

The Effect of the Emo Demo Method on Knowledge, Attitudes, and Actions in Household Waste Sorting in Mamuju District

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ABSTRACT

Background: Waste is one of the most serious environmental problems being faced by people in Indonesia. The waste generated every day mostly comes from household activities as much as 37.3%, both organic and non-organic waste. Waste problems are influenced by many factors, one of which is community behavior, including the resulting waste is even disposed of in various places or burned around the residents' residences, the effect of which will damage the surrounding environment.

Purpose of this study was to determine and analyze the effect of the emo demo method on the knowledge, attitudes, and actions of waste sorting in the district. Mamuju.

Method: This study uses a non-equivalent pre-post test control group design. The sample in this study is housewife in Ex. Binanga as the control group as many as 25 people and Batu Pannu Village as the intervention group as many as 40 people

Results of this study indicate that there are differences in knowledge, attitudes, and actions regarding waste sorting before and after counseling with the emo demo method, there are no differences in knowledge, attitudes, and actions regarding waste sorting before and after counseling with the triggering method.

Conclusions and suggestions in this study are counseling with the emo demo method can increase knowledge, attitudes, and actions in sorting waste, it is suggested to policymakers to be able to use the emo demo method for sanitation programs.

Keywords: emo demo, waste sorting, triggering

INTRODUCTION

Waste is one of the most serious environmental problems being faced by people in Indonesia. Most of the waste generated every day comes from household activities. 37.3%, both organic and non-organic, have not been managed properly (Ministry of Environment and Forestry (KLHK)).

The waste problem is very complex because many factors influence it, one of which is community behavior in waste

management[1], this is by the fact that the resulting waste is disposed of in various places or burned around the residents' residences which will damage the surrounding environment. (Devi Hernawati, Choirul Saleh, 2016), Community participation in household waste sorting activities reached 54.8%. [3]. The results showed that most of the 58% of respondents had good knowledge, while the data on community behavior in the waste sorting process was mostly 71% did not support the

waste sorting process. (Harun, 2017). Attitude has a relationship with household waste management. The community needs to increase their awareness of the problem of waste generated by each household, especially regarding the management of household waste.[4]

Emotional Demonstration (Emo Demo) is a method of public education through a new approach that refers to the Behavior Centered Design (BCD) theory. BCD theory holds that behavior can only change in response to something new, challenging, surprising, or interesting. This Emo Demo method uses imaginative and creative ways provocative actions to achieve behavior change in the field of public health.[5]

Scientific evidence of the effectiveness of Emo-Demo to change behavior, there are differences in knowledge and practice before and after the CTPS counseling intervention with the emo demo method on school-age children at MI Al-Badri Kalisat, Jember Regency. (Amareta, DI, Efri Tri Ardianto ET, 2017), there is an

effect of the emotional demonstration method on increasing the coverage of weighing toddlers[6] Emo demo is one of the effective health education educations to increase the knowledge and attitudes of mothers under two about exclusive breastfeeding and Child Feeding Portions (Mamonto, CD. Syam, A, Indriasar, R, 2018)

RESEARCH METHODS

This study uses a non-equivalent pre-post test control group design. In this design, the subjects in the study consisted of two groups, namely an intervention group using the Emo-Demo method and a control group using the triggering method. This research was conducted from July to October 2021 in Batu Pannu Village and Binanga in Mamuju District.

The population in this study were housewives in Mamuju District, the sample was housewives in Binanga village as the control group as many as 25 people and housewives in Batupannu village as the intervention group as many as 40 people.

RESULTS

Univariate Analysis

Table. 1 Distribution of knowledge, attitudes and actions in the intervention group using the Emo Demo method in Batupannu Village, Mamuju 2021

Variable		n	mean	variance	SD	Min value-max value
Knowledge	Before Counseling	40	9.05	9,485	3.07	2 -14
	After Counseling	40	11.80	5,549	2.35	6 -14
Attitude	Before Counseling	40	7.175	3.53	1,879	2 -10
	After Counseling	40	8,600	1.68	1.29	5 -10
Action	Before Counseling	40	4.67	4.58	2.14	1 -9
	After Counseling	40	7.32	2.53	1.59	2 -9

Table. 2 Distribution of knowledge, attitudes, and actions in the Control group with the Triggering method in Binanga Village, Mamuju 2021

Variable		n	mean	variance	SD	Min value-max value
Knowledge	Before Counseling	25	13.5	2,507	1.58	8 - 15
	After Counseling	25	14	1.16	1.08	11 - 15
Attitude	Before Counseling	25	8.56	1.67	1.29	5 -10
	After Counseling	25	8.76	1,607	1.27	5 -10
Action	Before Counseling	25	6.00	3.66	1.91	2 - 9
	After Counseling	25	6.40	2.75	1.65	2 - 9

Based on table 1 shows that the mean difference in knowledge before and after the intervention is 2.75 this is due to the result after the intervention (post-test) of 11.80 which is higher than the value before the intervention (Pre-test) of 9.05. The

difference in the mean of waste sorting attitudes is 1.425 this is due to the results after the intervention (post-test) of 8,600 higher than the pre-intervention (Pre-test) value of 7.175, as well as Waste sorting action after the intervention (post-test) of

7.32 higher than the pre-intervention (Pre-test) value of 4.67 so the mean difference is 2.65.

Based on table 2, it is revealed that the difference in the mean of waste sorting knowledge is 0.5, due to the mean at the post-test of 14 and the pre-test of 13.5. The difference in the mean attitude of waste sorting is 0.2. This is due to the post-test mean of 8.76, and the mean of pre-test results being 8.56 and so is the mean of Waste Sorting Action Post-test results of 6.40 which is higher than the post-test value of 6.00, so the mean difference is 0.40

Bivariate Analysis

Bivariate analysis was carried out using the Wilcoxon test, after the normality test was carried out, it was known that the data not normally distributed. The Wilcoxon test is intended to analyze the effect of the Emo-Demo method and the Triggering Method of Waste Segregation on changes in knowledge, attitudes and actions of housewives. In this study the measurement of knowledge, attitudes and actions using an instrument (Questionnaire) that has been tested for validity and reliability.

Table 3. Knowledge, attitude and action Waste sorting before and after being given the Emo Demo method in the intervention group in Batupannu Village, Mamuju 2021

Variable		n	Mean	P Value
Knowledge	Before Counseling	40	9.05	0.00
	After Counseling		11.80	
Attitude	Before Counseling	40	7.175	0.00
	After Counseling		8,600	
Action	Before Counseling	40	4.67	0.00
	After Counseling		7.32	

The results of the statistical test of the bivariate analysis showed a significant value between the mean value before counseling and after counseling and the p-value < 0.005, it can be obtained that aThere

are significant differences in knowledge, attitudes and actions between before the emo demo method counseling and after the emo demo method counseling

Table 4. Knowledge, attitude and actionWaste sorting before and after being given a triggering method in the control group in Binanga Village. Mamuju 2021

Variable		n	Mean	P Value
Knowledge	Before Counseling	25	13.5	0.272
	After Counseling		14	
Attitude	Before Counseling	25	8.56	0.059
	After Counseling		8.76	
Action	Before Counseling	25	6.00	0.058
	After Counseling		6.40	

The results of the statistical test of the bivariate analysis showed a significant value between the mean value before counseling with the triggering method and after counseling with the triggering method and the p-value > 0.005, it can be obtained

that there is no There are significant differences in knowledge, attitudes, and actions between before the method counseling trigger with after counseling methods trigger

Table 5 Distribution of Groups by Knowledge, Attitude, and Action of Waste Segregation among Housewives in Mamuju 2021

Variable	Group	n	Mean Rank	Sum of Ranks	Value	
					z	Asymp.Sig. (2-tailed)
Knowledge	Intervention Group	40	22.78	911.00	-5.560	0.000
	Control Group	25	49.36	1234.0		
Attitude	Intervention Group	40	27.44	1097.50	-3.051	0.002
	Control Group	25	41.90	1047.50		
Action	Intervention Group	40	28,21	1128.00	-2,615	0.009
	Control Group	25	40.66	1016.50		

Based on table 5, it is revealed that the average ranking of each group on Waste

Sorting Knowledge, wherein the intervention group the average ranking is

22.78 lower than the control group, i.e. 49.36. The results of the analysis with the Mann-Whitney U test showed that the statistical value of Z value was -5.560 and the value of sig (2-tailed) was 0.000 <0.05, therefore the test results were statistically significant, thus we accept H_a , which means there is a difference in knowledge between groups. intervention with the control group.

Based on table 5, it is revealed that the average rank of each group is on the Waste Sorting Attitude, where in the intervention group the average rating is 27.44 lower than the control group, i.e. 41.90. The results of the analysis with the Mann-Whitney U test obtained the statistical value of the Z value, namely-3,051 and the value of sig (2-tailed) is 0.002 < 0.05, therefore the test results are statistically significant, thus we accept H_a means There is a difference in attitude between the intervention group and the control group.

Based on table 5, it is revealed that the average rating of each group in the Waste Sorting Action, wherein the intervention group the average rating is 28.21, lower than the control group, which is 40.66. The results of the analysis with the Mann-Whitney U test obtained the statistical value of the Z value, namely-2,615 and the value of sig(2-tailed) is 0.009 <0.05, because the test results are statistically significant, thus we accept H_a means there is a difference in actions between the intervention group and the control group

DISCUSSION

Waste Sorting Knowledge

The results of the study reveal that there are knowledge differences regarding meaningful waste sorting between before the emo demo method counseling and after the emo demo method counseling in the intervention group, this is in accordance with the research on Health Extension with the Emo Demo Method Effectively Improving the Practice of CTPS at MI Al-Badri Kalisat Jember Regency that there are

differences in knowledge before and after the CTPS counseling intervention with the emo demo method for school-age children [7], Another study concluded that there was a significant difference between intervention with emo demo [8], as it is stated that there is a difference in the average knowledge of respondents about IMD and exclusive breastfeeding before and after the emo demo and $p < 0.00$. [9], there is an increase in the habit of children washing their hands properly and well after using the emo demo method [10]

In the control group by providing counseling on the triggering method there was no difference in knowledge about Waste Sorting which means that in the first measurement (pre-test) with the second measurement (post-test), this is different from previous research on the effect of the triggering method on changes in open defecation behavior in the people of Kauman Kidul Village, Salatiga City, it was concluded that there was a significant difference between prior knowledge triggering and after triggering. [11], Likewise, other studies concluded that there was an increase in knowledge, PKK cadres in Ssetan Village who received intervention regarding DHF prevention before and after being given triggers (Revelation Adhy Prasetya, 2014)

This research concludes that there is a difference in Knowledge about Waste Segregation between the intervention group and the control group, where the p value < 0.05, this is in line with Previous research revealed that there is a difference in the increase in the average score of knowledge, pregnant after being given education on anemia prevention in the emo demo group and the control group [13]

Waste Sorting Attitude

The results showed that there were significant differences in attitudes about waste sorting between before the Emo Demo Method Counseling and after the Emo Demo Method Counseling in the intervention group [14]. In contrast to other

studies that from the aspect of attitude there is no significant difference, namely $P > 0.05$. [8]

In the control group, it was found that there was no significant difference in attitudes about waste sorting in the first measurement (pre-test) with the second measurement (post-test). receive intervention by triggering method [11], there is an increase in the attitude of PKK cadres regarding DHF prevention after getting DHF triggering compared to before DHF triggering. [12]. This study concludes that there are differences in attitudes about waste sorting between the intervention group and the control group, where the p-value < 0.05 , this is in line with previous research that there are differences in attitudes between the intervention group and the control group. [13]

Waste Sorting Action

The results showed that there was a meaningful practice of waste sorting between before the Emo Demo Method Counseling and after the Emo Demo Method Counseling in the Intervention group, this is in line with previous research that there was an increase in children's skills by washing hands through the emo demo method [10], There are differences in practice before and after the CTPS counseling intervention with the emo demo method for school-age children at MI Al-Badri Kalisat Jember Regency ($p=0.000$) [7].

In the control group, it was found that there was no meaningful action on waste sorting in the first measurement (pre test) with the second measurement (post test), this is different from previous research that there is a significant difference in the practice of respondents regarding open defecation behavior before and after receiving intervention by triggering method [11], there is an increase in the behavior of PKK cadres regarding DHF prevention after getting DHF triggering compared to before DHF triggering [12]

This study also concludes that there are differences in measures regarding waste

segregation between the intervention group and the control group, where the p value < 0.05 , this is in accordance with the research which revealed that there are differences in the behavior of anemia prevention in pregnant women in the treatment group and the control group. [13]

CONCLUSION

There are differences in knowledge, attitudes, and actions regarding waste sorting before and after counseling with the emo demo method

The intervention carried out in the form of counseling using the emo demo method proved that there were differences in knowledge, attitudes, and actions of sorting waste in the intervention group and the control group.

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