

THE EFFECT OF BUSY BOOK MEDIA ON FIRST GRADE STUDENTS' KNOWLEDGE OF HOW TO BRUSH THEIR TEETH (Study Maryam Islamic Elementary School Surabaya)

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ABSTRACT. Knowledge is the result of understanding something after applying sensing to a particular object. Knowledge of how to brush teeth is the result of a person's understanding of how to brush teeth after applying sensing to a particular object. Oral health will affect the child's future. The results of initial data collection related to knowledge of how to brush teeth Maryam Islamic Elementary School show that 60% of students have insufficient knowledge about how to brush their teeth. In order to overcome this, it is necessary to apply promotive efforts, one of which is by implementing guidance utilizing busy book media. This study aims to determine the effect of busy book media on knowledge of how to brush teeth in first grade students of Maryam Islamic Elementary School Surabaya. Quasy experiment design with one group pre test-post test design, with research subjects consisting of 80 first grade students Maryam Islamic Elementary School Surabaya. The data collection method utilized was a questionnaire. The data analysis technique utilizes the Paired T-Test test. The test results of the study obtained an Asymp.sig. (2-tailed) value of 0.000 which means the p value (significance) is smaller than α (0.05). Busy book media has an effect on knowledge of how to brush teeth in first grade students of Maryam Islamic Elementary School Surabaya.

Keywords: Busy book media; Primary school students; Knowledge on how to brush teeth.

1 INTRODUCTION

Oral health is a healthy condition of the hard tissues and soft tissues of the teeth and various elements related to the oral cavity, which allows a person to speak, eat, and socialize with no dysfunction of aesthetic disorders, and discomfort due to occlusion deviation disease and tooth loss, so that it can live economically and socially productive (Ministry of Health, 2015). Based on the Global Burden of Disease in 2017, more than 530 million children have dental caries in primary teeth (Jamilah *et al.*, 2022). The same survey also found that only 25.6% of children aged 6 years and 42.3% of children aged 12 years in Indonesia were free from dental caries (Yusmanijar & Abdulhaq, 2019a). In East Java, dental and oral problems in children have a percentage of 18.2%. Based on age groups, the largest proportion with oral problems is the 5-9 year age group (67.3%) (Safela *et al.*, 2021). When children enter school age, they have a greater risk of developing caries. Many snacks at school, various types ranging from sweet foods and drinks, therefore pose a threat to children's dental health (Jamilah *et al.*, 2022).

Based on Riskesdas data in 2018, 96.8% of Indonesians are diligent in brushing their teeth every day, but 2.8% apply it at the right time, namely the morning after

breakfast and the night before bed (Anggraeni et al., 2022). The results of a preliminary study conducted on class 1B students (aged 6-7 years) totaling 15 students using the interview method Maryam Islamic Elementary School Surabaya obtained the results of 60% of students having insufficient knowledge about how to brush their teeth. After implementing an interview with the principal of Maryam Islamic Elementary School Surabaya, it was seen that the School Dental Health Program (UKGS) is routinely implemented Maryam Islamic Elementary School Surabaya with the Pucang Sewu Puskesmas working area once a year.

Teeth and mouth are very important assets for a child's future. Teeth and mouth are parts of the body that are valued if you want to work, so you must pay attention to the health of children's teeth and mouth. So that their future is secured and they grow up stable, and healthy. Therefore, good teaching about oral health must be given as early as possible so that it can be applied to other successors who apply the same thing in the future. (Setiawan et al., 2021). Busy book media is classified as visual media. The advantages of busy book learning media Ilyas *et al.* (2021) They can be applied to all subjects, they can make them themselves, they can manage their own items, they can be prepared in advance, they can adapt to the interests of students, they can be used more than once, and they are efficient. Opinion Husna & Prasko (2019) busy book media proves that it can change the dental and oral health knowledge of elementary school children because children begin to be interested and participate in activities where children have never received direction to utilize this media, this media is also a play tool and learning media, therefore children do not feel bored during the teaching and learning process (Otto, M, 2017).

Media is needed as a channel to convey information to elementary school students so that they can get information optimally. The busy book media is one of the media that can be used as an intermediary to convey information to elementary school students. The busy book media can be created in line with the interests presented to elementary school children in health promotion, therefore providing new creative and innovative ways to increase elementary school children's knowledge about how to brush their teeth. It is expected that through this busy book, students will have a better understanding of how to maintain oral health. The busy book media that is utilized is expected to provide a different atmosphere for developmental learning Maryam Islamic Elementary School and it is hoped that the health promotion atmosphere will be created appropriately and the objectives achieved.

The purpose of this study was to determine the effect of busy book media on knowledge of how to brush teeth Maryam Islamic Elementary School Surabaya.

2 RESEARCH METHODS

This type of research is a Quasy experiment design with a one group pretest-posttest design. The research location is at Maryam Islamic Elementary School, Jl. Manyar Sambongan No.119, Kertajaya, Kec. Gubeng, Surabaya City, East Java 60282. This research was implemented from October 2022 to March 2023. The research population was 100 first grade students and with 80 samples of students Islamic Elementary School Surabaya. The aspect studied was the effect of busy book media on knowledge of how to brush teeth in first grade students of Maryam Islamic Elementary School Surabaya. Data collection methods by filling out questionnaire sheets. The data analysis of this study is to apply a normality test with the Kolmogorof-Smirnov Test and apply a

different test with the Paired T Test.

3 RESULTS

Research-based data collection on the effect of Busy Book Media on First Grade Learners on Knowing How to Brush Teeth, obtained the following results

Table 1. Gender Characteristics of Respondents

Gender	f	%
Female	41	51,25
Male	39	48,75

Based on table 1, it can be seen that out of 80 respondents, the majority of respondents were female, namely 41 students (51.25%) and male, namely 39 students (48.75%).

Table 2. Age Characteristics of Respondents

Gender	f	%
Female	41	51,25
Male	39	48,75

Based on Table 2, it can be seen that there were 18 learners aged 6 years (22.5), and 62 learners aged 7 years (77.5).

3.1 Knowledge about tooth brushing time before and after counseling utilizing Busy Book Media

Table 3. Distribution of Knowledge Regarding Tooth Brushing Time Before and After Briefing with Busy Book Media in First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Inquiry	Before counseling				After counseling			
		Correct		False		Correct		False	
		N	%	N	%	N	%	N	%
1.	When is the right time to brush your teeth?	40	50	40	50	56	70	24	30
	Amount	40	50	40	50	56	70	24	30
	Average		50		50		70		30
	Knowledge criteria	Less				Enough			

Based on table 3, it can be seen that the majority of respondents before receiving briefings with busy book media had knowledge with insufficient criteria (50%), after receiving briefings with busy book media had knowledge with sufficient criteria (70%).

3.2 Knowledge on Frequency of Tooth Brushing Before and After Briefing Utilizing Busy Book Media

Table 4. Distribution of Knowledge Regarding the Frequency of Brushing Teeth Before and After Briefing with Busy Book Media in First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Inquiry	Before counseling				After counseling			
		Correct		False		Correct		False	
		N	%	N	%	N	%	N	%
1.	How many times should you brush your teeth in a day?	63	78,8	17	21,3	73	91,3	7	8,8
Amount		63	78,8	17	21,3	73	91,3	7	8,8
Average			78,8		21,3		91,3		8,8
Knowledge criteria		Good				Good			

Source: Primary data

Based on table 4, it can be seen that the majority of respondents before receiving briefings with busy book media had knowledge with good criteria (78.8%), after receiving briefings with busy book media had knowledge with good criteria (91.3%).

1. Dietary Knowledge Before and After Briefing Utilizing Busy Book Media

Table 5. Distribution of Knowledge about Diet Before and After Briefing with Busy Book Media in First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Inquiry	Before counseling				After counseling			
		Correct		False		Correct		False	
		N	%	N	%	N	%	N	%
1.	What foods make our teeth healthy?	66	82,5	14	17,5	74	92,5	6	7,5
2.	What foods can damage our teeth?	69	86,3	11	13,8	76	95	4	5
Amount		135	168,8	25	31,3	150	187,5	10	12,5
Average			84,4		15,7		93,8		6,3
Knowledge criteria		Good				Good			

Source: Primary data

Based on table 5, it can be seen that the majority of respondents before getting briefings

with busy book media had knowledge with good criteria (84.4%), after getting briefings with busy book media had knowledge with good criteria (93.8%).

3.3 Knowledge on How to Brush Teeth Before and After Briefing Utilizing Busy Book media

Table 6. Distribution of Knowledge about How to Brush Teeth Before and After Briefing with Busy Book Media in First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Inquiry	Before counseling				After counseling			
		Correct		False		Correct		False	
		N	%	N	%	N	%	N	%
1.	How to brush the outer front teeth that face the lips?	62	77,5	18	22,5	66	82,5	14	17,5
2.	How to brush the teeth facing the cheeks?	14	17,5	66	82,5	55	68,8	25	31,3
3.	How to brush teeth facing the palate?	35	43,8	45	56,2	58	72,5	22	27,5
4.	How to brush the teeth facing the tongue?	14	17,5	66	82,5	55	68,8	25	31,3
5.	How to brush the teeth on the part used for chewing?	27	33,8	53	66,2	61	76,3	19	23,8
Amount		152	190,1	248	310	295	368,9	105	131,4
Average			38		62		73,78		26,28
Knowledge criteria		Less				Enough			

Source: Primary data

Based on table 6, it can be seen that the majority of respondents before getting briefings with busy book media had knowledge with insufficient criteria (38%), after getting briefings with busy book media had knowledge with sufficient criteria (73.78%)

3.4 Knowledge on Dental Check-up Time Before and After Briefing Utilizing Busy Book Media

Table 6. Distribution of Knowledge Regarding Dental Checking Time Before and After Briefing with Busy Book Media for First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Inquiry	Before counseling				After counseling			
		Correct		False		Correct		False	
		N	%	N	%	N	%	N	%

1.	When is the right time for a routine dental check-up?	18	22,5	62	77,5	64	80	16	20
Amount		63	18	22,5	62	77,5	64	80	16
Average				22,5		77,5		80	
Knowledge criteria		Good				Less			

Based on table 6, it can be seen that the majority of respondents before getting briefings with busy book media have knowledge with insufficient criteria (22.5%), after getting briefings with busy book media have knowledge with good criteria (80%).

Table 7. Frequency Distribution of Average Knowledge of How to Brush Teeth in First Grade Students at Maryam Islamic Elementary School Surabaya

No.	Variable	N	Average Child Knowledge
1.	<i>Pretest</i>	80	54,725 (Less)
2.	<i>Posttest</i>	80	81,8 (Good)

Based on table 7 above, it shows that there is an increase in knowledge about how to brush teeth in children after a health briefing utilizing busy book media with poor criteria (54.725) at pretest and with good criteria (81.8) at posttest.

Table 8. Distribution of Normality Test Results with Kolmogorof Smirnov Test Data on the Effect of Busy Book Media on Knowledge of How to Brush Teeth in First Grade Students of Maryam Islamic Elementary School Surabaya.

Pretest-Posttest Results	N	Mean ± Std.Deviation	sig.
<i>Pretest-Posttest</i>	80	0,0000000 ± 1,34044305	0,200

Based on table 8, the results of the normality test with the Kolmogorov-Smirnov test show that the value (sig) for the Pretest and Posttest values is 0.200 greater than 0.05. Therefore, in line with the basis for making decisions in the Kolmogorov-Smirnov normality test, it can be concluded that the data is normally distributed.

Table 9. Distribution of Paired T Test Results Data on the Effect of Busy Book Media on Knowledge of How to Brush Teeth in First Grade Students of Maryam Islamic Elementary School Surabaya.

Pretest and Posttest Score	N	Mean	Std.Deviation	sig. (2-tailed)
<i>Pretest-Posttest</i>	80	-2,87500	2,22969	0,000

Based on table 9, the average value of pre-test and post-test scores is -2.287500. sig. (2-tailed) is 0.000 <0.005. this means that H0 is rejected and H1 is accepted. Therefore it can be concluded that there is a difference in the average Pretest and Posttest scores.

Table 10. Distribution of Hypothesis Results with T Test Data on Knowledge Regarding How to Brush Teeth in First Grade Students at Maryam Islamic Elementary School Surabaya

Pretest and Posttest Score	N	Mean	Std.Deviation	sig.
Pretest-Posttest	80	-2,87500	0,104	0,039

Based on table 10, it can be seen that the significance value (sig.) is 0.039 <0.05, therefore it can be concluded that H0 is rejected and H1 is accepted, which means that there is an effect of busy book media on elementary school students' knowledge of how to brush their teeth.

4 DISCUSSION

4.1 Knowledge about tooth brushing time among first grade students at Maryam Islamic Elementary School Surabaya

Based on the results of the research that has been applied, it shows that there is an increase in the average value of knowledge of class I students Maryam Islamic Elementary School Surabaya regarding the time to brush their teeth before and after being briefed with busy book media, namely from less criteria in the pretest to sufficient criteria in the posttest. The best time to brush your teeth is the morning after breakfast and the night before bed. This is for the purpose of cleaning food debris that sticks to the teeth both on the surface and between the teeth and gums (Hidayat & Tandiar, 2016). Based on the results of research from Sufriani & Aflah (2018), that the number of school children who brush 2 times a day is less than those who brush 1 time a day, this is because many children miss brushing their teeth at night.

4.2 Knowledge of Frequency of Tooth Brushing among First Grade Students at Maryam Islamic Elementary School Surabaya

Based on the results of research that has been applied, it shows that the average knowledge of the frequency of brushing teeth is classified as good criteria because the majority of students already know the right frequency to brush their teeth, namely twice a day. The results of this study are in line with the results of research Melo *et al.* (2018), who stated that getting an increase in school children's oral health knowledge with a determined frequency in knowing the right time to brush their teeth. Then it becomes more improved by getting direction and continuation of the behavior to brush teeth with the time he already knows (Bashirian, S., 2018) (Ihab, M et al., 2023)

4.3 Knowledge of Diet in First Grade Learners at Maryam Islamic Elementary School Surabaya

Based on the results of research that has been applied to first grade students of Maryam Islamic Elementary School Surabaya regarding diet, it shows that the average knowledge of diet is classified as good because the majority of students already know foods that can nourish teeth, namely fiber fruits and vegetables such as cucumber, watermelon, tomatoes, pears and foods that can damage teeth, namely sweet and sticky foods such as candy, chocolate and cotton candy. The results of this study are in line with research Kartini *et al.* (2023) elementary school children have a better understanding of how to maintain oral health, along with understanding the urgency of maintaining oral health..

4.4 Knowledge of How to Brush Teeth in First Grade Learners at Maryam Islamic Elementary School Surabaya

Based on the results of research that has been applied to first grade students of Maryam Islamic Elementary School Surabaya regarding how to brush teeth, it shows that the average knowledge is found to increase knowledge after being briefed with busy book media, namely with less criteria in the pretest and with sufficient criteria in the posttest. Brushing teeth correctly is applied with up and down movements not left and right for the front teeth. In addition, brushing teeth is applied for at least 2 minutes. (Ricman *et al.*, 2021). This is also supported by the results of research Ghofur (2012), that how to brush teeth for tooth surfaces facing the cheeks and lips (buccal/labial) with the direction of movement up and down with the condition of the upper and lower jaws in a closed condition. On the surface of the teeth facing the tongue / palate (lingual / palatal) in the direction up and down with the upper lower jaw open (Kidd, E. A., & Fejerskov, O, 2016).

4.5 Knowledge about Dental Check-up Time among First Grade Students at Maryam Islamic Elementary School Surabaya

Based on the results of research that has been applied to first grade students of Maryam Islamic Elementary School Surabaya regarding dental check-up time, it shows that the average knowledge is found to increase knowledge after being briefed with busy book media, which is less criteria in the pretest and good criteria in the posttest. Based on research results Opydo Szymaczek *et al.* (2021), There are still many school children who still apply little dental care because they are often ignored and wait to get complications. This makes children's oral health still lacking, due to the lack of parental knowledge in utilizing dental health services to implement dental care (Banerjee, A et al., 2011)

This research is supported by Matsuyama *et al.* (2020) that poor involvement and lack of supervision from parents regarding children's health in the occurrence of caries will make children's oral health worse by having parenting patterns that do not instill oral health. Based on Wende (2019) If children rarely apply dental care that should be applied every 6 months, it will cause other dental problems that are not visible to

parents. The results of this study are also supported by research Rahma Belinda & Sang Surya (2021), It is very important to apply education to children, especially in elementary schools regarding oral health and dental care that must be applied when, by utilizing the media in order to increase children's knowledge and awareness of the importance of maintaining oral health (Irawan, E et al., 2023)

4.6 Knowledge of How to Brush Teeth in First Grade Learners at Maryam Islamic Elementary School Surabaya

Based on the results of research to determine the effect of using busy book media on knowledge about oral health and dental health in first grade students Maryam Islamic Elementary School Surabaya, the results show that there is an influence of busy book media on knowledge about oral health and dental health. Busy book media has the advantage that the content of material regarding oral health can be made in harmony with what is desired, therefore it can be arranged more interestingly and as actively as possible for first grade students of SD Islam Maryam. This interest is important so that they can follow the direction carefully and not feel bored. In line with the research applied by Rahmi *et al.* (2023) which shows that briefings using busy book media increase knowledge about how to brush teeth, therefore making respondents interested and take part in activities that respondents have never done, by making this media a play tool and learning to children in the learning process.

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