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Original Paper

Improving Knowledge, Attitude, Motivation, and Behavior of Weak Economic Communities Responding to Covid-19 ang Making Latrines Safe for the Environment (Experiment in the Lowlands of South Sulawesi)

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Abstract

The aims of the study were to determine: (1) knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment before and after the experiment on how to cope with Covid-19 and making latrines that were safe for the environment and 2) the effect of the experiment on increasing the knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment in the low-lying areas of South Sulawesi. This type of research is quasi-experimental. The research location is in the lowland area. The experimental area is Manorang Salo Village and the control area is Laringgi Village, Marioriawa District, Soppeng Regency. The two areas were selected by purposive sampling method. The samples of the experimental group and the control group were 30 families each. The experimental model used is the pretest-posttest control group design. The analysis used is descriptive statistical analysis and infrensial statistical analysis. The inferential model is an independent t test. The results of the study are as follows: (1) knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment before being given an experiment are in the low category and after the experiment are in the high category, (2) the effect of The experiment was very significant in increasing the knowledge,

attitudes, motivation, and behavior of the economically weak community in dealing with Covid-19 and making safe latrines for the environment in the low-lying areas of South Sulawesi.

Keywords

knowledge, attitude, experiment, society, lowlands

1. Introduction

Human feces are a source of various diseases and viruses including Covid-19, so it needs to be disposed of in a latrine that is safe for the environment. Feces that are not managed properly can reduce the quality of the environment and cause various diseases, including Covid-19. Environment is a spatial unit with all objects, forces, conditions and living things, including humans and their behavior that affect the continuity of life and welfare of humans and other living creatures (The Law of the Republic of Indonesia No. 32 Year 2009). Therefore, the good or bad of the human built environment is largely determined by the man himself, as well as providing family latrines that are safe for the environment.

The living environment is composed of three important components, namely: the abiotic environment, the biotic environment, and the socio-cultural environment (Singh, 2006). These three environmental components are dependent on each other, so they need to be maintained. Family latrines in coastal, lowland, and highland areas are in poor condition and unsafe for the environment (Bakhrani, 2018). Such family latrines pollute the environment, and have the opportunity for the emergence of Covid-19.

In the socio-cultural environment, one of the important aspects is a basic human need, namely housing in which there is a family latrine. Family latrine model and its constituent materials for economically weak communities in the coastal areas of South Sulawesi (Bakhrani, 2017). The latrine model is very significant to be trained in an effort to improve the knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making latrines that are safe for the environment. The existence of this training has made it very possible for economically weak communities in the coastal areas of South Sulawesi Province to have high knowledge, attitudes, motivation, and behavior in tackling Covid-19 and make family latrines that are safe for the environment.

The research problems are: (1) how are the knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment before and after being given an experiment on how to cope with Covid-19 and making latrines that are safe for the environment in the region? the coast of South Sulawesi? (2) does the experiment have a positive effect on increasing the knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making latrines that are safe for the environment in the coastal areas of South Sulawesi?

Feces and urine excreted by humans if they are not accommodated in a latrine, have a negative impact on the quality of the environment and public health (Petrus Riski, 2015). Protected from heat and rain, did not cause odor, and had enough water to clean it.

Latrine is a construction in which human feces are disposed of which is made in such a way that it does not cause odors and germs, and does not interfere with aesthetics (Fitriani, 2011). Latrines in rural Indonesia are classified into two types, namely cemplung latrines and septic tank/goose-neck latrines (Firmansyah, 2009). Healthy latrine is not polluting the surrounding soil and water, is not reached by insects, does not cause odor, is easy to maintain, has a simple design, is inexpensive, and is acceptable to the user (Atika, 2012). The diseases that are transmitted through feces include: Amoebiasis, Cholera, Stigellosis, Poliomyelitis, and Typhoid (Mubarak, Lilis, & Joko, 2015).

All what we know about something is obtained from scientific reasoning (Suriasumantri, 2010). Knowledge is a special memory and general memory about various methods, processes, and structures (Rusman, 2011). Knowledge consists of three components: (1) a cognitive component, (2) an affective component, and (3) a psychomotor component (Suriasumantri, 2010).

Motivation is a force that exists in a person who can encourage, activate, move, and direct one's behavior. Further stated that motivation consists of two parts, namely intrinsic and extrinsic motivation. Intrinsic motivation is an individual's drive to carry out activities that come from within the individual (Adnil, 2011). Extrinsic motivation is an individual's encouragement that comes from outside himself.

Attitude is a choice in terms of feelings, thoughts and predispositions to action on environmental objects (Azwar, 2012). Environmental attitudes are feelings to accept or reject issues related to the environment (Ojedokun, 2011). Attitude consists of three components, namely: a cognitive component, namely what is believed, an affective component, namely what is felt emotionally, and a conative component, namely the tendency to act (Azwar, 2012).

Behavior is a series of human actions based on knowledge, motivation, attitudes, experience, culture, economic conditions, and the environment (Hungerford & Volk, 1990). Behavior is the result of someone's actions which are carried out continuously. Behavior should be directed towards positive things towards the environment so that the environment can be sustainable (Tukiyat, 2009).

The environment is a unitary space with all objects, forces, and circumstances, and living things, including humans and their behavior, which affect the survival of the environment. the life and well-being of humans and other living things (Laws of the Republic of Indonesia Number 32 of 2009 and Ahmadi, 2012). Environmental knowledge can be interpreted as knowledge that contains facts, concepts, and interactions with the natural environment and the whole ecosystem (Frytxell, 2003). Environment into 3 parts, namely: the biological environment, the physical environment, and the social environment (Adnani, 2011).

2. Methods

This type of research is quasi-experimental. The research location is a lowland area. The experimental area is Manorang Salo Village and the control area is Laringgi Village, Soppeng Regency. The two areas were selected by purposive sampling method. The samples of the experimental group and the control group were 30 heads of families from low-income families. The variables to be considered are

as follows: (1) knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment before and after the experiment is given, (2) the effect of experiments on increasing knowledge, attitudes, motivation , and the behavior of the economically weak community in tackling Covid-19 and making latrines that are safe for the environment. The experimental model used is the pretest-posttest control group design (Borg & Gall, 2007). The analysis used is descriptive statistical analysis and infrensial statistics. The analytical model used is independent t test.

3. Results and Discussion

3.1 Results

3.1.1 Description of Community Knowledge, Attitude, Motivation, and Behavior in Coping With Covid-19 and Making Safe Latrine for the Environment

3.1.1.1 Description of the Knowledge of the Experimental Group before and after Being Given an Experiment

The results of the descriptive statistical analysis of community knowledge in tackling Covid-19 and making safe latrines for the experimental group environment before the experiment from 20 true-false questions showed that the average = 5.93; maximum = 7, and minimum = 2. After the experiment the average = 15.14; maximum = 19, and minimum = 12. Thus, it can be concluded that the knowledge of the community in dealing with Covid-19 and making latrines that are safe for the environment, the experimental group before the experiment was carried out was in the low category, after the experiment increased to high.

3.1.1.2 Description of the Knowledge of the Control Group before and after the Experiment

The results of the descriptive statistical analysis of public knowledge of tackling Covid-19 and making safe latrines for the control group environment before the experiment from 20 true-false questions showed that the average = 6.13; maximum = 8, and minimum = 1. After the experiment the average = 5.37; maximum = 8, and minimum = 2. Thus it can be concluded that the knowledge of the community in dealing with Covid-19 and making safe latrines for the control group environment before the experiment was carried out was in the low category, after the experiment remained in the low category.

3.1.1.3 Description of the Experimental Group's Attitudes before and after the Experiment.

The results of descriptive statistical analysis of community attitudes in tackling Covid-19 and making safe latrines for the environment, the experimental group before the experiment of 15 attitude statements adopted from Likert showed that the average = 34.21; maximum = 35; and minimum = 17. After the experiment, the average = 65.56; maximum = 74; and minimum = 49. Thus, it can be concluded that the attitude of the community in tackling Covid-19 and making safe latrines for the experimental group environment before the experiment was carried out was in the negative category. After the experiment increased to Positive.

3.1.1.4 Description of the Control Group's Attitudes before and after the Experiment

The results of the descriptive statistical analysis of people's attitudes in tackling Covid-19 and making safe latrines for the control group environment before the experiment from 15 attitude statements adopted from Likert showed that the average = 32.71; maximum = 37; and minimum = 16. After the experiment, the average = 30.21; maximum = 38; and minimum = 21. Thus, it can be concluded that the attitude of the community in tackling Covid-19 and making safe latrines for the control group environment before the experiment was carried out was in the negative category. After the experiment remained in the negative category.

3.1.1.5 Description of the Experimental Group Community Motivation before and after the Experiment

The results of the descriptive statistical analysis of the motivation of the community to cope with Covid-19 and to make safe latrines for the experimental group environment before the experiment from 15 motivational statements adopted from Likert showed that the average = 32.65; maximum = 37; and minimum = 20. After the experiment, the average = 62.02; maximum = 74; and minimum = 59. Thus, it can be concluded that the motivation of the community to cope with Covid-19 and to build safe latrines for the experimental group environment prior to the experiment was in the low category. After the experiment increased to high.

3.1.1.6 Description of Control Group Community Motivation before and after the Experiment

The results of the descriptive statistical analysis of the motivation of the community to cope with Covid-19 and to make latrines that are safe for the environment, the control group before the experiment of 15 motivational statements adopted from Likert showed that the average = 30.02; maximum = 37; and minimum = 21. After the experiment, the mean = 31.87; maximum = 38; and minimum = 19. Thus, it can be concluded that the motivation to deal with Covid-19 and to make safe latrines for the control group environment before the experiment was carried out was in the low category. After the experiment remained in the low category.

3.1.1.7 Description of Experimental Group Community Behavior before and after the Experiment

The results of descriptive statistical analysis of community behavior in tackling Covid-19 and making safe latrines for the experimental group environment before the experiment from 15 behavioral observations showed that the average = 35.61; maximum = 37; and minimum = 18. After the experiment, the average = 62.44; maximum = 74; and minimum = 54. Thus, it can be concluded that the behavior of the community in dealing with Covid-19 and making safe latrines for the experimental group environment before the experiment was carried out was in the low category. After the experiment increased to high.

3.1.1.8 Description of Control Group Community Behavior before and after the Experiment

The results of descriptive statistical analysis of community behavior in tackling Covid-19 and making latrines that are safe for the environment, the control group before the experiment of 15 behavioral observations showed that the average = 26.62; maximum = 38; and minimum = 16. After the experiment, the average = 26.12; maximum = 38; and minimum = 17. Thus, it can be concluded that

the behavior of the community in tackling Covid-19 and making latrines that are safe for the environment, the control group before the experiment was carried out was in the low category. After the experiment remained in the low category.

3.1.2 Experimental Effect

3.1.2.1 The Effect of Experiments on Knowledge Increase

The results of the independent t-test of the effect of the experiment on increasing public knowledge about tackling Covid-19 and making latrines that are safe for the environment are presented in Table 1.

Table 1. Results of the Analysis of the Effect of Experiments on Increasing Knowledge in Coping with Covid-19 and Making Safe Latrine for the Environment

	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	10,19	0,87	0,12	14,82	5,56	61,00	29	.000
Correlation = .960								

In Table 1 it can be seen that the significance of t = 0.000 < = 0.05. This means that the experiment has an effect on increasing knowledge about tackling Covid-19 and making latrines that are safe for the environment. The correlation coefficient = 0.960 or the coefficient of determination = 0.92. This figure shows that the effect of carrying out experiments on increasing public knowledge about tackling Covid-19 and making latrines that are safe for the environment is 92%.

3.1.2.2 The Effect of Experiments on Attitude Improvement

The results of the independent t-test of the effect of the experiment on improving people's attitudes in tackling Covid-19 and making safe latrines for the environment are presented in Table 2.

Table 2. Results of the Analysis of the Effect of Experiments on Increasing Attitudes to Cope with Covid-19 and Making Safe Latrine to the Environment

	Paired Differences					t	df	Sig. (2-tailed)
			Std. Error	95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Mean	Lower	Upper			
Pair 1	38,93	,98	0.89	48,89	28,98	61,27	29	.000
Correlation = .91								

In Table 2 it can be seen that the significance of t = 0.000 < = 0.05. This means that the experiment has an influence on improving people's attitudes in dealing with Covid-19 and making latrines that are safe for the environment. The correlation coefficient = 0.91 or the coefficient of determination = 0.83. This figure shows that the effect of carrying out experiments on improving attitudes to tackling Covid-19 and making latrines that are safe for the environment is 83%.

3.1.2.3 The Effect of Experiments on Increasing Motivation

The results of the independent t-test of the effect of the experiment on increasing community motivation to cope with Covid-19 and making latrines that are safe for the environment are presented in Table 3.

Table 3. Results of the Analysis of the Effect of Experiments on Increasing Motivation to Overcome Covid-19 and Making Toilets Safe for the Environment

	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	38,69	1,13	0,65	48,59	28,5	50,07	29	.000
Correlation = .93								

In Table 3 it can be seen that the significance of t = 0.000 < = 0.05. This means that experiments have an effect on increasing motivation to deal with Covid-19 and making latrines that are safe for the environment. The correlation coefficient = 0.93 or the coefficient of determination = 0.86. This figure shows that the effect of carrying out experiments on increasing motivation to deal with Covid-19 and making latrines that are safe for the environment is 86%.

3.1.2.4 The Effect of Experiments on Behavior Improvement

The results of the independent t-test of the effect of the experiment on improving community behavior in tackling Covid-19 and making latrines that are safe for the environment are presented in Table 4.

Table 4. Results of the Analysis of the Effect of Experiments on Improving Behavior in Coping with Covid-19 and Making Safe Latrine for the Environment

	Paired Differences					t	df	Sig. (2-tailed)
			Std. Error	95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Mean	Lower	Upper			
Pair 1	46,21	1,20	0,49	63,97	28,45	62,87	29	.000
Correlation = .938								

In Table 4 it can be seen that the significance of t = 0.000 < = 0.05. This means that the experiment has an effect on increasing behavior in dealing with Covid-19 and making safe latrines for the environment. Correlation coefficient = 0.938 or coefficient of determination = 0.88. This figure shows that the effect of carrying out experiments on improving behavior in tackling Covid-19 and making latrines that are safe for the environment is 88%.

3.2 Discussion

The results of the descriptive statistical analysis of the knowledge of the people in the low-lying areas in tackling Covid-19 and how to make safe latrines for the experimental group and the control group before the experiment were carried out did not show any significant differences, namely all were in the low category. The average knowledge value of the experimental group after the implementation of the experiment experienced a significant increase, while the control group did not change. The effect of the experiment was very significant in increasing the knowledge of people in lowland areas to cope with Covid-19 and how to make latrines that are safe for the environment.

This is due to: (1) the community has a seriousness in participating in the training, (2) the experimental material provided includes materials that are needed by the community, (3) the way the presenters convey the material is very good and detailed, and (4) in the implementation of the experiment, control is carried out. on the testing effect, maturation effect, and mortality effect.

The results of the descriptive statistical analysis of the attitudes of people in lowland areas to cope with Covid-19 and how to make safe latrines for the environment of the experimental group and control group before the experiment was carried out did not show a significant difference, namely all of them were in the negative category. The average value of the attitude of the experimental group after the implementation of the experiment experienced a significant increase, while the control group did not

change. The effect of the experiment has significantly improved the attitude of people in low-lying areas in tackling Covid-19 and how to make latrines that are safe for the environment. This is due to: (1) the community has a seriousness in participating in the training, (2) the experimental material provided includes the materials needed by the community, (3) the way the presenters convey the material is very good and detailed, and (4) in the implementation of the experiments carried out controlling for the testing effect, maturation effect, and mortality effect.

The results of the descriptive statistical analysis of the motivation of people in lowland areas to cope with Covid-19 and how to make safe latrines for the experimental group and control group before the experiment did not show any significant difference, namely all of them were in the low category. The average value of the motivation of the experimental group after the implementation of the experiment experienced a significant increase, while the control group did not change. The effect of the experiment has significantly increased the motivation of people in low-lying areas to cope with Covid-19 and how to make latrines that are safe for the environment. This is due to: (1) the community has a seriousness in participating in the training, (2) the experimental material provided includes materials that are needed by the community, (3) the way the presenters convey the material is very good and detailed, and (4) in the implementation of the experiment, control is carried out. on the testing effect, maturation effect, and mortality effect.

The results of the descriptive statistical analysis of the behavior of people in lowland areas in tackling Covid-19 and how to make safe latrines for the environment of the experimental group and control group before the experiment was carried out did not show a significant difference, namely all were in the low category. The average value of the behavior of the experimental group after the implementation of the experiment experienced a significant increase, while the control group did not change. The effect of the experiment has significantly improved the behavior of people in low-lying areas in tackling Covid-19 and how to make latrines that are safe for the environment. This is due to: (1) the community is serious about participating in the training, (2) the experimental material provided includes material needed and liked by the community, (3) the way the presenter conveys the material is very good and detailed, and (4) the experiment is carried out controlling for the testing effect, maturation effect, and mortality effect

4. Conclusion

The conclusions of the study are as follows: (1) the knowledge, attitudes, motivation, and behavior of the economically weak communities in the lowland areas in tackling Covid-19 and making safe latrines for the environment before being given an experiment are in the low category. After the experiment, knowledge, attitude, motivation, and behavior were in the high category; (2) the effect of the experiment was very significant on increasing the knowledge, attitudes, motivation, and behavior of the economically weak community in tackling Covid-19 and making safe latrines for the environment in the lowlands of South Sulawesi.

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