

Original Article

Health Education and Assistance as an Empowerment Model in Improving the Quality of Family Latrines

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ABSTRACT

There are still many areas in Indonesia that do not have adequate access to sanitation facilities, including family latrines. Especially in rural and suburban areas, sanitation infrastructure is poor, so people still rely on open defecation practices. This research aims to determine the effect of Health Education through assistance and Community Empowerment in increasing the use of family latrines that fulfil sanitation requirements. The research design uses a quasi-experiment with a multiple time series design (pre-test and post-test with control group design). The research was conducted in the working area of the Mekarsari Public Health Center, Lebak-Banten Regency. The intervention group comprised 88 families, and the control group had 88 families. The test used t-test statistical analysis to determine the differences before and after treatment about the quality of family latrines. The study results showed an increase in the average family latrine quality score and minimum and maximum score in the control group after being given health education about healthy latrines. There was a significant increase in the average family latrine quality score and minimum score in the intervention group after being given health education about healthy latrines. There was a difference increase in the deviation (after-before) in the family latrine quality score between the control group (1.51) and the intervention group (3,30). Likewise, the minimum and maximum scores were higher than the difference in family latrine quality scores in the intervention group. Statistically, there is a difference in the average difference (after-before) in the latrine quality scores between the control group and the intervention group. In other words, there is an influence of the community empowerment model for the quality of family latrines (p=0,000).

Keywords: *Health Education, Assistance, Empowerment, Healthy Latrine*

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INTRODUCTION

Indonesia is an archipelagic country with a large population, so sanitation problems become more complex and impact various aspects of life. The good sanitation is an important element that supports human health^{1,2}. The basic sanitation which still has many problems in a number of regions in Indonesia is the provision of healthy latrines for families. Many areas in Indonesia, especially in rural and isolated areas, still have limited access to proper toilet facilities^{2,3}. This condition can give a negative impact on public health and the environment.

The challenges that need to be overcome in improving sanitation include public awareness, education, and behavior change. The lack of public awareness and education about the importance of sanitation and hygienic practices. This can contribute to poor sanitation. The other challenges is by changing community behavior related to healthy sanitation and defecation habits with the culture and traditions that may not support good sanitation practices^{4,5}.

The poor sanitation quality can affect the level of public health. The poor sanitation conditions will negatively impact many aspects of life, starting from decreasing the quality of

the community's living environment, contamination of drinking water sources for the community, and increasing in several environmental-based diseases such as diarrhea and worms ⁶. This condition is certainly very concerning, considering its complex impact on the health of families and society ^{7,8}.

The various efforts have been done and continued by the government and the community, but the results still need continuous effort and hard work. One effort that can be made to improve environmental quality, including improving facilities for disposing of human waste, is through community empowerment ^{9,10}. With community empowerment, it is hoped that the community will increase their ability, motivation and participation in supporting community welfare efforts through the using of available community resources. Based on the description above, the problem of this research is how community empowerment affects the quality of family latrines in the Mekarsari Community Health Center area, Lebak Regency. To determine the influence of the community empowerment model on the quality of family latrines in the Mekarsari health center area, Lebak district.

METHOD

This research is quasi-experimental, with a multiple time series experimental design, pre-test and post-test with control group design. The population is all 3,875 families who have a family latrine (goose neck), with a sample of 176 (88 intervention group samples and 88 control group samples). This research is done in Mekarsari Lebak Regency in 2022. The empowerment model is carried out through health education about healthy latrines using pocket books and assistance four times in a month for the intervention group. Meanwhile, only health education regarding healthy latrines was carried out in the control group without assistance.

To obtain information on latrine quality, a pre-test was carried out on the latrine quality of all latrines in the research sample using an observation sheet. Then the measurements were carried out again (post-test) after treatment in the intervention group and control group. Statistical test with t test at alpha 0.05.

The research protocol received approval from the health ethics commission of the Ministry of Health Semarang Health Polytechnic with registration number 0305/EA/KEPK/2022. Written informed consent was obtained from all respondents.

RESULTS

Table 1. Average Family Latrine Quality Scores

Group	Average Score	
	Pre-test	Post-test
Control	5,90	7,41
Intervention	6,00	9,30

Table 1 above shows that the average scores of the control group and the intervention group before being given treatment (pre-test) were not much different, that is 5.90 in the control group and 6.00 in the intervention group. Meanwhile, the average scores in the control and intervention groups (post-test) were different, 7.41 in the control group and 9.30 in the intervention group.

Table 2. Differences in Average Latrine Quality Scores Before and After Treatment in the Control Group

Time	Mean	Min - Max	Change			p-value
			+	-	0	
Pre-test	5.90	4 - 7	80	0	8	0.000
Post-test	7.41	5 - 9				

Table 2 above shows an increase in the average score for family latrine quality and the maximum minimum score in the control group. After being given health education/counseling about healthy latrines, the assessment results showed that 80 latrines have an increasing score, while 8 latrines did not change in score. Statistically, there is a difference in the average score of latrine quality before and after being given education about healthy latrines (p= 0.000).

Table 3. Differences in Average Latrine Quality Scores Before and After Treatment in the Intervention Group

Time	Mean	Min - Max	Change			p-value
			+	-	0	
Pre-test	6.00	3 - 7	88	0	0	0.000
Post-test	9.30	8 - 10				

The test results of the difference in the average score of family latrine quality before and after treatment in the control group (table 3) show an increase in the mean latrine quality score and the maximum minimum score in the

intervention group. After being given health education/health counseling about healthy latrines and assistance for four weeks. The assessment results found that all (88) latrines have an increasing latrine quality scores after being given health education/health counseling about healthy latrines and assistance. Statistically, there is a difference in the average score of latrine quality before and after being given education about healthy latrines ($p = 0.000$).

Table 4. Difference in Average Deviation in Family Latrine Quality Scores (After-Before) Treatment Between the Control Group and the Intervention Group

Group	Mean	Min - Max	p value
Control	1.51	0 – 3	0.000
Intervention	3.30	2 – 5	

Table 4 above, it shows that there is a difference in increasing in the average deviation (after-before) in the latrine quality score between the control group (1.51) and the intervention group (3.30), as well as the minimum maximum score being higher, there is a difference in the latrine quality score in the intervention group. Statistically, there is a difference in the average deviation (after-before) in the latrine quality scores between the control and intervention groups ($p = 0.000$).

DISCUSSION

The assistance and empowerment showed an increase in the average quality score of family latrines used by the community. Mentoring and empowerment carried out systematically and planned contributes to family knowledge in understanding the form of a healthy family latrine and fosters a willingness to make changes to the quality of the latrine they own. Knowledge has an important role in fostering understanding and shaping a person's or family member's behaviour. Knowledge is a predisposing factor for the formation of behavior, in this case maintaining the quality of the family latrines^{11,12}. The better the family's knowledge and practices about healthy latrines will provide a better understanding, and furthermore it will encourage the formation of behavior to maintain the quality of the family's latrines. Behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge^{13,14}.

The families who had latrines in the control and intervention groups before receiving treatment had low knowledge and understanding of quality family latrines. It is possible that the family has a latrine without adequate understanding and experience, so there is a low average score when the initial observation is carried out. This differs from the average score obtained after treatment, especially in the intervention group, where the increase was higher than the control group. This research also shows that families receiving counselling and assistance had very high average scores. This is possible because families receive knowledge about healthy latrines and are assisted by cadres. Cadres, especially Posyandu cadres, are currently very necessary considering their closeness to families which can be used as a means to encourage the achievement of environmental health programs, especially about family latrines, both in quantity and quality. So it is very clear how important the role of cadres is in assisting families in maintaining the quality of family latrines. The role of cadres in mentoring can be as a motivator, facilitator and catalyst^{15,16}.

To obtain behavior in maintaining latrine quality, the role of health education and mentoring is very important. The families not only gain understanding but also receive awareness efforts and encouragement so that they recognize the potential and problems they face and develop their potential to solve these problems. The mentoring will create harmonious conditions and mutual learning within the group, and families can connect with institutions outside the group and other technical institutions, such as skills services and network development¹⁷.

CONCLUSION

Testing the educational model through a mentoring and empowerment approach in improving the quality of family latrine utilization in the Mekarsari Community Health Center area, Lebak Regency, increased the average family latrine quality score and the minimum score in the intervention group after being given health education about healthy latrines. The difference in average deviation (after-before) latrine quality scores between the control and intervention groups. In other words, there is an influence of the community

empowerment model to the quality of family latrines. The increase that occurs still needs continuous assistance and supervision by the community health center so that the use of healthy latrines becomes a community culture.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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