RESEARCH ARTICLE OPEN ACCESS
Manuscript received May 28, 2025; revised June 03, 2025; accepted June 03, 2025; date of publication June 30, 2025.
Digital Object Identifier (DOI): https://doi.org/10.35882/ijahst.v5i3.480

How to cite: Izzakiya Chalida Zain, Silvia Prasetyowati, Sri Hidayati3, and Bambang Hadi Sugito, "Knowledge about Maintaining Dental and Oral Hygiene with Dents in the Box Media for Deaf Students in 4-6 Grades at SLB B Karya Mulia Surabaya", International Journal of Advanced Health Science and Technology, vol. 5, no. 3, pp. 172 - 177, June 2025

Knowledge about Maintaining Dental and Oral Hygiene with Dents in the Box Media for Deaf Students in 4-6 Grades at SLB B Karya Mulia Surabaya

Izzakiya Chalida Zain, Silvia Prasetyowati, Sri Hidayati, and Bambang Hadi Sugito
Departement of Dental Health, Poltekkes Kemenkes Surabaya, Indonesia

Corresponding author: Silvia Prasetyowati (e-mail: silviaprasetyowati@poltekkes-surabaya.ac.id).

ABSTRACT Maintaining oral and dental hygiene is an important thing for the whole community, especially for vulnerable groups such as deaf children. However, deaf children experience difficulties in receiving and absorbing information about maintaining oral hygiene due to hearing impairments, which affects their level of understanding. A preliminary study had been done by the researcher in SLB B Karya Mulia Surabaya and the result is deaf children have a condition of debris index status in the poor category. This study aims to determine differences in knowledge about maintaining dental and oral hygiene before and after using Dents in the Box media among deaf students in 4-6 grades at SLB B Karya Mulia Surabaya. This research uses a Quasi Experimental type of research: One-Group Pretest-Posttest Group Design with a target number of 28 deaf students. Pre-test and post-test data were collected through questionnaire sheet instruments. The data analysis technique uses the Wilcoxon Test. The results of this study shows a p-value of 0.000, therefore there is a difference in knowledge about maintaining dental and oral hygiene before and after using Dents in the Box media among deaf students in 4-6 grades at SLB B Karya Mulia Surabaya. This research concludes that the level of knowledge of deaf students is in the good category after using Dents in the Box media.

INDEX TERMS Deaf Students, Knowledge, Maintaining Dental and Oral Hygiene, Media.

I. INTRODUCTION

Children with special needs are groups that have different conditions from normal people, which can be in the form of physical or mental differences such as delays in development. This condition requires children with special needs to be treated extra and special from normal children.[1]. Deafness is a form of special needs condition with symptoms in the form of impaired function in the sense of hearing. According to WHO, more than 5% of the world's human population or 430 million people suffer from hearing loss and require rehabilitation to reduce the severity of hearing loss. [2].

This condition causes difficulties in processing information through their sense of hearing and understanding verbally. This deficiency and hearing loss will hinder the process of receiving language information received. [1]. The difficulties of deaf children in receiving information will have an impact on their quality of life, in this case oral hygiene. High risks related to oral hygiene problems of deaf children can occur due to limitations in processing and receiving information and lack of knowledge about maintaining oral hygiene obtained by deaf children. [3].

According to Green and Vermillion, dental and oral hygiene can be determined by examining the debris score. Debris scores have good, moderate, and poor categories, i.e. a debris score of 0.0-0.6 is a good category, a debris score of 0.7 - 1.8 is a moderate category, and 1.9 - 3.0 is a poor category. [4]. Index debris is obtained from an examination performed using an assistive material called disclossing that is smeared on the index tooth surface [5]. The material was smeared on 6 index tooth surfaces to take into account the

duration of time that the clinical practitioner carried out the examination. [6].

Dental and oral hygiene can be one of the causes of various disorders locally or systemically. Poor oral hygiene conditions might become a place for plaque and debris to develop. Plaque and food debris that are not cleaned for 72 hours will result as hardened material called calculus. [7]. Oral hygiene and diet are crucial for children from an early age to achieve oral hygiene status into adulthood. [8]. WHO guidelines strongly recommend that children reduce their daily sugar intake by <5% [9].

Lukman Hakim has conducted a research in SLB Yayasan Bahagia Kota Tasikmalaya in 2019 related to dental hygiene of deaf people with the results in the form of the majority of respondents having insufficient dental health knowledge followed by their level of oral hygiene which is included in the moderate category, which is 78% [10]. The oral hygiene index of deaf students in SLB Bandung Regency was 18.2% in the moderate category, and 36.3% in the poor category. At the junior high school level, 27.3% were in the moderate category and 18.2% were in the poor category. [11]. Research conducted by Damayanty et al. found that 8 out of 10 deaf children had a poor debris index with an average score of 2.2 [3].

Based on a survey and examination of dental and oral hygiene at SDLB-B Karya Mulia Surabaya, it was found that 9 students had a debris score in the poor category (81.8%) and 2 students had a debris score in the moderate category (18.2%) with an average DI score of 2.3 which is a poor category when compared to the standard debris index according to Green and Vermillion of 0.0 - 0.6 which is a good category. The average knowledge obtained regarding maintenance of oral hygiene is 54%, which is a category of lack of knowledge.

Poor index debris conditions can be triggered by various things, including knowledge [4]. In this case, the debris index is affected by how to brush one's teeth. Thus, knowledge about maintaining oral hygiene includes how to brush teeth, food criteria that are good and bad for dental hygiene, as well as knowing how many times to regularly control the dental clinic is related to the condition of the debris index [9]. The lack of knowledge of deaf children may be due to their hearing loss which results in poor hygiene maintenance. This is an important signal indicating that appropriate knowledge must be provided [12].

Studies conducted in Kuwait and Spain state that there is a correlation between good knowledge of oral health and the development of dental health status. Good oral health conditions can be obtained and developed from behavior that comes from oneself. This behavior is obtained from the knowledge of maintaining oral hygiene [13]. Increasing knowledge in deaf children can be helped by using learning media which of course must be selected and adjusted so that it can be right on what the target needs. Based on research conducted by Veriza, image or visual media is more effective for deaf children in understanding and absorbing information [14].

The use of Dents in the Box media is tailored to the ability of deaf students, which is the ability in the sense of vision to support in increasing the knowledge of deaf students so that respondents are enthusiastic in using Dents in the Box media. Learning media for deaf children had been done by previous researcher, hence in this study the researcher developed a learning media for deaf children by combining and modifying a box contained materials about maintaining dental and oral hygiene in both visual and 3D of each elements required.

Researcher used Dents in the Box in this study. Dents in the Box is a box-shaped media with the appearance and use resembling an explosive box. Dents in the box is equipped with pictures, text, visuals, about maintaining oral hygiene, along with real objects or artificial models, such as tooth models, toothbrushes, foods that are good and not good for teeth, written explanations, and sign language images. These new learning media helped and made it easier for deaf children to receive and understand the materials well. Based on the background and explanation of the visual media, the objective of this study is to determine the differences before and after using Dents in the Box media in maintaining dental and oral hygiene for deaf students in 4-6 grades at SLB B Karya Mulia Surabaya.

II. METHODOLOGY

The research type applied is Quasi Experimental: One-Group Pretest-Posttest Group Design. Quasi Experimental Design is a research method that includes experimental units into experimental and control groups or uses one group. The purpose of quasi-experiment research is to test the hypothesis of the cause of a problem in research [15].

The design that will be carried out in Quasi Experimental research: One-Group Pretest-Posttest Group Design can be illustrated as follows:

$$O_1 \longrightarrow X_1 \longrightarrow O_2$$

Description:

O_1 : Pretest
O_2 : Posttest
X_1 : Learning method using Dents in the Box media

This research was conducted at SDLB-B Karya Mulia Surabaya. In the type of quasi-experiment research, the sampling and determination of the sample will be choosen randomly. Each target has the same opportunity to become a participant in the study [16]. Population in this study is 30 respondents, as for the number of samples needed in this study used the Probability Sampling sample technique with the Simple Random Sampling sampling technique. Slovin formula also being used in this research to determine the number of samples later on. Simple Random Sampling is a method of sampling a number n from a population of N. Sampling will be carried out randomly regardless of the level or group of the population. Each sample has an equal chance of being selected [17].

As stated earlier, Slovin formula is being used in this study, with a result the total sample is 28 respondents. Sampling using a lottery sample in the study population, which consists of grades 4, 5, and 6, totaling 30 students. Sampling by lottery is done by giving each member of the population a number according to the number of population members. Each member has the same chance of being selected as a sample, so that each member of the population has a 28/30 chance. The method used is that if the number has been taken it must be returned again, if it is not returned then the chances will not be the same. If the number that has been taken reappears, the number is considered invalid and the lottery is carried out again [18].

The methods to collect data are questionnaire method with instruments in collecting data are pretest and posttest questionnaire sheets. The questionnaire used in this study underwent validation processes by giving the same questionnaire to other deaf students in other school. Both pre and posttest will be scored 1 if correct and 0 if incorrect. Researcher had a permission from the Head School of SLB B Karya Mulia Surabaya to do this research. Then explained and asked respondents' parents to fill out an informed consent form as a written permission of their children to be respondents. During the implementation, all respondents were given a pre-test sheet on the first day before receiving media intervention. The next day researchers used Dents in the Box media in providing education or knowledge about maintaining oral hygiene to all respondents.During the implementation, all respondents were given a pre-test sheet on the first day before receiving media intervention. The next day researchers used Dents in the Box media in providing education or knowledge about maintaining oral hygiene to all respondents. Then, the researcher gave a post-test sheet to all respondents. Data processing in this study was the Wilcoxon test because the result in this study will be categorized as knowledge level of deaf students before and after using Dents in the Box learning media.

III. RESULTS

This research was conducted at SLB B Karya Mulia Surabaya, which is located at Achmad Yani No. 6-8 Wonokromo District, Surabaya, East Java. Due to a small number of communities of deaf students in this location, researcher used one group experimental units into experimental and control groups or uses one group. This research measures a group that has not and has been given intervention with 28 respondents in total. Therefore, researcher suggests a big scale of deaf students as respondents for further research.

After using Dents in the Box media, it is clearly shown that 25 deaf students had good knowledge category (89,3%) and only 3 left had moderate knowledge category (10,7%) which is proven the successfulness of Dents in the Box media in increasing the deaf students' knowledge about maintaining dental and oral hygiene.

TABLE 1
Grade and Gender Distribution of Deaf Students in SLB B Karya Mulia Surabaya

Respondent Characteristics		n	%
Grades	4	6	21,4
	5	11	39,3
	6	11	39,3
Gender	Male	18	64
	Female	10	36

Based on the data in TABLE 1, there are 6 students in 4th grade (21,4%), 11 students in 5th grade (39,3%), and 11 students in 6th grade (39,3%). Hence, there are 28 respondents in total of this research.

TABLE 2
Distribution of Knowledge Results about Maintaining Dental and Oral Hygiene for Deaf Students in 4-6 Grades at SLB B Karya Mulia Surabaya Before Using Dents in the Box Media

Knowledge Categories	Frequency	%
Good	0	0%
Moderate	7	25%
Poor	21	75%
Total	28	100%

Based on the data from TABLE 2, before using Dents in the Box media, 21 deaf students had poor knowledge category (75%) and 7 deaf students had moderate knowledge category (25%).

TABLE 3
Distribution of Knowledge Results about Maintaining Dental and Oral Hygiene for Deaf Students in 4-6 Grades at SLB B Karya Mulia Surabaya After Using Dents in the Box Media

Knowledge Categories	Frequency	%
Good	25	89,3%
Moderate	3	10,7%
Poor	0	0%
Total	28	100%

From TABLE 3, it is shown that after using Dents in the Box media, 25 deaf students had good knowledge category (89,3%), it means that their knowledge about maintaining dental and oral hygiene increased by using Dents in the Box media.

TABLE 4
Wilcoxon Test Results of Before and After Using Dents in the Box Media for Deaf Students in 4-6 Grades in SLB B Karya Mulia Surabaya

Variable	Knowledge Categories			p-Value
	Good	Moderate	Poor	
Pre Test	0	7	21	0,000
Post Test	25	3	0	

Based on TABLE 4, it is shown the results of the Wilcoxon test regarding differences before and after using Dents in the Box media. From the test results, it is found that a p-value of 0.000, therefore there is a difference in knowledge about maintaining dental and oral hygiene before and after using Dents in the Box media among deaf students in 4-6 grades at SLB B Karya Mulia Surabaya. 0.000 <0.05 which means the alternative hypothesis (H1) is accepted and null hypothesis (H0) is rejected, thus there is a difference in knowledge about maintaining dental and oral hygiene in deaf students in 4-6 grades at SLB B Karya Mulia Surabaya before and after using the Dents in the Box media. This is shown through the results of the knowledge value category of deaf students in 4-6 grades at SLB B Karya Mulia Surabaya before using the Dents in the Box media there were no students (0) who had good category knowledge while after using the Dents in the Box media there were 25 students who had good category knowledge.

IV. DISCUSSION

A. *KNOWLEDGE LEVEL BEFORE USING DENTS IN THE BOX MEDIA FOR DEAF STUDENTS*

The results showed that deaf students in grades 4-6 at SLB B Karya Mulia Surabaya had an average level of knowledge about maintaining oral hygiene which was in poor category before receiving education using Dents in the Box media. This condition is caused because the majority of students do not know how to brush their teeth properly, do not know foods that are not good for teeth and how many times routine dental check-up controls so that they cannot implement proper oral hygiene maintenance. This lack of information and knowledge can be one of the causes of their ignorance in maintaining oral hygiene. Not only that, respondents also lack in educational activities such as providing education on how to maintain oral hygiene.

This is aligned with the research of Suci Febyola et. al, they stated that, the majority of deaf student respondents were less precise in brushing their teeth and not all parts of the teeth were cleaned properly. The inaccuracy in brushing teeth is caused by the lack of knowledge of deaf students about the correct way to brush their teeth. Deaf students need specific and appropriate education that must also be adapted to their abilities [11].

In providing health education, it is necessary to prepare a strategy. A health strategy is a method used to provide the right material about the health field to be delivered. [19]. This knowledge will help children to change behaviors that will affect children's lifestyles such as knowing how to brush their teeth properly with the aim that the possibility of cavities can be avoided. This oral health knowledge will provide a positive attitude towards daily behavior. [2].

The purpose of providing education and knowledge about oral health is to increase students' knowledge after counseling. There are supporting factors for the success of counseling that should be considered and fulfilled. These supporting factors include appropriate counseling media [20].

B. *KNOWLEDGE LEVEL AFTER USING DENTS IN THE BOX MEDIA FOR DEAF STUDENTS*

The results showed that the average knowledge about maintaining oral hygiene in deaf students in 4-6 grades at SLB B Karya Mulia Surabaya was in the good category after using Dents in the Box media. The use of this media is able to support in increasing the knowledge of deaf students because it is adapted to the abilities, especially in the sense of vision so that respondents are enthusiastic in using the Dents in the Box media.To support the success of this counseling, several things must be prepared, especially learning media. The media used aims to enable the respondents to see directly the education delivered by the ducator. The media must also be adapted to the capabilities of the respondents [20].

In general, knowledge is mostly obtained through the process of seeing and hearing. Knowledge is very important for a person because it has a role in determining behavior or actions related to daily life. [21]. Deaf children have limitations in hearing so that the appropriate learning media is more emphasized on the sense of sight..Deaf children have limitations in hearing so that the appropriate learning media is more emphasized on the sense of sight. [22]. Visual media used for the learning process for deaf children is made by displaying more attractive images, graphic designs in the form of graphs or diagrams, or artificial models obtained from objects. [23].

So, this study shows that there is a difference in knowledge about maintaining oral hygiene in deaf students in grades IV-VI at SLB B Karya Mulia Surabaya both before and after using the Dents in the Box media, the category of knowledge of deaf students before using the media is the less category while after using the media, the category of knowledge of deaf students is a good category.

B. DIFFERENCES IN KNOWLEDGE LEVEL AFTER USING DENTS IN THE BOX MEDIA FOR DEAF STUDENTS

The data results of this significant difference are consistent with what has been conveyed by Prasko in his book which states that a supporting factor for success in delivering information and material regarding oral health is the use of counseling media. [20]. In this study, Dents in the Box media helped in increasing the good knowledge category of deaf students in 4-6 grades at SLB B Karya Mulia Surabaya.

Dini et. al conducted research inspired by the playground tool called snakes and ladders game which includes visual media, as an aid in the process of delivering education about oral health to deaf children. Based on this, the researchers innovated and developed visual media by combining visual media with real objects or artificial models named Dents in the Box media. The real objects or artificial models used are models of teeth and toothbrushes to make it easier for deaf students to practice the appropriate toothbrush procedure and artificial objects of some foods that are good and not good for oral hygiene such as fruits, vegetables, and artificial sweet foods. These two combinations make it easier for deaf students to understand well the contents of the Dents in the Box media regarding oral hygiene maintenance. The results obtained are an increase in knowledge in helping deaf children understand the material presented [24]. This is aligned with research that has been conducted by Veriza et. al that pictures or visual media are effective for deaf students in absorbing and understanding information about how to brush their teeth properly [14].

Dents in the Box media has advantages including being an effective learning media because it is designed for deaf students. The combination of visuals and real objects or artificial models makes it very easy for deaf students to understand and remember the material well. The Dents in the Box media display is also attractive and colorful so that respondents are enthusiastic to learn. Researchers develop and innovate by designing media combined images and real objects or artificial models so as to increase the creativity of researchers making Dents in the Box media..

Increasing the level of knowledge in deaf students using Dents in the Box media is appropriate and aligned with the S-O-R theory. Dents in the Box media is a stimulus. This media is given to the organism, which are deaf students in 4-6 grades at SLB B Karya Mulia Surabaya. Organisms that have been stimulated will provide a response, one of which is a closed response. [25]. In this study, Dents in the Box media interacted with and influenced the level of knowledge of deaf students in 4-6 grades at SLB B Karya Mulia Surabaya about maintaining oral hygiene.

The final results shows that there is a difference before and after the use of Dents in the Box media for deaf students. It is explained that their knowledge category about maintaining dental and oral hygiene increased after experienced Dents in the Box as a learning media. However, due to small numbers of the populations and samples of the deaf students, this can possibly result a narrow and limited discussion or theory. Therefore, widen the numbers of populations and samples are expected in further research.

V. CONCLUSION

The purpose of this study to know the difference in knowledge about maintaining oral hygiene in deaf students at SLB B Karya Mulia Surabaya before and after using Dents in the Box media. Based on the research, it can be concluded that before using dents in the box media, most of student's knowledge of maintaining oral and dental hygiene was in poor category. However after using and receiving education with Dents in the Box, their knowledge increased and classified as good category. This indicates that there is a difference before and after using dents in the box media which is successfully helped deaf students in 4-6 grades at SLB B Karya Mulia Surabaya in expanding and understanding their knowledge about maintaining dental and oral hygiene.

Recommendations for further research are to use dents in the box for parents and teachers by conducting training using dents in the box media to support deaf children in learning how to maintain dental and oral hygiene. In addition, media development and modification are expected to be more interesting and innovative for deaf children in further research.

REFERENCES

[1] I. F. Kristiana dan C. G. Widayanti, *Buku ajar psikologi anak berkebutuhan khusus 1*. Semarang: UNDIP Press, 2021. [Daring]. Tersedia pada: https://doc-pak.undip.ac.id/id/eprint/7955/1/buku ajar ABK .pdf

[2] I. M. Gowdar, Z. A. Alogily, A. I. Alenazi, M. A. Basuliman, M. H. Alamodi, dan A. F. Alsubaie, "Efficacy of Structured Teaching Programs in Improving Oral Hygiene Knowledge among School Children at Alkharj, Saudi Arabia," *J. Pharm. Bioallied Sci.*, vol. 16, no. 10, hal. 1–5, 2024, doi: 10.4103/jpbs.JPBS.

[3] A. V. Damayanthy, S. Prasetyowati, dan I. G. A. K. A. Astuti N.P., "Efektivitas Mengunyah Buah Bengkuang Dan Buah Apel Terhadap Penurunan Angka Debris Indeks Pada Siswa Tunarungu," *J. Ilm. Keperawatan Gigi*, vol. 4, no. 3, hal. 160–170, 2023, [Daring]. Tersedia pada: https://doi.org/10.37160/jikg.v4i3.368

[4] H. A. Aqidatunisa, S. Hidayati, dan S. F. Ulfah, "Hubungan Pola Menyikat Gigi Dengan Kebersihan Gigi Dan Mulut Pada Anak Sekolah Dasar," *J. Skala Kesehat.*, vol. 13, no. 2, hal. 105–112, 2022, doi: 10.31964/jsk.v13i2.366.

[5] D. Syahrul, S. Walianto, dan P. S. Suwongto, "the Use of Chlorhexidine Mouthworks Can Reduce the Accumulation of Dental Plak in Users of Fixed Orthodontic Devices," *Interdental J. Kedokt. Gigi*, vol. 19, no. 1, hal. 43–48, 2023, doi: 10.46862/interdental.v19i1.6095.

[6] V. Ramanarayanan *dkk.*, "Measuring dental diseases: A critical review of indices in dental practice and research," *Amrita J. Med.*, vol. 16, no. 4, hal. 152, 2020, doi: 10.4103/amjm.amjm_47_20.

[7] M. Tri Abadi *dkk.*, *Penyakit Gigi Dan Mulut*, vol. 5, no. 2. Kendari: Pustaka Aksara, 2014. [Daring]. Tersedia pada: https://repository.poltekkesjambi.ac.id/file/E-Book Penyakit Gigi

dan Mulut.pdf
[8] G. Kitsaras, M. Goodwin, M. P. Kelly, dan I. A. Pretty, "Bedtime oral hygiene behaviours, dietary habits and children's dental health," *Children*, vol. 8, no. 5, hal. 1–7, 2021, doi: 10.3390/children8050416.
[9] Stefani Dwi Adelia Putri Susanto, Isnanto, Bambang Hadi Sugito, dan Sunomo Hadi, "Differences the Effectiveness of Using Conventional Toothbrush and Modified Toothbrush Handle (SIGIGA) in Reducing Debris Index With Children in Down Syndrome," *Int. J. Adv. Heal. Sci. Technol.*, vol. 4, no. 4, 2024, doi: 10.35882/ijahst.v4i4.373.
[10] S. Mansoor, A. Kristiani, dan M. F. Sabilillah, "Media Pecs Terhadap Pengetahuan Kesehatan Gigi Dan Mulut Pecs Media on Knowledge About Dental and Mouth Health of the Deaf," *J. Dent. Hyg. Ther.*, vol. 3, no. 210, hal. 105–109, 2022, doi: 10.36082/jdht.v3i2.623.
[11] M. Suci Febyola, M. Hiranya Putri, Y. Hendriani Praptiwi, dan T. Sirait, "Kebersihan Gigi Dan Mulut Pada Anak Tunarungu Di Slb Kabupaten Bandung, Manado, Magelang (Studi Literatur)," *J. Kesehat. Siliwangi*, vol. 2, no. 1, hal. 320–330, 2021, doi: 10.34011/jks.v2i1.679.
[12] Ade Yolanda, Anie Kristiani, dan Muhammad Fiqih Sabilillah, "Knowledge With Dental and Oral Hygiene in Deaf Children," *Incisor (Indonesian J. Care's Oral Heal.*, vol. 6, no. 2, hal. 325–334, 2022, doi: 10.37160/theincisor.v6i2.32.
[13] N. O. Bamashmous, E. A. El Ashiry, N. M. Alamoudi, D. K. Qahtan, R. A. Alamoudi, dan O. M. Felemban, "Oral health related knowledge, attitude and behavior among group of mothers in relation to their primary school children's oral health: a cross-sectional study," *J. Clin. Pediatr. Dent.*, vol. 48, no. 1, hal. 152–162, 2024, doi: 10.22514/jocpd.2024.017.
[14] E. Veriza, S. Riyadi, dan W. Seisaria, "Perbedaan Penyuluhan Kesehatan Gigi Menggunakan Media Gambar dengan Video dalam Meningkatkan Perilaku Menyikat Gigi pada Anak Tunarungu di SLB Negeri 1 Kota Jambi," *J. Dunia Kesmas*, vol. 9, no. 4, hal. 457–462, 2020, doi: 10.33024/jdk.v9i4.2368.
[15] A. R. Prasetyo, D. phil. D. V. S. Kaloeti, A. Rahmandani, Salma, dan J. Ariati, *Buku Ajar Metodologi Penelitian Eksperimen*. Semarang: Fakultas Psikologi Universitas Diponegoro Semarang, 2020. [Daring]. Tersedia pada: https://www.scribd.com/document/545405138/Full-Buku-Metode-Penelitian-Eksperimen-2020
[16] M. G. Isnawan, *Kuasi-ekperimen*. Nusa Tenggara Barat: Nashir Al-Kutub Indonesia, 2020. [Daring]. Tersedia pada: https://www.researchgate.net/publication/370051836_Quasi-Experimental_Design
[17] A. Fauzy, *Metode Sampling*, vol. 9, no. 1. 2019. [Daring]. Tersedia pada: http://jurnal.globalhealthsciencegroup.com
[18] Sugiyono, *Metodologi Penelitian Kuantitatif, Kualitatif dan R & D*. Bandung: ALFABETA, 2020. [Daring]. Tersedia pada: https://digilib.stekom.ac.id/assets/dokumen/ebook/feb_35efe6a47227d6031a75569c2f3f39d44fe2db43_1652079047.pdf
[19] I. Trisutrisno *dkk.*, *PENDIDIKAN DAN PROMOSI KESEHATAN*. Bone: Yayasan, 2016.
[20] I. N. Gejir, I. G. S. Kencana, dan I. M. B. Artawa, *Implementasi Proses Pembelajaran dalam Penyuluhan Kesehatan Gigi bagi Tenaga Kesehatan*. Malang: Media Nusa Creative, 2020. [Daring]. Tersedia pada: https://books.google.co.id/books?id=mQZMEAAAQBAJ&newbks=1&newbks_redir=0&printsec=frontcover&hl=id&source=gb_mobile_entity&redir_esc=y#v=onepage&q&f=false
[21] M. Pakpahan *dkk.*, *Promosi Kesehatan & Prilaku Kesehatan*. Medan: Yayasan Kita Menulis, 2021. [Daring]. Tersedia pada: https://repositori.uin-alauddin.ac.id/19791/1/2021_Book Chapter_Promosi Kesehatan dan Perilaku Kesehatan.pdf
[22] D. R. Desiningrum, *Psikologi Anak Berkebutuhan Khusus*. Yogyakarta: Psikosain, 2014. [Daring]. Tersedia pada: http://eprints.undip.ac.id/51629/1/Dinie_Ratri_-_Buku_Psikologi_ABK_2016.pdf
[23] S. S. M. K. Yenny Lisbeth Siahaan, S. M. Shiska Buwana Dhewi, dan S. S. Dumamey Siahaan, "Penyuluhan Dengan Penggunaan Media Booklet Dalam Anak TK (Paud)Prabhudy Pwki Medan Dan Tindakan Penumpatan Gigi Dengan FissureSileant Pada Meningkatkan Pengetahuan Tentang KesehatanGigi Dan Mulut," *J. Kesehat. Gigi*, vol. 2, no. 1, hal. 2964–6731, 2023, [Daring]. Tersedia pada: https://journal.poltekkesaceh.ac.id/index.php/jeumpa/article/view/236/271
[24] N. N. Dini, E. D. Agustin, dan M. Amurwaningsih, "Permainan Ular Tangga Meningkatkan Pengetahuan Kesehatan Gigi dan Mulut Anak Disabilitas Rungu," *Insisiva Dent. J. Maj. Kedokt. Gigi Insisiva*, vol. 10, no. 1, hal. 1–6, 2021, doi: 10.18196/di.v10i1.9566.
[25] C. R. Titaley, E. Asmin, dan R. Tahitu, *Buku Ajar: Ilmu Kesehatan Masyarakat untuk Mahasiswa Kedokteran*. Sleman: Deepublish Digital, 2022. [Daring]. Tersedia pada: https://books.google.co.id/books?id=-LYlEQAAQBAJ&newbks=1&newbks_redir=0&printsec=frontcover&pg=PA108&dq=buku+teori+sor&hl=id&source=gb_mobile_entity&redir_esc=y#v=onepage&q=buku teori sor&f=false