EMPOWERING HOUSEWIFE IN SELF-MANAGE OF CLEAN WATER IN SUNGAI TUAN ULU VILLAGE ASTAMBUL SUB-DISTRICT, BANJAR DISTRICT

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Abstract - Banjar District has an area of $\pm$ 4,668.50 Km^2, is the 3rd widest area in South Kalimantan Province after Kotabaru and Tanah Bumbu District, and consists of 20 districts, 277 villages, and 13 villages. The location and position of the Banjar District is very strategic because the Banjar District as trans Kalimantan, Banjar District as a buffer city of Banjarmasin, is close to the central government plan of the of South Kalimantan Province, and close to the airport, the port and the location of the regional terminal development plan, and enter the government plan part of the metropolitan city plan (Banjarmasin-Banjarbaru-Martapura). Besides being covered by sedimentary rocks and consisting of a plateau, part of the Banjar District is a low-lying area which is crossed by a large river, the MartapuraRiver, RiamKanan River, and RiamKiwaRiver and several small rivers with hydrographic conditions, heavily influenced by rainfall, even more so from swampy areas.

The lack of clean water sources has become issues of citizens to necessary water for cooking, bathing, defecating, ablution which is felt by the mother households. Results of Basic Health Research data in 2018 that the Banjar District is one of the areas of the three districts that fulfillment of clean water < of 5 liters(2.41%) per person per day whereas the need for clean water each household according to WHO recommendations are<20 liters/day. The ratio of clean water consumption as a source lacks between urban (1.90%) and rural (2.50%) or differently 0.6%. Another thing that makes the source of clean water becomes the source is reduced because of the disposal of wastewater in Banjar District which is dumped into sewers and riversas much as 71.24%. Lack of clean water source for fulfilling a sanitation needs indaily life impact on the increase in cases of diarrhea, which is the second-highest in South Kalimantan as many as 3,317 people and the mostprevalent is in toddlers as many as 280 people.

Keywords - empowerment, self-managed, clean water

I. INTRODUCTION

Clean water is one of the basic human needs and an important part of human life. Water is currently strongly felt, having great economic values and many parties vying for control of its resources [1]. At present, the problem of supplying clean water is of particular concern to both developed and developing countries. Indonesia as a developing country does not escape from the problems of water supply to the society. One of the main problems faced is the lack of clean water sources [2].

Water shortages have different effects in various regions. In one population, the lack of water is a routine phenomenon and is considered understandable, whereas, in other places, water shortages occur only in short periods and can cause chaos [3]. From here, the role of government as representatives of the community must regulate the utilization and supply of water for daily needs [2].

Banjar District has an area of $\pm$ 4,668.50 Km^2, is the 3rd widest area in South Kalimantan Province after Kotabaru and Tanah Bumbu District, and consists of 20 districts, 277 villages, and 13 villages. The location and position of the Banjar District is very strategic because the Banjar District as trans Kalimantan, Banjar District as a buffer city of Banjarmasin, is close to the central government plan of the of South Kalimantan Province, and close to the airport, the port and the location of the regional terminal development plan, and enter the government plan part of the metropolitan city plan (Banjarmasin-Banjarbaru-Martapura). Besides being covered by sedimentary rocks and consisting of a plateau, part of the Banjar District is a low-lying area which is crossed by a large river, the Martapura River, RiamKanan River, and RiamKiwa River and several small rivers with hydrographic conditions, heavily influenced by rainfall, even more so from swampy areas.

This condition is very supportive of the community to access water needs. Nevertheless, ironically, in Banjar District, there are at least 130 villages spread across seven sub-districts in the region experiencing drought and water shortages, especially in the dry season. Drought has caused rivers that have been the foundation of dry communities. Most of the rivers in the Banjar Regency are now salty due to severe seawater intrusion. Some of the areas that experienced the worst water supply difficulties were in the Cintapuri Sub-District, Sambungmakmur Sub-District, Simpangampat Sub-District, and Aluh-aluh Sub-District. One of the districts with the most difficulty in clean water is the Aluh-Aluh District. Communities in this subdistricts have to find water by using boats up to tens of kilos, outside the area or out of the village. The number of drought areas and clean water shortages, he continued, increased drastically from the data one month earlier, which only hit five sub-districts with a population of around 10 thousand families.

Results of Basic Health Research data in 2018 that the Banjar District is one of the areas of the three districts that fulfillment of clean water < of 5 liters (2.41%) per person per day whereas the need for clean water each household according to WHO recommendations are<20 liters/day. The ratio of clean water consumption as a source lacks between urban (1.90%) and rural (2.50%) or differently 0.6%. Another thing that makes the source of clean water becomes the source is reduced because of the disposal of wastewater in Banjar District which is dumped into sewers and rivers as much as 71.24%. Lack of clean water source for fulfilling sanitation needs in daily life increase in cases of diarrhea, which is the second-highest in South Kalimantan as many as 3,317 people, and the most prevalent is in toddlers as many as 280 people [4].

II. METH OD OF IMPLEMENTATION

As for the implementation of these activities include water management, search for new water sources, making water reservoirs, making clean water installations, counseling, and evaluations to see the effectiveness of the program in socialization. The stages of implementation are explained as follows:

2.1 Preparation

The strategy used in this program is the community approach (Advocacy, Community Development, and Community Movement). First of all, advocacy is carried out to local health agencies, in this case,Puskesmas, whose working area is in Aluh-aluh District. Advocacy is then carried out to the local village head to support this program so that it can run according to goals, objectives, and plans. Community development is carried out by involving groups of women namely local housewives, with support from community leaders and health centers to encourage communities to participate in community service activities. The next activity was conducting initial socialization with residents in Sungai Tuan Ulu Village, Banjar District, to explain the implementation of the IbM program. In this socialization, it is done to synchronize the objectives of the IbM program with what is the problem of citizens in terms of clean water needs. In this activity, the community service team and residents plan what needs to be done to meet the need for clean water. In this plan, it will be proposed to make water reservoirs independently, make clean water installations, and counseling on clean water management. Field survey to determine the new water source and position of water reservoirs and the placement of pipes to be installed from water sources to water reservoirs. Where to install the pipe will be placed along the residential area.

2.2 Intervention

The next activity is by making siring and flooring for new sources and making water reservoirs, where the work is carried out by residents working together and assisted by several craftsmen because this work requires skilled personnel in making reservoirs. Installation of water and pump installations for the mosque to meet the water needs for the needs of the mosque. These activities include building a pump house, installing clean water installations to the mosque and installing water pumps. Socialization with the completion of the work of making reservoirs and installing water installations. In this activity, the researchers conveyed the results that had been carried out, as well as conducting training and counseling on water distribution management so that there was a collaboration between the management, in this case, farmer groups and residents. This was done in order to reduce social friction between residents.

2.3 Monitoring and Evaluation

Assessment of the success of this program can be seen from the short-term and long-term evaluations. Short-term evaluation is assessed to determine community knowledge about clean water management using a pretest and posttest questionnaire, which is then compared to the results. Long-term evaluation is conducted to see changes in community behavior to conduct water management and the use of water reservoirs properly and conduct evaluations related to the discovery of new water sources.

III. RESULTS AND OUTSIDE

3.1 Univariate Analysis

The description of the characteristics of the housewife in the community service activities is as follows:

3.1.1 Age

Based on the primary data collection conducted for 30 housewives in Sungai Tuan Ulu Village, the frequency distribution is based on age, as shown in Table 5.1 below.

" Table 1 Distribution of Frequency of Respondents Based on Age in Sungai Tuan Ulu Village "

Age	amount	Percentage (%)
17-25	3	9.9
26-35	17	56.7
36-45	7	23.4
46-55	3	9.9
Total	**30**	**100**

Source: Primary data, 2019

Based on the table above, the results of the research show that based on age in Sungai Tuan Ulu Village with the number of respondents 30 people, most respondents were found at the age of 26-35 years, mostly 17 (56.7%) respondents. While at the age of 36-45 years as many as 7 (23.4%) respondents. In addition, it was also found at the age of 17-25 and 46-55 years as many as 3 (9.9%) respondents.

Clean water is one of the basic human needs and an important part of human life. Water is currently felt to have great economic value, and many parties are fighting over to control its sources [1]. At present, the problem of providing clean water is of particular concern to both developed and developing countries. Indonesia, as well as other developing countries, is not immune to the problem of providing clean water to its people. One of the main problems faced is the lack of clean water sources [5]. Therefore, the role of a housewife is important in the provision of clean water at the household.

3.1.2 Education

Based on primary data collection conducted on 30 housewives in the management of clean water in Sungai Tuan Ulu Village, the frequency distribution based on education level is obtained, as shown in Table 2 below.

" Table 2 Distribution of Frequency Respondents Based on Education Level in Sungai Tuan Ulu Village "

Education	amount	Percentage (%)
Not finished elementary school – elementary school	14	46.7
Middle school	10	33.3
High school	6	20.0
Total	**30**	**100**

Source: Primary data, 2019

Based on table 2, the results of the study show based on the level of education in Sungai Tuan Ulu Village with a total of 30 respondents, most respondents found at the level of education not graduating from elementary to elementary as many as 14 (46.7%) respondents. Whereas at the junior high school level, there were 10 (33.3%) respondents and at the senior high school level, there were 6 (20.0%) respondents.

Education is very influential in the management of clean water because it will greatly affect the level of knowledge and behavior in managing clean water in maintaining health that is managed because higher education tends to pay attention to their health in water management in their households. Low education level causes difficulty in absorbing new information or ideas. Conversely, someone who has a high level of education will be more open to accepting new ideas about water management itself [6].

3.1.3 Work

Based on primary data collection conducted on 30 housewives in the management of clean water in Sungai Tuan Ulu Village, the frequency distribution is based on age, as shown in Table 3 below.

" Table 3 Distribution of Frequency of Respondents by Work in Sungai Tuan Ulu Village "

Work	amount	%
Housewife	21	70.0
Farmers	6	20.0
Trader	3	10.0
Total	**3 0**	**100**

Source: Primary data, 2019

Based on table 3, the results of the study show based on work in Sungai Tuan Ulu Village with a total of 30 respondents, most respondents found in respondents who are not working or as Housewives as many as 21 (70.0%) respondents. While the respondents who worked as farmers were (20.0%) respondents and the respondents who worked as traders were 3 (10.0%) respondents.

The type of work influences the ability to access clean water sources. Working mothers will have a better economic impact on their families so that they will provide better conditions. However, with work status, automatically, attention to the baby will also be reduced due to the focused time to work. Mothers who work will be reduced or limited time to manage water in the household. Consequently, water is not monitored at home [7].

3.1.4 Clean Water Sources

Based on primary data collection conducted on 50 mothers who have children under five in Sungai Tuan Ulu Village, the frequency distribution based on clean water sources is obtained as shown in table 4 below:

" Table 4 Distribution of Frequency of Respondents by Sources of Clean Water in Sungai Tuan Ulu Village "

Clean Water Source	amount	%
Water Utility Regional Company (PDAM)	14	46.7

Bucket well	5	16.6
Pump well	11	36.7
Total	**30**	**100**

Source: Primary data, 2019

Based on table 4, the results of the study show that based on the use of clean water sources in Sungai Tuan Ulu Village with 50 respondents, most respondents were respondents who used PDAM as many as 14 (46.7%) respondents. Whereas, the respondents who used bucket wells were 5 (16.6%) respondents, and the respondents who used pump wells were 11 (36.7%) respondents.

Clean water sanitation facilities must meet health requirements, so as not to experience pollution so that good water quality can be obtained following health standards. Every clean water sanitation facility has different requirements, but from each existing condition, the main requirement that must be considered is that the distance between the source of clean water and the septic tank must not be less than 10 meters. This is so that the source of clean water used is not contaminated by feces that contain lots of bacteria and worms that can cause diarrheal diseases. The water source is one of the sanitation facilities that are not less important related to the incidence of diarrhea. Some infectious germs that cause diarrhea are transmitted through the oral-fecal pathway. They can be transmitted by inserting into the mouth, liquid or objects contaminated with feces, for example, drinking water, fingers, and food prepared in a pot washed with polluted water [8].

Evaluation is an activity that intends to find out whether the goals that have been determined can be achieved, whether the implementation of the program is following the plan, and or what impact occurs after the program is implemented. Program evaluation is useful for decision-makers to determine whether a program will be stopped, repaired, modified, expanded, or improved. With the implementation of an evaluation of a program, it will be known the impact of the implementation of the program so that future program planning will be better and more perfect [9].

Evaluation is done by comparing the results of the pre-test scores before the material is delivered as well as the post-test scores after the provision of counseling material. The results of the pre-test and post-test in the counseling activities can be seen in the following table.

" Table 5 Results Pre-Test and Post-Test of Guidance on Public Attitudes Toward the Diarrhea Disease "

Pre attitude			Post attitude		
Right answer	**Amount**	**%**	**Right Answer**	**amount**	**%**
5	6	20.0	6	8	26.7
6	12	40.0	7	8	26.7
7	4	13.3	8	9	30
8	8	26.7	9	5	16.6
Total	**30**	**100**	**Total**	**30**	**100**

Source: Primary data, 2 019

The results of table 5 obtained a comparison between the value of pre-test and post-test Counseling Material about Public Attitudes Toward the Diarrhea Disease with 30 respondents. From the results of pretest respondents who answered with the correct number, 5 were 6 (20.0%). Those who answered correctly were 6 (40.0%). Those who answered with the correct number 7 were 4 (13.7%), and those who answered with the correct number 8 were 8 (26.7%).

Results Post-test respondents who answered with the correct number of 6 were 8 (26.7%). Those who answered correctly were 7 (26.7%). Respondents who answered with the correct number 8 were 9 people (30.0%), and respondents who answered with the correct number 9 were 5 people (16.6%).

Attitude is a form of evaluation/reaction to an object, impartial, which is a certain order in terms of feelings (affection), thought (cognition), and predisposition to action (conation) of someone to an aspect in the surrounding environment [10].

" Table 6 Test normality in the pre-test and post-test "

		Shapiro Wilk		
No	Variable	*p-Value*	*Sig*	Status
1	Pre test	.001	P <0.05	Abnormal
2	Post test	0.002	P <0.05	Abnormal

Source: *Primary data, 2019*

The pre-test is not normally distributed because the p-value is 0.001 <0.05, while the post-test is not normally distributed because the p-value is 0.002 <0.05. Therefore, to determine this, the value uses the Wilcoxon test because the two are not normally distributed.

The Wilcoxon test is used if it does not meet the paired t-test, the Wilcoxon test is used. The principle is the same as the paired t-test, it is just that the numerical variables in this test are not normally distributed.

" Table 7 Wilcoxon test pre-test and post-test results "

No	Pre-test and post-test	Z	p-Value	Status
1		-4,838	0.001	different

In the table shows the p-Value 0.001 <0.05, the decision is Ho rejected, which means a difference in mean pre-test and post-test.

IV. CONCLUSION

From the results of the pre-test and post-test conducted, it was found that there was a difference in knowledge between the average value of the pre-test and post-test results in the counseling activities of community attitudes towards the diarrheal disease. Based on Wilcoxon test results it is known that there is an effect of giving intervention to the knowledge of respondents before and after counseling (p-value = 0.001).

The recommendation is:
1. The need for clean water monitoring activities managed by cadres.
2. There is a need for socialization from cadres formed to manage clean water.

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