



## RESEARCH ARTICLE

### EFFECTIVENESS OF THE USE OF LEAFLET AND BOOKLET MEDIA, IN IMPROVING THE ABILITY TO BROTH DENTALS, IN BASIC SCHOOL STUDENTS

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#### INTRODUCTION

Children must avoid disease, accidents or disasters (Hery Sumasto et al. 2019). Including also issues around dental health. Oral and dental health is often not a priority for some people, even though teeth and mouth are the "gateway" for the entry of germs and bacteria so that it can interfere with the health of other organs. One of the causes of dental and oral health problems on children is the behavioral factor that ignores the health of teeth and mouth which happens because of the lack of knowledge of maintaining oral health which leads to cause caries (Azalea et al., 2016). Low dental health knowledge in children is a factor causing caries. The occurrence of dental caries in individuals is influenced by their knowledge of the dental and oral hygiene of the individual itself. If a healthy way of life in maintaining dental health is formed from good behavior in maintaining oral health, then the risk of dental caries can also be prevented. Behavior in maintaining oral and dental hygiene is more likely to occur unfavorably in individuals, in this case the habit of maintaining poor oral hygiene will provide a great risk and facilitate dental caries (Rahman Eddy, 2018). Based on data from the Basic Health Research Indonesia in 2013 and 2018, the percentage of people who have dental and mouth problems increased from 25,9% to 57,6%.

#### ABSTRACT

One of the causes of dental and oral health problems on children is the behavioral factor that ignores the health of teeth and mouth. It happens because of the lack of knowledge of maintaining oral health which leads to cause caries. The purpose of the study was to analyze differences in the use of leaflet and booklet media in improving the ability to brush teeth in elementary school students. This type of research is analytic research with pre-posttest design. Analysis of the data used is the Mann-Whitney test to see the differences between leaflet media and booklet media. From the results of analysis, the leaflet media was more effective to be used as a counseling medium compared to the booklet media in improving the ability to brush.

The results of the 2013 Basic Health Research Indonesia showed that the caries prevalence of the population in Indonesia was 72,6%, the population with dental and mouth problems who received care and treatment was 31,1% and the tendency for the DMF-T index was 4,5. Based on data from the Basic Health Research Indonesia in 2018, residents 3 years and over have a habit of brushing teeth 9,7% every day. In 2013, those who brushed their teeth properly (after breakfast and before going to bed at night) were 2,3% and increased to 2,8% in 2018. This might be due to lack of public knowledge and awareness of the importance of maintaining oral health. It is expected that with oral health education the community's oral health level will improve in order to obtain the highest degree of oral health (Tauchid, 2016). One of the uses of the media to impart knowledge to children can be done by way of counseling. Media counseling is essentially an educational tool. The media is a channel for conveying health information and is used to facilitate receiving health messages for the community or target. Media counseling is divided into three, namely print media (leaflets, booklets, flyers, flipcharts) electronic media, and board media (Notoatmodjo, 2014). Based on preliminary surveys conducted by researchers in class VI students at SDN Gading VII Surabaya in 2018, the average level of dental and oral hygiene was 3,4 which is a poor OHI-S category. From the description above, the problem of this research is the lack of dental and oral hygiene.

#### RESEARCH METHODS

This type of research is analytic research with pre-post test design.

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To find out the situation before and after being treated. Analysis of the data used is the Saphiro Wilk Test to see the normality of the data, the Paired T-Test to see the effect of media use and if the data is not normally distributed then use the Wilcoxon Test and the Mann-Whitney test to see the difference between leaflet media and booklet media.

## RESULTS

Table 1 Results of Measurement of Knowledge of Brushing Teeth before and after Counseling with Media Leaflets for Students SDN Gading VII Surabaya 2019. The results of measuring the knowledge of how to brush teeth using the media leaflet for students of class VI-A SDN Gading VII Surabaya before counseling can be seen that the average value is included in the category of less. After counseling by using leaflet media included in both categories. There was a significant increase in knowledge of dental and oral hygiene before and after counseling by using leaflet media for grade VI-A students. Leaflets classified in the visual media are designed in such a way that with pleasant colors with explanations made brief but clearly equipped with pictures to attract the reader's interest. Leaflets are made in sheet form and then folded into three parts, so that the impression looks more practical and easier to carry. Some of the strengths of the leaflet are that students can adjust and learn independently because they can see the contents when they are relaxed, and the information can be stored to be read repeatedly and in detail. This is in accordance with Notoatmodjo's theory (2018), that education media or health promotion are all means or efforts to display messages or information conveyed by instructors through leaflet media, so students can increase their knowledge which is ultimately expected to change knowledge (cognitive) ways brushing teeth at Ivory VII Surabaya Elementary School students. This is in line with research conducted by Ardyanto (2018) that there is an influence of healthy food leaflet media on knowledge of snacks. The results of measuring the knowledge of how to brush your teeth using the Booklet media before counseling showed the highest value in the category of less. The results of the measurement of Knowledge of Tooth Brushing Class VI-B SDN Gading VII Surabaya after counseling using the Media Booklet showed the highest value in the sufficient category. In terms of tooth brushing skills, the results of the measurement of tooth brushing skills of class VI-A students of SDN Gading VII Surabaya before counseling using leaflet media, showed the highest value in the less category. Tooth brushing students of class VI-A SDN Gading VII Surabaya after counseling using the Leaflet media showed the highest value in either category. There is an increase in the ability to brush teeth on students compared to before counseling with the media leaflet, this is due to the Psychomotor Domain containing behavioral behaviors that emphasize aspects of skills (Suharsimi Arikunto in Farizi, 2014). The psychomotor domain is closely related to the work of the muscles that act as the body and its parts, ranging from simple movements such as the movement of putting paste in a toothbrush to complex movements such as brushing teeth properly. This is consistent with Budiyanto (2016) that leaflet media is effective in increasing the knowledge and skills to wash hands with soap. Table 5 Analysis of the Differences in Effect of Use of Media Leaflets and Media Booklets in Increasing

Based on the description above, it can be seen that there are differences in counseling with leaflet media and booklet media in improving the oral and dental hygiene of class VI students at SDN Gading VII Surabaya, in other words counseling using leaflet media is more effective than counseling using media booklets. The effect of student practice on tooth brushing skills caused by the practice or practice of toothbrushing received by students is very complete, starting to understand the information obtained, applying that information in daily life, analyzing and synthesizing the information and finally evaluating the results of analysis and synthesis.

## DISCUSSION

**Measurement Results of Dental and Oral Hygiene Knowledge Before and After Counseling with Student Media Booklets:** In accordance with the research of Femy Azalea (2015) the presentation in the material pocketbook is spelled out clearly and in detail. The size of the letters in the smaller pocketbook media also affects the child's interest to want to read it. The large number of pages in the pocketbook media also affects the child's interest to read through to completion, this is related to the child's willingness and ability to read the book.

**Measurement Results of Tooth Brushing Skills Before and After Counseling with Media Leaflets:** There is an increase in the ability to brush teeth on students compared to before counseling with the media leaflet, this is due to the Psychomotor Domain containing behavioral behaviors that emphasize aspects of skills (Suharsimi Arikunto in Farizi, 2014). The psychomotor domain is closely related to the work of the muscles that act as the body and its parts, ranging from simple movements such as the movement of putting paste in a toothbrush to complex movements such as brushing teeth properly. This is consistent with Budiyanto (2016) that leaflet media is effective in increasing the knowledge and skills to wash hands with soap.

**Teeth Brushing Skill Measurement Results Before and after Counseling with Media Booklets:** This is in accordance with Azadirachta, 2018 that using Booklet media can improve consumption practices and vegetable and fruit consumption practices in elementary school students.

**Differences in the Media Training of Leaflets and Booklets in improving the ability to brush students' teeth:** The results of this study are consistent with the results of the study of Femy Azalea (2015), that there are differences after counseling using leaflet media and booklet media as educational tools for changes in the level of dental health knowledge. Leaflets and booklets are static print media that prioritize visual messages, which consist of depicting a number of words, pictures or photos in color. The main function of print media is to provide information and entertain (Notoatmodjo, 2018). Presentation of the material on the leaflet media is shorter, denser, equipped with pictures so that it is easy to understand and also practical. While booklets in terms of delivering messages are not effective because readers are required to read and understand themselves where the contents are only writing and a few images that allow readers to get bored reading themselves so that the message conveyed cannot be absorbed properly. Based on James W.

**Table 1. Results of Measurement of Knowledge of Brushing Teeth before and after Counseling with Media Leaflets for Students SDN Gading VII Surabaya 2019**

| Category   | Class VI-A |      |        |      | Class VI-B |      |        |      |
|------------|------------|------|--------|------|------------|------|--------|------|
|            | Category   |      | Before |      | Category   |      | Before |      |
|            | Amount     | %    | Amount | %    | Amount     | %    | Amount | %    |
| Good       | 0          | 0%   | 25     | 64%  | 0          | 0%   | 14     | 36%  |
| Sufficient | 10         | 26%  | 14     | 36%  | 11         | 28%  | 25     | 64%  |
| Less       | 29         | 74%  | 0      | 0%   | 28         | 72%  | 0      | 0%   |
| Total      | 39         | 100% | 39     | 100% | 39         | 100% | 39     | 100% |

**Table 2. Results of Skill Measurement Methods for Brushing Teeth Before Counseling with Media Booklets for Students SDN Gading VII Surabaya 2019**

| Category   | Class VI-A |      |        |      | Class VI-B |      |        |      |
|------------|------------|------|--------|------|------------|------|--------|------|
|            | Category   |      | Before |      | Category   |      | Before |      |
|            | Amount     | %    | Amount | %    | Amount     | %    | Amount | %    |
| Good       | 11         | 28%  | 20     | 51%  | 4          | 10%  | 6      | 15%  |
| Sufficient | 3          | 8%   | 19     | 49%  | 12         | 31%  | 26     | 67%  |
| Less       | 25         | 64%  | 0      | 0%   | 23         | 59%  | 7      | 18%  |
| Total      | 39         | 100% | 39     | 100% | 39         | 100% | 39     | 100% |

**Table 3 Analysis of the Effect of Using Media Leaflets in Increasing Knowledge of How to Brush Teeth of Students of SDN Gading VII Surabaya in 2019**

| Category   | Class VI-A |       |                                       |                      | Class VI-B |       |                                       |                      |
|------------|------------|-------|---------------------------------------|----------------------|------------|-------|---------------------------------------|----------------------|
|            | Before     | After | No of Students<br>Assessment Criteria | Asymp.Sig (2-tailed) | Before     | After | No of Students<br>Assessment Criteria | Asymp.Sig (2-tailed) |
| Good       | 0          | 25    | Good: >75%                            | 0,000                | 0          | 14    | Good: >75%                            | 0,000                |
| Sufficient | 10         | 14    | Sufficient: 60%-75%                   |                      | 28         | 25    | Sufficient: 60%-75%                   |                      |
| Less       | 29         | 0     | Less: >60%                            |                      | 11         | 0     | Less: >60%                            |                      |
| Total      | 39         | 39    |                                       |                      | 39         | 39    |                                       |                      |
|            | 52,05      | 83,72 |                                       |                      | 51,04      | 75,64 |                                       |                      |

**Table 4 Effect Analysis Use of Booklet Media in Improving Skill of How to Brush Teeth of Students SDN Gading VII Surabaya in 2019**

| Category   | Class VI-A               |                         |                        |                              | Class VI-B               |                         |                         |                              |
|------------|--------------------------|-------------------------|------------------------|------------------------------|--------------------------|-------------------------|-------------------------|------------------------------|
|            | No of Students<br>Before | No of Students<br>After | Assessment<br>Criteria | Asymp.S<br>ig (2-<br>tailed) | No of Students<br>Before | No of Students<br>After | Assessment<br>Criteria  | Asymp.S<br>ig (2-<br>tailed) |
| Good       | 4                        | 6                       | Good: >75%             | 0,000                        | 11                       | 20                      | Good: >75%              | 0,000                        |
| Sufficient | 12                       | 26                      | Sufficient:<br>60%-75% |                              | 3                        | 19                      | Sufficient: 60%-<br>75% |                              |
| Less       | 23                       | 7                       | Less: >60%             |                              | 25                       | 0                       | Less: >60%              |                              |
| Total      | 39                       | 39                      |                        |                              | 39                       | 39                      |                         |                              |
| Mean       | 54,49                    | 74,36                   |                        |                              | 63,21                    | 87,82                   |                         |                              |

**Table 5 Analysis of the Differences in Effect of Use of Media Leaflets and Media Booklets in Increasing**

| Category   | Counseling Media |         | Asymp.Sig (2-tailed) |
|------------|------------------|---------|----------------------|
|            | Leaflet          | Booklet |                      |
| Good       | 20               | 6       | 0,000                |
| Sufficient | 19               | 26      |                      |
| Less       | 0                | 7       |                      |
| Total      | 39               | 39      |                      |
| Means      | 87,82            | 74,36   |                      |

**Table 6 Analysis of the Differences in Effects of the Use of Media Leaflet and Media Booklet in Skill on How to Brush Teeth Grade VI SDN Gading VII Surabaya in 2019**

| Category   | Counseling Media |         | Asymp.Sig (2-tailed) |
|------------|------------------|---------|----------------------|
|            | Leaflet          | Booklet |                      |
| Good       | 25               | 14      | 0,001                |
| Sufficient | 14               | 25      |                      |
| Less       | 0                | 0       |                      |
| Total      | 39               | 39      |                      |
| Means      | 83,72            | 75,64   |                      |

Brown's opinion in a teaching media book which states that the age of children tends to prefer and are interested in something that is full of images and has short and clear sentences when compared to the explanation of long sentences (Femy Azalea, 2015). This is in accordance with the use of media aids requires the ability and willingness of children to read to be able to understand the material. Most of a student's knowledge is obtained through the sense of hearing (ears) and sense of sight (eyes). Benjamin S. Bloom et al in Notoatmodjo 2018 argues that the taxonomy of the cognitive domain includes six levels of thought processes, namely: Knowledge, is the ability of students to recall or recall about how to brush their teeth, Comprehension is the ability of students to understand or understand about how to brush their teeth after it is known and remembered. In other words, understanding is knowing about how to brush your teeth and being able to see it from various aspects. A student is said to understand about how to brush his teeth if he can give an explanation or give a more detailed description of how to brush his teeth using his own words. Understanding is a level of thinking ability that is one level higher than memory or memorization. Application is the ability of students to apply or, procedures or methods for brushing their teeth. This application or application is a process of thinking one level higher than understanding.

Analysis including the ability to break down an entity into parts so that the overall structure or organization can be understood properly. Synthesis (synthesis) is the ability of a student to detail or describe a material or condition according to smaller parts and be able to understand the relationship between parts or factors that one with other factors. Synthesis is a process that combines parts or elements logically, so that it is transformed into a structured pattern or in the form of a new pattern. The synthesis level is higher than the analysis. Evaluation is the highest level of thinking in the cognitive realm according to Bloom. Evaluation or evaluation here is a person's ability to make a judgment about a situation, value, or idea, for example if someone is faced with several choices, then he will be able to choose the best choice, according to existing benchmarks or criteria. (Anas Sudijono, 2001). The influence of knowledge on how to brush teeth is caused by attitude factors that can be observed from the awareness of students to follow counseling with discipline, enthusiasm and active communication. In theory, new behavior change follows the stages proposed by Rogers (1983 in Notoatmodjo 2012) that before students adopt new behaviors, sequential processes occur, namely: 1) awareness, students are aware of how to brush their teeth using the media leaflets and boklets; 2) interest, students begin to be interested in the information conveyed by showing their interest through counseling; 3) evaluation, students weigh on good and whether or not the information is for him, this means showing a better attitude again; 4) trial, students begin to behave recently demonstrated by demonstrating brushing teeth with a tooth model; and 5) adoption, students begin to behave according to the knowledge of how to brush their teeth. According to Notoatmodjo, 2018 skills were divided into 3 (three) levels, namely: Guided Practice, for example, a student brushing his teeth but was still reminded by his mother, Mechanism. For example, a student automatically brushed his teeth after eating without being told to do so. his mother, Adoption (Adoption) for example Students brush their teeth with the right techniques.

Changes in skills will affect changes in new behavior from the stages of knowledge, attitude, and practice or "KAP". According to the cone of Edgar Dale's experience in Jackson (2016) that the things that are the least effective for use in learning are at the top of the cone while the most effective thing is at the base of the cone. 10% were read, 20% were heard, 30% were seen, 50% were seen and heard, 70% were written and said and 90% were practiced. Stephen P. Robbins & Timonhy A. Judge, in Milwan Yusdi (2011) stated that the overall ability of an individual basically consists of two groups of factors, namely: Intellectual Ability is the ability needed to perform various mental activities such as thinking, reasoning and solve the knowledge of how to brush teeth. While Physical Ability is the ability to perform tasks that require stamina, skills in how to brush teeth. Brown (1973) revealed that learning media such as leaflets and booklets that are used can influence the effectiveness of counseling (Ahmad Kholid, 2018, Health Promotion)

### Conclusions and suggestion

An increase in knowledge and skills on how to brush teeth after counseling with media leaflets on elementary school students from less to good. While counseling with media booklets for elementary school students from less to be sufficient. The leaflet media is more effective as a counseling medium compared to the booklet media in improving the ability to brush teeth in elementary school students. Counseling for elementary school students should use the Leaflet media because it is short, compact. and practical appearance. Media Leaflets are more equipped with pictures in simple and easy to understand language, designs are made in such a way that attracts the attention of elementary school students.

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