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The Influence of Media Booklet in Behavior Change of Waste Management In Elementary School Students, South Denpasar, Bali

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ABSTRACT

Community participation is a contributing factor to the success of waste management. Behavioral changes must be instilled from an early age. The Booklet is a suitable medium used for changes in the behavior of elementary school students. The waste sorting material can be more easily explained by using text messages and pictures. Quasi-experimental research with one group pretest and posttest design. The sampling method is Multistage Random Sampling large sample taken for research is 90 people at 65 elementary school in South Denpasar. The instrument of this research is a questionnaire, with data retrieval technique done through interview analysis compare mean paired sample t-test. There is the difference of knowledge, attitude, and action before and after counseling method of self- evaluation by media booklet with a value of ($p < 0.001$).

Health promotion efforts by optimizing the role of School Health Services. For further research can be done research on the role of teachers and parents in health promotion activities

Keywords: *Booklet, Behavior, Waste Sorting*

INTRODUCTION

Waste management is a challenge for governments in developing countries. This is primarily due to increased waste, the burden caused to the government budget as a result of the high costs associated with its management, the lack of understanding of all the factors that affect the waste management phase¹. Community participation is a contributing factor to the success of waste management. There are many case studies in developing countries that prove that community participation in waste management plays an important role in contributing to the success of the services provided². Community participation has a direct influence on the efficiency of waste management. The municipal authorities have failed to mobilize communities and educate citizens on the basics of handling waste and proper practices to

store them in their own waste at the household, shop and company level³.

One effort to improve the knowledge of the community in general and school children, in particular, can be done through Communication, Information, and Education (CIE) program. Submission of materials in CIE program can be done through several methods and media. The media used varies greatly, from the traditional ones, i.e the mouth (oral), the alarm sign (Balinese people called kentongan), the picture, to the modern electronic, television and internet. In the CIE program, media is more effective at conveying information and education, because media is a static medium, prioritizing visual messages, and generally consists of a number of words, images or photographs in the color of a poster, leaflet, brochures, magazines, modules, and pocketbooks. Media booklets have advantages, i.e: (1) Clients can adjust from independent learning; (2) Users can view their content at a leisurely pace; (3) Information can be shared with family and friends, (4) Easy to create,

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reproduced and improved and easily customized; (5) Reduce the need to record; (6) Can be made in simple terms with relatively low cost; (7) Awe (8) Wider capacity; (9) Can be directed to a particular segment⁴. Based on the research of Posmaningsih (2014) in South Denpasar, it is known that 16 (66,67%) of elementary school fulfill the requirement of environmental health quality and 8 (33,33%) do not qualify environmental quality. In addition, there are 15 (62.5%) of elementary school that has waste containers that do not have lids only 10 (41.7%) has a waste disposal while eligible⁵.

The objective of this study was to determine differences in knowledge, attitude and practice waste segregation of students before and after the method of self-evaluation by the media booklet in South Denpasar 2016.

MATERIALS AND METHOD

This type of research is quasi-experimental research design with one group pretest and posttest design. The study was conducted in Denpasar City from June to October 2016. The study population was elementary school students in South Denpasar. The sample of this research is the students of grade 1 and 2 elementary schools in South Denpasar. The sample selection grade 1 and grade 2, children aged 8 years is a golden period to inculcate the habit. The sampling method is Multistage Random Sampling with stages: first random to school (South Denpasar comprised of 65 elementary schools), then the selected schools conducted random class Proportional Random Sampling method. Large samples were taken for the study were 90 people by using sample size formula pairs category. The instrument used in this study was a questionnaire, with data retrieval technique is done through interviews with elementary school students. Univariate analysis of data with the average value and standard deviation, as well as bivariate analysis to compare the analysis of the mean paired samples t-test.

RESULTS

In the self-evaluation method extension activities with the media booklet, elementary students were asked to pick through the waste each day. Students undertake

a self-evaluation on the activities undertaken. When respondents were asked to differentiate waste then put stickers "SMILE" in the column provided in the booklet. When respondents forgot to strip the waste then students are expected to put a sticker "SAD".

Table 1: Frequency Distribution of Motivation of Waste Separation of Primary School Children in South Denpasar 2016

Motivation	Frequency	%
Knowledge	47	52.2
Suggested	24	26.7
Convicted	6	6.7
Not Understand	13	14.4
Total	90	100

Table 2: Distribution of Inhibiting Frequency of Elementary School Waste Distribution in South Denpasar 2016

Motivation	Frequency	%
Misremember	75	83,3
Hectic	11	12,2
Not Understand	4	4,4
Total	90	100

To determine differences in knowledge, attitude and practice waste segregation of students before and after the self-evaluation by the media booklet used statistical analysis of paired samples t-test with a significance of 5%. The results of the analysis as follows:

Differences in knowledge before and after the method of self-evaluation by the media booklet (Table 3)

Table 3: Statistical Analysis Differences in Knowledge Before and After Self-Evaluation Method On the Booklet Media Elementary School Students in South Denpasar 2016

Variable	Average	t	p	Confident Interval	
				Lower	Upper
Knowledge Before self-evaluation	4,52 ± 1,567	-26,06	0,00	-3,93	-3,37
Knowledge After self-evaluation	8,17 ± 1,124				

There was an increase in the average value of knowledge of 3.65 points after the extension activity with the value of sig ($p < 0.001$).

Differences attitude before and after the method of self-evaluation with the media booklet (Table 4)

Table 4: Statistical Analysis Differences Attitude Before and After Self Evaluation Method With Media Booklet On Elementary School Students in South Denpasar 2016

Variable	Average	t	p	Confident Interval	
				Lower	Upper
Attitude before self-evaluation	11.37 ± 2,112	-11,20	0,00	-2,87	-11,20
Attitude after self-evaluation	13.80 ± 2,409				

There was an increase in the average attitude value of 2.43 points after the extension activity with the value of sig ($p < 0.001$).

Differences in actions before and after the method of self-evaluation with booklet media (Table 5)

Table 5: Statistical Analysis of Action Differences Before and After Self-Evaluation Method with Media Booklet for Elementary School Students in South Denpasar 2016.

Variable	Average	T	p	Confident Interval	
				Lower	Upper
Action before self-evaluation	2.60 ± 0,845	-17,014	0,00	-2,18	-1,73
Action before self-evaluation	4.56 ± 0,705				

There was an increase in the average value of the action amounted to 1.96 points after the extension activity with the value of sig ($p < 0.001$).

DISCUSSION

Student behavior in schools remains a concern for

teachers and administrators. So classroom management practices to prevent bad behavior are needed⁶. The role of teachers is very large to change student behavior. Health communication is needed with the aim of changing health behaviors that ultimately increase the degree/health status as a result of the health communication

program. The benefits of health communication are increasing the need for products / services; communicate how to properly utilize the product / service; stimulate the occurrence of changes in health-related behavior; and contributing to improved health⁷.

Booklets have several advantages that can be learned at any time because the design is book-shaped and contains relatively more information than the poster⁸. The display of picture books as an extension media is more interesting than lecture method, because it has also been through the process of extracting information from their peers so that it is more suitable to the student's needs⁹. The media booklet is effectively used to increase knowledge compared to lectures¹⁰. The power of persuasion or the influence of a message depends largely on what media the communicator chooses to transfer messages or health information.⁴

The booklet should contain evidence-based information that students can understand. The availability of booklets is very important, as it allows people to get information at home tailored to their convenience. This home-based knowledge support is as useful as any other medical treatment.¹¹ In fact, the success of the smallest behavioral changes in health promotion programs is influenced by people's tobacco. The future of behavior change and health promotion is through the implementation of a comprehensive strategy to enable people to have a healthier lifestyle. The comprehensive strategy includes the following points: (1) behavior change approach; (2) a strong policy framework that creates a supportive environment; and (3) empowering the community to better control the decision of a healthy lifestyle¹². The creation of this booklet is to strengthen the potential of pregnant women and their family members and to promote health conditions. This booklet is a support for professionals and pregnant women to overcome the doubts and difficulties that permeate pregnancy and the birth process¹³.

The participation of experts in booklet evaluation greatly influences the quality of content. The development of booklets, it is intended to overcome the hegemony that has been established in health education. The expectations of the participants, who have different knowledge and interests in relation to who describes the educational material are considered important in the process of developing educational resources^{14,15}.

Picture stories can improve the knowledge of students and 5th grade elementary school students. Research Tariani, Paramastri, and Citraningsih which indicates that the booklet as a media supporting health promotion can increase knowledge about prevention of dengue fever by eradicating mosquito breeding. The results of this study indicate that knowledge can give effect to the change of attitude and action. Good knowledge of a change will change a person's behavior becomes more permanent. Punishment can also change behavior. Primary school children need guidance from a more mature person in planting the concepts of knowledge, attitude and behavioral change. The role of parents, siblings, teachers to always remind students is needed for changes in knowledge, attitudes and actions of elementary students. Grade 1 and 2 children still in Golden Period are very dependent on the adults around them.

There are also factors that inhibit the respondents to make efforts to waste management. Inhibiting factors are categorized into three categories: forgetful, busy and ignorant. This is seen in the research process where there is an increase in the waste segregation measures by students from the first, second and third weeks. Each week reinforcement is done to remind students how good waste management is by using booklet media. If students judge themselves negatively it will cause the desire to make changes to get a positive point. Giving rewards and punishment will strengthen the change in student behavior. The reward and punishment model can be designed by the school as an application for health promotion efforts in the school setting. The success of health education in the community depends on the learning component^{16,17}.

Waste management and recycling are more influenced by economic factors than environmental protection awareness. Behavior change measures should provide an estimated cost benefit to be gained. Waste management and recycling programs must adapt to institutional / school conditions. Future research should focus on ways to locate and use existing institutions for recycling programs¹⁸. Another factor in reinforcing factors is the economic benefits felt by the community in changing a behavior. Incentives are one of the most important factors to increase people's motivation. The incentive theory states that human behavior arises because it is caused by both reward and punishment. Various methods were developed to intervene in human behavior

to be more environmentally friendly. Women tend to participate more actively in domestic waste management activities based on a given program. Information backed by economic and environmental reasons can change a person's behavior on the waste. Information on activities undertaken and public confidence in the ability to carry them out should be clear, avoid possible conflicts and ensure the success of the activities²⁰⁻²³.

CONCLUSION

There is a difference of knowledge, attitude, and action before and after counseling method of self-evaluation by media booklet with the value of sig ($p < 0.001$).

Conflict of Interest : None

Ethical Clearance: obtained from The University committee and respondent agreement

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