



The Effect of Counseling and Providing Temporary Waste Shelter on Behavior of Household Waste Management

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Abstract

Background: Waste management will not be carried out accurately without the participation of all parties, namely the community, business actors and the government. This study aims to determine the effect of counseling and provision of temporary shelters on the behavior of household waste management generated by the Munte Village community, Munte District, Karo Regency, Medan, Indonesia.

Methods: This study uses an experimental design. This research was conducted in Munte Village, Munte District, Karo Regency. The sample size in this study was 90 heads of household (45 control and 45 treatment groups). The data analysis process uses univariate and bivariate analysis. Data analysis was carried out with the assistance of a computer using SPSS with a 95% confidence level ($\alpha = 0.05$).

Result: The results showed a significant increase in knowledge ($p = 0.000$), attitude ($p = 0.000$) and actions ($p = 0.000$) in the treatment before and after being given counseling and provided temporary waste disposal.

Conclusion: Providing information and temporary garbage shelter affects the knowledge, attitudes, and actions of the Munte Village Community in the management of household waste generated. It is necessary to conduct a routine education on garbage disposal to the Munte Village community and village development agencies to be able to provide the village funds to improve the environmental sanitation of Munte Village.

Keyword: Garbage, Waste Management, counseling, Temporary Waste Shelter.

Introduction

According to (Aminatum, 2003), waste is a useless material from household, commercial, industrial or other activities carried out by humans. Population growth also triggers an increasing volume of waste, or in other words, the population is directly proportional to the amount of waste produced. The rough calculation of the Indonesian community is currently 250 million people; if each person produces 0.7 kg of waste

per day, the public landfill reaches 175,000 tons/day, equivalent to 64 million / year. The existence of garbage cannot be avoided, but it can be reduced and controlled (Azril, 1985).

Therefore, it is necessary to carry out waste management, namely activities carried out systematically, comprehensively and continuously, so that it will be able to convert the waste into materials that have economic value and do not endanger the environment.

The people of Munte Village, Munte District, Karo Regency, have not received waste management services from the Department of Sanitation and Landscaping. The community has the habit of throwing trash around the house so that this village looks very dirty and unhealthy even though this village is the capital of the sub-district.

Managing waste requires the right knowledge and understanding of waste, attitudes toward garbage and proper waste management to foster actions and community participation in waste management activities independently (Tchobanaglou, 1993). Counseling to the community becomes very important so that people can identify about management accurately, towards waste management that is increasingly positive and the right actions in waste management. Thus, the existence of community participation in waste management is essential because the community is responsible for managing its waste (UU Nomor 08 Tahun 2008). Community perception that waste management is the responsibility of the government must be changed. Given the importance of waste management to preserve the environment for human survival and health, researchers are trying to conduct counseling and provide temporary shelters for the community to improve the knowledge, attitudes, and actions of Munte villagers in the management of waste generated.

Methods

This research is an experimental study design with an approach two group pretest-posttest design which aims to determine the effect of independent

variables on the dependent variable (Sugiyono, 2007). This research was conducted in Munte Village, Munte District, Karo Regency. The population in this study were all household heads who lived in Munte Village, Munte Subdistrict, Karo Regency, totaling 923 households. The size of the sample in this study was 90 families.

The sample will be divided into two groups determined for the control group 45 families and 45 other families included in the treatment group. The data collected then tabulated and analyzed descriptively from each variable with the frequency distribution table and examined separately to assess whether there was a significant influence. Data analysis was performed with the help of a computer using SPSS with a 95% confidence level ($\alpha = 0.05$).

Result

The research samples are described in the following table:

Table 1 The Distribution of Sample According To Ages

Age (Years)	Control	Treatment	Total	%
22 - 31	8	1	9	10.00
32 - 41	8	10	18	20.00
42 - 51	20	13	33	36.67
52 - 61	7	8	15	16.67
62 - 71	1	6	7	7.78
72 - 80	1	7	8	8.88
Total	45	45	90	100

Based on the table above, it is known that the most age group of control and treatment respondents in the 42 - 51 year age group were 36.67%. The youngest respondent is 22 years old, and the oldest is 80 years old.

Table 2 The Distribution of Sample According to Jobs

Occupation	Control	Treatment	Total	%
Farmer	29	37	66	73.33
Self Employed	15	2	17	18.89
Civil Servants / Soldier / Police	1	6	7	7.78
Total	45	45	90	100

Based on the table above, it is known that the most respondents' control and treatment jobs were farmers, namely 29 households in control and 37

families in the treatment, with a total of 66 families or 73.33%.

Table 3 The Distribution of Sample According to Educations

Education	Control	Treatment	Total	%
No Elementary School	1	3	5	5.56
Elementary School	5	13	18	20.00
Junior High School	11	9	20	22.22
Senior High School	25	15	40	44.44
Degree	3	5	7	7.78
Total	45	45	90	100

Based on the table above, it is known that the highest level of education of control and treatment respondents was graduated from high school,

namely 25 households in the control and 15 families in the treatment, with a total of 40 families or 44.44%.

Table 4 The result of Significant Test

Description	Mean Rank	Sum of Ranks	z	p
Knowledge before -after (Control)	15,10 18.58	226.50 334.50	-, 990 ^b	.322
Attitude before – after (Control)	19.50 21.96	312.0 549.0	-1.539	.124
Action Before – after (Control)	17.82 19 .11	303.00 363.00	-, 479 ^b	.632
Knowledge before- after (Treatment)	12.13 21.43	48.50 771.50	-4.879 ^b	000
Attitude Before – after	8.88 23.86	35.50 954.50	-5.365 ^b	000
Action Before - after (Treatment)	12.06 23.72	96.50 806.50	-4.461 ^b	000

On the controls, the value of p for knowledge is 0.322, the attitude, $p = 0.124$ and the action, $p = 0.632$. From these data, it can be concluded that there is no significant difference in knowledge, attitudes and control actions before and after being given counseling and the provision of temporary garbage shelter with a value of $p > 0.05$. In the treatment, it is known that the value of $p = 0.000$ for knowledge, attitudes, and actions. This means that there are significant differences in knowledge, attitudes and treatment actions before and after being given counseling and the provision of garbage TPS with a value of $p < 0.05$.

Discussion

According to Citra (2004), waste is a useless produced during a production process both industrial and domestic (household). Where people settled, there the various types of waste will be generated. There is garbage, there is black water, and there is wastewater from various other domestic activities. According to Dainur (1985), solid waste is better known as garbage, which is often not desired because it has no economic value. When reviewed chemically, this waste consists of chemicals organic compounds and inorganic compounds. With a particular concentration and quantity, the presence of debris can have a negative impact on the environment,

especially for human health, so it is necessary to handle waste. The level of danger of poisoning caused by garbage depends on the type and characteristics of the waste (Daryanto, 1995).

The existence of garbage cannot be avoided, but it can be reduced and controlled. For this reason, it is necessary to carry out waste management, namely activities carried out systematically, comprehensively and continuously, so that it will be able to convert the waste into materials that have economic value and do not endanger the environment (Emil, 2005).

Based on the research above, knowledge of control before and after treatment after being analyzed using statistical tests with the Wilcoxon Signed Rank Test showed that the increase was not significant where the value of $p = 0.322$ or $p > 0.05$. Whereas in the treatment, increased knowledge before and after counseling and the provision of TPS was very meaningful which obtained $p = 0,000$ or $p < 0,05$. Likewise, when non-parametric tests were conducted using the Mann-Whitney U test for control knowledge with treatment knowledge after the intervention, it is obtained $p = 0.000$ or $p < 0.05$.

From the results of the study, it was obtained data that there were still respondents who thought that the trash can was made of plastic bags and could be open. People assume that the most significant source of waste is the trade and the street, even though the most significant source of waste is the settlement. The opinion of the community stating that the city itself is responsible for managing waste is not synchronized with their attitude which indicates that the government must start managing waste first.

Observing this situation, it should be done in Munte Village with routine guidance for mothers who have started using chemical waste produced and formed groups of household heads who can utilize the organic waste generated. In addition to providing counseling to the community, all family members starting from the age of 7 are included, because when researchers ask family members why the resulting waste has not been sorted out,

the family members say they do not know what the trash needs to be sorted out. Their parents who participated in the counseling did not share with family members what they heard during the advice.

The control attitudes before and after treatment were analyzed using statistical tests with the Wilcoxon Signed Rank Test obtained results that the increase was not significant where the value of $p = 0.124$ or $p > 0.05$. Whereas in the treatment, an improvement in attitude before and after the intervention was substantial where the value of obtained $p = 0.000$ or $p < 0.05$. Likewise, when the non-parametric test was conducted using the Mann-Whitney U test on the importance of the attitude of control with the value of knowledge of the treatment after the intervention, the p-value was $= 0.000$ or $p < 0.05$ was.

At the beginning of filling out the questionnaire, it was obtained data that the respondent's attitude toward the garbage scattered in the yard and inside the house did not have a negative impact on the environment and the health of the occupants of the house. The attitude is that if someone owns land or has a garden that is still large, the garbage can be disposed of in the land/garden without needing to be managed first. After the intervention of people's attitudes about waste scattered in the yard and inside the house has changed as most people have realized that garbage scattered in the yard and inside the house can have an impact on their health and the environment, and other effects that can arise are blocked gutters which eventually resulted in flooding.

Control measures before and after being given counseling and the provision of temporary waste shelter after being analyzed using statistical tests with the Wilcoxon Signed Rank Test obtained the results of the increase is not significant where the value of $p = 0.632$ or $p > 0.05$. Whereas in the treatment, the improvement of the action before and after being given counseling and giving temporary garbage shelter was significant where the value of $p = 0.000$ or $p < 0.05$. Likewise, when non-parametric tests were conducted using the

Mann-Whitney U test on the value of the control action with the value of the treatment action after being given counseling and the provision of temporary garbage shelter, the value of p was = 0.000 or $p < 0.05$.

At the beginning of the observation, it was found that the respondents generally let the garbage scattered in the yard and inside the house, piled up in the corners of the yard without polling stations, no sorting had been done, organic waste had not been processed into compost, paper waste was destroyed by burning and trash broken glass and bottles mixed with organic waste. After the intervention is done by giving counseling and providing temporary shelter to respondents (treatment) the change of action occurs, where the value of the work rises but only a little. This happens because there are still respondents who still unite plastic waste with organic waste. When the respondent was asked why there was plastic in the organic waste bin, the respondent answered a young grandson who put the plastic waste into an organic waste bin. And there are also respondents who do not fill the trash cans given. When asked, the respondent stated that his wife did not dispose of the garbage to the polling station. Also, there are also people who burn paper waste at night and when asked the respondent answered the weather was icy and to repel mosquitoes. For organic waste, most respondents have not processed it into compost.

Based on these data, to increase the respondent's actions, the researcher hopes that continuous assistance is needed by the environmental health officers in the Munte District Health Center to the community so that they can manage the household waste produced. This is by the opinion of Sukijo (2003) that the knowledge is the result of an effort to know, and this happens after people sensing through the five senses, especially sight and hearing of a particular object. Knowledge is a domain that is very important for the formation of one's actions so that behavior based on knowledge, awareness and positive attitudes will be lasting.

Conclusion

According to our discussion, some cases can be concluded that increased knowledge of treatment, before and after being given counseling and giving of temporary garbage shelter is significant. The provision of education and temporary housing or in known as *Tempat Penampungan Sementara* of garbage affects the knowledge, attitudes, and actions of the Munte Village Community in the management of household waste.

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