

COMPARATIVE STUDY OF THE EFFECTIVENESS OF LEAFLET AND BOOKLET EDUCATIONAL MEDIA ON ORAL HYGIENE KNOWLEDGE AMONG FOURTH AND FIFTH GRADE STUDENTS AT SDN 03 TUMPUK TANGAH SAWAHLUNTO CITY

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Abstract

Poor dental and oral health is usually based on lack of knowledge. To improve knowledge, health information supported by media is needed. Leaflets have the advantage of being designed in such a way as to suit their targets and are practical because they reduce the need for taking notes, while booklets make it easier to understand, in the form of small books, containing short and clear messages. The purpose of this study was to determine the difference in knowledge of dental and oral hygiene between providing information using leaflet and booklet media to children in grades IV and V of SDN 03 Tumpuk Tengah, Sawahlunto City. The type of research used is an experiment with a pretest and posttest design. The population of this study was all students in grades IV and V of SDN 03 Tumpuk Tengah, Sawahlunto City, totaling 40 students. The sample in this study was 40 people, the sampling technique was saturated samples. The method of data collection was by filling out a pretest- posttest questionnaire about dental and oral hygiene. Data analysis used was univariate and bivariate analysis. The results of the study showed that students' knowledge before being given information about dental and oral hygiene was 55.0% with sufficient criteria and after being given counseling using leaflet media increased to 80.0%. Students' knowledge before being given counseling on dental and oral hygiene was 60.0% with insufficient criteria and after being given counseling using booklet media increased to 90.0%, the average difference is 23.05 on the leaflet and 32.25 on the booklet. Mann Whitney u Asymp.sig statistics ($0.042 < 0.05$), there is a significant difference between the extension with leaflet and booklet media. The conclusion of this study is that counseling using leaflet and booklet media can both improve knowledge of dental and oral hygiene. It is recommended that respondents apply the methods of maintaining dental and oral hygiene that have been given in everyday life.

Keywords : Knowledge, Leaflet, Booklet,

1. INTRODUCTION

Health is a healthy state, both physically, mentally, spiritually and socially that allows everyone to live productively socially and economically as stated in Health Law No. 36 of 2009. In addition to general health, dental and oral health are also important because they can affect the overall health of the body [31]. Dental and oral health is a condition where the hard and soft tissues in the oral cavity are healthy, free from all diseases and aesthetic disorders. This allows an individual to have no problems speaking, digesting food and interacting with other individuals [29]. One way to keep your teeth and mouth healthy is by maintaining good oral hygiene. Good oral hygiene is the condition where a person's mouth is free

from impurities such as debris, plaque, and tartar. Oral hygiene is one of the necessary measures to protect the mouth from infection. Oral hygiene is crucial for dental health because a number of dental and oral problems can arise from poor oral hygiene [9].

Based on the results of the 2018 Basic Health Research (Riskesdas), the majority of the Indonesian population in West Sumatra Province experienced dental and oral health problems, amounting to 43.87% and in Sawahlunto City 26.2%.⁴ Based on the 2023 Indonesian Health Survey (SKI), the majority of the Indonesian population in West Sumatra Province experienced dental and oral health problems, amounting to 61.1%.⁵ This shows an increase in dental and oral problems by 17.23% in West Sumatra. Lack of awareness of oral hygiene is caused by low levels of knowledge about it. Education is crucial for increasing knowledge and is one of the simplest health promotion processes for everyone to maintain their health. One way to increase knowledge is by providing information on oral hygiene.

According to Green and Kreuter's Precede-Proceed model, educational media play an important role in influencing predisposing factors such as knowledge, attitudes, and beliefs, which in turn affect health behaviors. Similarly, the Health Belief Model (HBM) suggests that appropriate educational interventions can enhance individuals' perceived susceptibility, perceived severity, and perceived benefits, leading to improved health-related knowledge and behavior. Therefore, comparing the effectiveness of different educational media—such as booklets and leaflets—can provide insight into which medium is more effective in increasing students' knowledge and promoting positive health behaviors.

Providing dental and oral health information is a planned and targeted effort used to create an atmosphere that encourages individuals or groups to change existing behaviors considered less beneficial to dental health into more beneficial ones. To ensure information is easily understood, media is needed to facilitate the delivery of information [7]. Health promotion media are used to present health messages or information to individuals. Media or visual aids for delivering dental health information can be considered tools to facilitate the target audience's understanding of the material presented by the instructor. Media are a set of tools used as intermediaries in communicating with the target audience. Information media, often referred to as communication media, can range from simple to sophisticated [6].

Leaflets are a promotional medium that can be used to attract students' interest in providing information. Leaflets convey information or health messages through folded sheets. The information can be in the form of sentences or images. Leaflets are carefully crafted using simple, concise language that is easy for students to understand. Leaflets offer advantages: they are easy to carry, can be stored for a long time, and can be designed in a variety of ways [1]. Meanwhile, booklets, which are small books half the size of a quarto, contain text and images. Their simple design makes them ideal for independent learning, encouraging students to read. Previous research found that the average change in knowledge after receiving information using booklets and leaflets was equally effective. This suggests that providing information using leaflets and booklets is equally effective as a means of increasing student knowledge [8].

The results of the interview with the principal obtained information that, from the nearest health center routinely conducts health screening and periodic checks for students in grades I, II, and III, the health center conducts physical examinations, such as weight, height, visual acuity, hearing, and conducts dental examinations only on students in grade I. UKGS at SDN 03 Tumpuk Tengah is not yet operational, only UKS is operating to serve students who are sick during school hours. The results of the interview with the principal also obtained data at SDN 03 Tumpuk Tengah has 97 students, 13 students in grade 1, 20 students in grade 2, 14 students in grade 3, 20 students in grade 4, 20 students in grade 5, and 11 students in grade 6. There has been no study in Sawahlunto comparing the effectiveness of booklets and leaflets among elementary school students.

Based on interviews with 10 students at SDN 03 Tumpuk Tengah, it was found that 3 students knew how to maintain good oral hygiene, while 7 students did not. These included: inappropriate brushing times, proper brushing techniques, foods that can damage dental health, and foods that are good for dental health, such as foods high in fiber.

2. METHODOLOGY

This study employed an experimental design, employing a pretest and posttest design, conducted with observation and treatment. In this study, assessments and observations were conducted twice: once before treatment (pre-test) and once after treatment (post-test). This study aimed to determine dental and oral hygiene knowledge before and after counseling using leaflets and booklets among fourth and fifth grade students at SDN 03 Tumpuk Tengah, Talawi District, Sawahlunto City. The data collection procedure is by requesting a letter of permission to conduct research in the academic or administrative section of the Dental Health Department of the Ministry of Health, Padang Health Polytechnic and providing a letter of permission to the Principal of SDN 03 Tumpuk Tengah. Data were collected using a health knowledge questionnaire consisting of 20 multiple-choice questions. Each correct answer was scored 1, and incorrect answers 0, resulting in a total score ranging from 0 to 20. Prior to use, the questionnaire underwent validation and reliability testing. Data were collected via questionnaires administered before the intervention (pretest) and one week after the intervention (posttest). The intervention consisted of a single session using the assigned educational media (booklet or leaflet). Data were analyzed using statistical software as follows. Univariate analysis to describe the frequency distribution of students' knowledge scores before and after the intervention. Bivariate analysis to compare knowledge scores between the booklet and leaflet groups, the Mann–Whitney U test was used due to the ordinal nature of the data. For within-group comparisons (pretest vs. posttest), the Wilcoxon Signed Rank Test was applied. Statistical significance was set at $p < 0.05$. This procedure allows the study to systematically assess which educational media is more effective in improving health knowledge among elementary school students in Sawahlunto.

This research was conducted on April 15, 2025, assisted by two enumerators, sixth-semester students of the Dental Health Department. To achieve appropriateness in the research, calibration or perception similarity was necessary. This perception similarity was carried out for three days before the research to avoid errors during counseling during the research. Before the research was conducted, the researcher taught the enumerators and reminded them about the procedures in the research, including the questionnaire sheets that must be completed in.

3. RESULTS AND DISCUSSION

The study aimed to determine the differences in knowledge of dental and oral hygiene between providing information using leaflets and booklets to 40 students in grades V and VI.

The research results can be seen in the following table:

Table 1: Frequency Distribution of Knowledge of Dental and Oral Hygiene Before and After Providing Information Using Leaflets Media

Knowledge	Before F	Before %	After F	After %	p-value
<i>Good</i>	2	10.0	16	80.0	0.001
<i>Average</i>	11	55.0	4	20.0	
<i>Bad</i>	7	35.0	0	0	
Total	20	100.0	20	100.0	

Table 2 : Frequency Distribution of Knowledge of Dental and Oral Hygiene Before and After Providing Information Using Booklet Media

Knowledge	Before F	Before %	After F	After %	p-value
Good	2	10.0	18	90.0	0.001
Average	6	30.0	2	10.0	
Bad	12	60.0	0	0	
Total	20	100.0	20	100.0	

Table 3: Differences in Oral Hygiene in Fourth and Fifth Grade, Who Received Information Using Leaflets and Booklets

Group	Average Knowledge Before	Average Knowledge After	Difference	N	p-value (Asymp. Sig.)
Leaflets	66.95	80.00	13.05	20	0.042
Booklets	63.00	90.00	27.00	20	

Table 3 : shows that the average knowledge about dental and oral hygiene in grade IV and V students of SDN 03 Tumpuk Tengah, Sawahlunto City before and after being given information using leaflets increased from 66.95 to 80.00, while the average knowledge about dental and oral hygiene in grade IV and V students of SDN 03 Tumpuk Tengah, Sawahlunto City before and after being given information using leaflets increased from 66.95 to 80.00. booklet media increased from 63.00 to 90.00. From the results of the Mann Whitney u statistical test, the Asymp.sig value ($0.042 < 0.05$) was shown, so H_a was accepted and H_o was rejected, meaning there was a significant difference between providing information with leaflet and booklet media.

The results of data processing showed that the increase in knowledge of dental and oral hygiene in the group of students who received information using booklet media was higher than those who received information using leaflet media. This can be seen from the difference in the average knowledge value, which was 23.05 on the leaflet and 32.25 on the booklet. The results of the Mann Whitney u statistical test showed an Asymp.sig value ($0.042 < 0.05$), so H_a was accepted and H_o was rejected, meaning there was a significant difference between counseling with leaflet and booklet media.

If seen from the average aspect, there is a difference between leaflet media and booklet media where the average before being given information was obtained an average of 66.95%, after being given information using leaflet media, an average of 80.00% was obtained, so that a difference of 13.05% was obtained. The average before being given counseling was 63.00%, while after being given information using booklet media, an average of 90.00% was obtained, so that a difference of 27.00% was obtained. So it is stated that booklet media is better used as a medium for providing information compared to leaflet media in terms of average.

According to the researcher's assumption, both leaflets and booklets used in booklet outreach to fourth and fifth grade students at SDN 03 Tumpuk Tengah, Sawahlunto City, can improve knowledge about dental and oral hygiene.

They are complemented by colorful and graphic elements, which both attract students' attention and stimulate their imagination. The use of media in the learning process is essential to foster students' interest in reading. Increasing knowledge of dental and oral hygiene using leaflets and booklets is in good criteria because this media is able to attract students' attention to read it because it contains interesting pictures and words that are easy to understand for elementary school-aged children. Counseling using booklets can increase students' knowledge more because of its attractive form like a small book with pages containing interesting pictures and there are explanations for each picture, then

in terms of color, booklets have more diverse colors displayed, different from leaflets which tend to only use one color which makes readers less interested in reading it.

The theory given in the learning media is appropriate for elementary school-aged children so that after the dental and oral hygiene counseling, students' knowledge increased. There is a significant difference between dental and oral hygiene counseling using leaflets and booklets. The knowledge of fourth and fifth grade students of SDN 03 Tumpuk Tengah, Sawahlunto City about dental and oral hygiene increased more after counseling using booklets because its shape is like a small book, has many colors and has explanations that are easy to understand, the small size increases students' interest in reading so that the booklet is read repeatedly.

This is supported by the fact that media, if understood broadly, is human material, or events that creating conditions that enable the target to acquire knowledge, skills, or attitudes. More specifically, the concept of media in the learning process tends to be interpreted as graphic, photographic, or electronic tools for capturing, processing, and reconstructing visual or verbal information [5].

Leaflets are information media that tend to display visuals. Visuals are a communication tool that is easy to understand and remember by readers. Leaflets can be used as information tools, promotional tools, and announcements. Some of the advantages of leaflets include being very economical, being able to read the contents at leisure, and readers can learn independently and practically because it reduces the need for note-taking. Some of the information conveyed and has been read by the target so it can be discussed and can convey complete information which cannot be given verbally. They are easy to create, reproduce, and improve and can be easily adapted to the target group [3].

Booklets are small learning materials with a much shorter presentation than books on a single topic, making them easier for respondents to carry around. The presentation of material in booklets is shorter than in books. Their small, lightweight form makes them easy for respondents to carry around. Booklets contain important, clear, and easily understood information for participants. Booklets can be a companion medium for the learning process, thereby increasing the effectiveness of counseling [4]

This is supported by the theory that knowledge is the result of "knowing," and this occurs after a person senses a particular object. Sensing occurs through the human senses: sight, smell, taste, and touch. Most human knowledge is acquired through the eyes and ears [36].

The results of this study align with previous research 11, which found differences between providing information using leaflets and booklets. Providing information using booklets was superior in increasing knowledge. This indicates that providing information using booklets is effective in increasing student knowledge [8].

4. CONCLUSIONS

Based on research conducted by the researchers among fourth and fifth grade students at SDN 03 Tumpuk Tengah, Sawahlunto City, it was found that both leaflet and booklet media were effective in improving students' oral hygiene knowledge. However, there was a noticeable difference in the effectiveness between the two media. The study revealed that providing information through booklet media was more effective than using leaflet media. This suggests that the more comprehensive and detailed nature of booklets may contribute to a better understanding and retention of oral health information among elementary school students. These findings highlight the importance of selecting appropriate educational tools when designing health promotion programs for young learners. Booklets, with their structured content and potentially more engaging format, may offer a greater impact on student learning outcomes compared to more concise materials like leaflets.

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