhan menggunakan media dento board game: Improvement of Dental and Oral Health Knowledge on Elementary School Children With Counseling Using Dento Board Game Media," *Jurnal Pengabdian Masyarakat Medika*, pp. 11–15, 2023.
- [9] J. H. Meurman and L. Grönroos, "Oral and dental health care of oral cancer patients: hyposalivation, caries and infections," *Oral Oncol*, vol. 46, no. 6, pp. 464–467, 2010.
- [10] Y. Himmamie, S. Adi, and S. P. Ratih, "Pengembangan permainan papan (board game) edukatif sebagai media promosi kesehatan gigi dan mulut pada anak usia sekolah," *Sport Science and Health*, vol. 1, no. 2, pp. 164–175, 2019.
- [11] C. Foxhall and A. Lown, *Questions and answers in oral health education*. John Wiley & Sons, 2021.
- [12] I. Boghian, V.-M. Cojocariu, C. V. Popescu, and L. Măță, "Game-based learning. Using board games in adult education.," *Journal of Educational Sciences & Psychology*, vol. 9, no. 1, 2019.
- [13] G. Zhang, X. Yue, Y. Ye, and M. Y.-P. Peng, "Understanding the impact of the psychological cognitive process on student learning satisfaction: combination of the social cognitive career theory and SOR model," *Front Psychol*, vol. 12, p. 712323, 2021.
- [14] H. Miko, T. K. Dewi, and W. Wahyudin, "GAME BOARD TO IMPROVE CHILDREN'S DENTAL AND

- ORAL HEALTH KNOWLEDGE,” *JDHT Journal of Dental Hygiene and Therapy*, vol. 5, no. 2, pp. 117–121, 2024.
- [15] S. T. Gladding, *Counseling as an art: The creative arts in counseling*. ERIC, 1992.
- [16] O. J. Digranes, “Stimulus-Response in Game Design,” *Edinburgh Napier University*, 2023.