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## The Influence of Calendar Media on Changes in Healthy Behavior of Families in the Suburbs in Disposing Household Trash in the Astambul Martapura Health Center of Banjar Regency

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### Abstract

**Introduction:** Waste is one of the many social problems faced by the community and a shared awareness and commitment is needed towards a change in attitudes, behaviors and ethics in environmental culture. To change behavior there needs to be stimulus in the form of health promotion. One print media that can be used for health promotion is calendar media. Knowledge and attitudes are a person's response to a stimulus that others (outside) cannot clearly observe (covert behavior). The expected behavior is the healthy behavior of families removing household waste.

**Objective:** This study aims to design calendar media and analyze changes in the healthy behavior of families removing household waste in the Astambul Health Center Banjar District Work Area.

**Methods:** This research method is quasi-experimental (quasi experimental) with a pre-test - post test control group design. The population in this study were all households in the work area of Astambul Public Health Center in Banjar Regency, the samples were purposive, ie households in 2 RTs located on the river bank, which were treated as treatment groups and control groups, were analyzed using the Wilcoxon test with a significance of  $\alpha 0,05$ .

**Result:** The results showed that the control group and treatment group did not provide results that were statistically significant, but the tendency for significant changes occurred in the treatment group. In the treatment group given calendar media, there is a change in family behavior in producing household waste which tends to be positive compared to the control group that is not given calendar media.

**Conclusion:** There is a tendency for behavior change to be positive in the treatment group.

Keywords: Media calendar, behavior of families throwing trash Literature: 41 (1987 - 2016)

**I. Introduction:**

Garbage has always been a complicated problem in communities that lack sensitivity to the environment. Discipline about cleanliness can create an unpleasant atmosphere due to landfill. This unpleasant condition will give rise to an unpleasant odor, flies fly and interference with various diseases ready to face before the eyes and the opportunity for environmental pollution accompanied by a decrease in aesthetic quality will also become a daily meal for the community [10].

The World Bank in a report entitled "What is Waste A Global Review of Solid Waste Management" revealed that the amount of solid waste in world cities will continue to increase by 70% starting this year until 2025, from 1.3 billion tons per year to 2, 2 billion tons per year [4]. In Indonesia, the amount of solid waste produced nationally reaches 151,921 tons per day. That means, every Indonesian population throws garbage at an average of 0.85 kg every day. According to Artiningsih (2008), one of the most waste dumps is 84.64% household waste, then 2.52% market waste and 2.58% industrial area waste [1].

Waste is one of the many social problems faced by society. The existence of garbage in everyday life cannot be separated from the hands of humans who throw garbage at random, they assume that the goods that have been used have no use anymore and dispose of arbitrarily. Lack of awareness of the importance of hygiene is the most dominant factor, besides that people's sensitivity to the environment must be questioned. They do not know what danger will occur if they cannot maintain the surrounding environment [7]. One form of waste disposal behavior in the community is by removing garbage in the river. Rivers contaminated with garbage will damage the environment and are a hotbed of disease.

Behavior is an individual's response to stimulation or stimulation that originates both from outside himself and from within the individual itself [6]. An individual will do some form of behavior can

be caused by several factors, namely: (1) predisposing factors (knowledge, individual attitudes, traditions, beliefs, value systems in society, education level, socio-economic level and so on), (2) enabling factors (availability of facilities and pre-facilities in supporting a behavior), (3) reinforcing factors or reinforcement (attitudes and behavior of community leaders, religious leaders, health workers, regulations or laws from both the central and regional levels). Healthy behavior, which is one of the pillars of a healthy Indonesia 2020, is the main field of health promotion [2]. According to Notoatmodjo (2010), it is referred to as a health promotion media because the tools are channels for delivering health information and to facilitate the acceptance of health messages for the community or clients [8]. One print media that can be used for health promotion is calendar media. Although the calendar has the main function as a time indicator (day, date, year) but not a few companies that use the calendar as a media campaign.

According to Syaiful Kholik (2006) research, there was an increase in family knowledge, attitudes and behavior in preventing DHF in the treatment group given calendar media compared to the control group without calendar media [5]. The results of the research from Putu Fanny Yustisa, et al (2014) also showed that there were changes in attitudes of elementary school students about PHBS before and after being given health promotion using print media [11].

Astambul Health Center is one of the health centers in Martapura City, Banjar Regency. Astambul Health Center consists of 22 villages, most of which are on the banks of the river. The results of interviews with the Head of the Astambul Health Center, data obtained that from the 22 villages there were 4 villages whose communities were far from the provincial road and disposed of litter (to the river) and did not care about the environment.

The formulation of the problem in this study is whether calendar media influences changes in

healthy behavior of families on the riverbank in removing household waste?

**II. Methods:**

**A. Type of Research:**

This study consists of two stages. The first stage is a type of qualitative descriptive test calendar design. The second stage is quantitative with the type of research used experimentally with the type of research Quasy Experiment and research design pre-test - post test control group design.

**B. Population & Sampling:**

The population in this study were all families / households on the banks of the river in the work area of Astambul Martapura Public Health Center Banjar Regency in 2017. The samples studied were 200 residents of Jati Baru Village, which were divided into 100 samples for the control group and 200 samples for the group intervention. The sampling technique in this study is to use non-probability sampling techniques by purposive sampling.

**C. Data Collection:**

Data collection is done in two stages, the first stage is to make a calendar design and a trial of the calendar media that will be used, the second stage is applying the media that has been tested by researchers.

**D. Instrument:**

The research instruments used in this study are two, the first is a questionnaire with recall (recall) behavior that has been done before, and the second instrument is a calendar about healthy behavior of removing household waste.

**E. Statistic Analysis:**

To find out the changes in healthy behavior of families throwing garbage both in the pre test and in the post test between the treatment groups and the control group were analyzed using independent t-test. To find out the changes in healthy behavior of families throwing garbage before and after intervention in the treatment group and the control group were analyzed using paired t-test. The

conclusion of the change in the healthy behavior of families on the riverbank in removing household waste using a significance level of  $\alpha = 0.05$ .

**III. Result:**

**A. Characteristics of Research Respondents:**

**Table 1. Characteristics of research respondents based on age, education, and occupation are presented in table 1 below:**

No	Characteristics	Control		Treatment	
		f	%	f	%
1	<b>Age</b>				
	Teenagers (< 26 years)	9	9%	20	20%
	Early Adult (26 - 35 years)	37	37%	41	41%
	Late Adults (36 - 45 Tahun)	26	26%	20	20%
	Early Elderly ( $\geq$ 46 years)	28	28%	19	19%
2	<b>Education</b>				
	Still in school	0	0%	5	5%
	Elementary School	54	54%	62	62%
	Junior High	22	22%	19	19%
	Senior High	24	24%	12	12%
	University	0	0%	2	2%
3	<b>Occupation</b>				
	Employment	97	97%	94	94%
	Unemployment	3	3%	6	6%

Table 1 shows that the largest age group in the control group was early adulthood (26-35 years), which was 37% and the treatment group was the initial adult (26-35 years) which was 41%. The most education in the control group was SD, which was 54% and the treatment group was SD, which was 62%. The highest occupation in the control group was work, namely 97% and the treatment group was 94%. The data shows the characteristics of the two groups of respondents consisting of age,

education and employment having characteristics that are not different or relatively the same.

**B. Results of Research on the Effect of Calendar Media on Changes in Healthy Behavior of Families in the Suburbs in Disposing Household Waste in the Work Area of Astambul Martapura Health Center, Banjar Regency**

**1. Results of the first phase of research**

The first phase of the study carried out a trial of the design of the appropriate calendar media for changes in the healthy behavior of families on the banks of the river in removing household waste.

From the results of the trial design of the calendar given to 10 respondents, all of them stated that they were very happy to be given the calendar media, especially the religious figures. Inputs / suggestions / responses from 10 respondents for the calendar media trial, it can be concluded that the improvement of calendar media is to improve the image (the characterization picture is clearer) and the colors to be more contrasting and varied (mix of several colors).

**2. Results of the second phase of research:**

- a. Healthy behavior of families on the riverbank in removing household waste in the control group (pre)

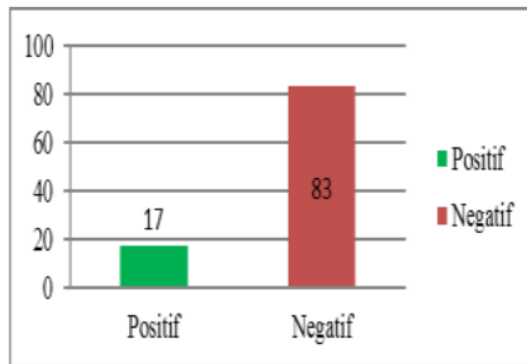


Figure 1. Graph of Healthy Behavior of Families on the River Side in Dispose of Control Group Household Waste (Pre)

Figure 1 shows the results of the pre test (before intervention) in the most family behavior control

group showed negative behavior as many as 83 families (83%).

- b. Healthy behavior of families on the riverbank in removing household waste in the control group (post)

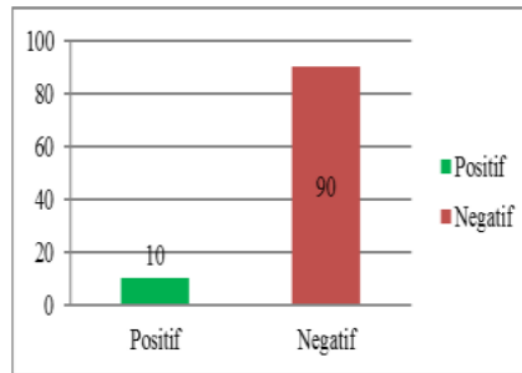


Figure 2. Graph of Healthy Behavior of Families on the Riverbanks in Throwing Waste from Control Group Households (Post)

Figure 2 shows the results of the post test (after intervention) in the most family behavior control group showed negative behavior as many as 90 families (90%).

- c. Healthy behavior of families on the riverbank in removing household waste in the control group (pre and post)

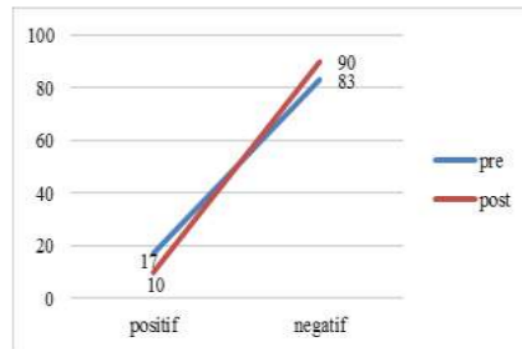


Figure 3. Graph of Healthy Behavior of Families on the River Side in Dispose of Household Control Group Waste (pre and post)

Figure 3 shows the results between pre test (before intervention) and post test (after intervention) in the control group there was a decrease in the number of families who behaved positively as

much as 7 respondents (7%), and an increase in the number of families who behaved negatively by 7 respondents (7%).

d. Healthy behavior of families on the riverbank in removing household waste in the treatment group (pre)

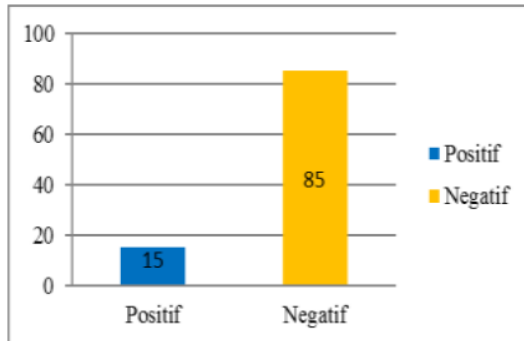


Figure 4. Graph of Healthy Behavior of the Family on the River Side in Throwing Household Waste in the Treatment Group (Pre)

Figure 4 shows the results of the pre test (before intervention) in the treatment group of the most family behavior showed a negative behavior of 85 families (85%).

e. Healthy behavior of families on the riverbank in removing household waste in the treatment group (post)

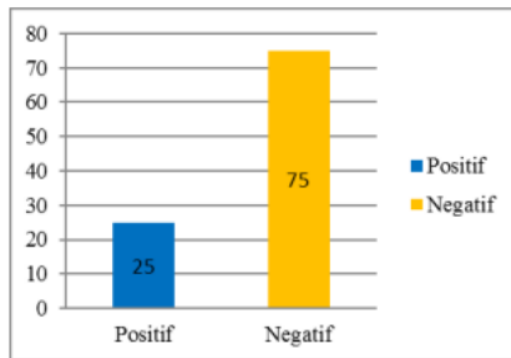


Figure 5. Graph of Healthy Behavior of Families on the River Side in Dispose of Household Waste Treatment Groups (Post)

Figure 5 shows the results of the post test (after intervention) in the most family behavior control group showed negative behavior as many as 75 families (75%).

Healthy behavior of families on the riverbank in removing household waste in the Treatment group (pre and post)

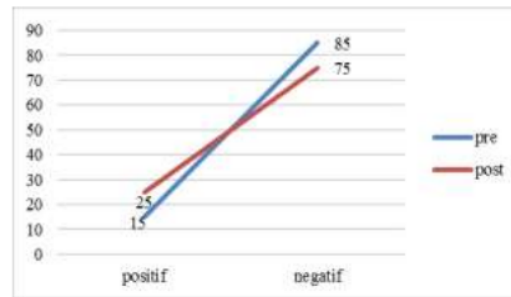


Figure 6. Chart of Healthy Behavior of Families on the Riverbanks in Disposing of Household Waste Treatment Groups (pre and post)

Figure 6 shows the results between pre test (before intervention) and post test (after intervention) in the treatment group there were an increase in the number of families who behaved positively as many as 10 families (10%), and a decrease in the number of families who behaved negatively as many as 10 families (10%).

### 3. Result of Analysis:

Analysis of research data using the Wilcoxon test with a significance level of  $\alpha$  0.05 with the results of probability values in the control group with a value of 0.167 (not significant), and in the treatment group with a value of 0.089 (not significant). So that it can be concluded that there is a tendency for positive behavior changes in the treatment group.

### IV. Discussion:

The results of the study have been presented in 2 stages, the first stage is to make calendar media design according to the goals, objectives, scope of health promotion and the stages. The second stage is analyzing changes in the healthy behavior of families on the riverbank in removing household waste in the work area of Astambul Health Center, Banjar Martapura Regency.

Analysis of research data using the Wilcoxon test with a significance level of  $\alpha = 0.05$  in the control group and the treatment group showed results not

statistically significant, but the tendency for significant changes occurred in the treatment group. In the treatment group given calendar media, there is a change in family behavior in producing household waste which tends to be positive compared to the control group that is not given calendar media. Calendar media is proven to be able to change family behavior in throwing garbage towards a more positive direction.

The behavior occurs through the process of the presence of a stimulus to the organism and then the organism responds [9]. Media calendar is a form of health promotion that has been made through the stage of making media functions as a stimulus to the family so that the family provides a response in the form of behavior. Media calendar is a print media that is very effective as a media to promote because it has very large functions and has the advantages of being easy to see, attract attention (visual) and easy to understand.

The formation of behavior with print media in this case the calendar will be conveyed concisely and easily for the recipient (family) to carry out and have realistic potential for the long term [3]. Although statistical analysis does not show significance (not meaningful), there is a tendency to be given a calendar of changes in family behavior that have shown a more positive direction.

## V. Conclusion and Suggestion:

### 1. Conclusion

- a. The first stage of research is to create a calendar media design that is suitable with the goals, objectives, scope of health promotion and the stages. The calendar media was used in the treatment group, namely 100 families in Jati Baru village RT.04 in the Astambul Health Center Banjar District Working Area.
- b. Changes in the healthy behavior of families in the riverbank in removing household waste in the Work Area of Astambul Public Health Center, Banjar Regency were analyzed by the Wilcoxon test with a significance level of  $\alpha$  of 0.05. The control group and treatment group

did not provide results that were statistically significant, but the tendency for significant changes occurred in the treatment group. In the treatment group given calendar media, there is a change in family behavior in producing household waste which tends to be positive compared to the control group that is not given calendar media.

### 2. Suggestion:

- a. Banjar District Health Office, especially the health promotion department, can use calendar media as a health education media for families and communities in the Banjar Regency area.
- b. The Astambul Health Center in the health promotion section can use calendar media as a health education media for families and communities in the working area of Astambul Health Center.
- c. The need for further research to compare the effectiveness of calendar media with other extension media such as posters, leaflets and others.

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