



The Relationship of Knowledge and Attitude with Utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency

Rosdiana¹, M. Habibi Yusup²

¹Lecturer of Public Health Faculty of Public Health, Helvetia Institute of Health, Medan, Indonesia

²Undergraduate Student of Public Health, Faculty of Public Health, Helvetia Institute of Health, Medan, Indonesia

*Corresponding Author: Rosdiana

Email: rosdiana@helvetia.ac.id



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Abstract

Water is an important factor in meeting the vital needs of living things such as drinking water or other household needs. The water used must be free from germs and do not contain toxic materials. This study was to determine the relationship between knowledge and attitudes with the use of Baharu River water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency. This research is an analytic survey with a cross sectional design. The population of this study was the entire community in Kelambir Village, namely 267 respondents, the sample in this study was 73 respondents. Data analysis used univariate and bivariate analysis with chi-square test. The chi-square test shows the probability value of each variable, including knowledge $p = 0.008$, and attitude $p = 0.008$. This research is that there is a relationship between knowledge and attitudes with the use of Baharu River water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency. It is hoped that the people in the Baharu River flow will know and get sources of information about the utilization of river water and how to use it properly and correctly and the community is able to maintain the watershed so that it is not polluted and the community can use river water properly in Kelambir Village, Hamparan Perak District, Deli Serdang Regency.

Introduction

Environmental health is essentially an optimum condition or condition so that it has a positive effect on the realization of an optimum health status as well. The scope of environmental health includes: housing, disposal of human waste (feces), provision of clean water, waste disposal, disposal of dirty water (waste) and so on. Environmental health efforts are to improve or optimize the human environment in order to achieve optimum health (Notoadmojo, 2010)

Utilization of the river carried out by the community with various existing activities, such as disposal of garbage and family waste including bathing and washing toilets (MCK) activities, this can cause its own problems, especially related to environmental hygiene and health. The decline in the quality of the environment around the river is caused by various things, including the disposal of industrial waste and household waste, garbage and various kinds of waste including human waste, all of which are dumped into rivers, this kind of behavior does not support a clean environment. there is potential for the development of a high quality of life. On

the other hand, poor environmental quality can cause various diseases such as skin diseases and diarrhea (Supardi, 2003)

Water pollution is something that really needs to be considered. Earth is the only planet that has water which is the source of life for living things. The earth's surface consists mostly of water, because the ocean area is larger than the land area. Water quality is very influential on the health of living things (Supardi, 2003)

Water is an important factor in meeting the vital needs of living things such as drinking water or other household needs. The water used must be free from germs and do not contain toxic materials. The number of drinking water sources that meet the requirements as raw water for drinking water is decreasing as a result of human activities, either intentionally or unintentionally. The human body itself consists mostly of water. The adult body is about 55-60% of body weight consisting of water, for children about 65% and about 80% for infants (Slamet, 2007)

The water sanitation program is one of the priority programs in the Sustainable Development Goals (SDGs) agenda with the target of reducing by half the proportion of the population who do not have access to safe and sustainable drinking water sources and sanitation facilities in 2015-2019, and is estimated at 1.1 billions of people in the world who live in villages and in cities live without clean water. Based on the 2018 Sustainable Development Goals (SDGs) report in Indonesia the number of people who do not have access to clean water is 44.2%, and only 5.5% of the population in villages have access to clean water. Furthermore, in public places the coverage of the population that has access to clean water is only 32.9% (WHO, 2015)

Water pollution can occur due to the entry or inclusion of pollutants from various activities, such as households, agriculture and industry. As a result of this pollution, the quality of the water can decrease until it does not meet the requirements of the designated designation. Decreasing water quality due to pollution, such as what happens in rivers can change the community structure of living aquatic organisms. Pollution of organic compounds, suspended solids, excess nutrients, toxic substances, industrial waste can cause water quality disturbances and can cause changes in the diversity of composition of aquatic organisms in rivers (Effendi, 2007)

The rivers in Medan City based on the Decree of the Minister of the Republic of Indonesia Number 11 of 2006 concerning the status of the Deli River and the Babura River are rivers which are protected areas that must be protected. control and control of the destructive power of water. The destructive power of rivers is caused by activities/business activities along the watershed (DAS) from upstream to downstream, including agriculture, settlements, urban/development, hotels, malls and industries so that the quality of the river decreases or occurs environmental pollution

The characteristics of polluted water vary greatly depending on the type and pollutants or components that cause pollution. For example, polluted drinking water may change its taste even though the change in smell may be difficult to detect, a pungent odor may occur on polluted seashores, rivers and lakes, aquatic animal life will be reduced in heavily polluted river water, or oil appears to float. on the surface of the sea water indicates the presence of pollution.

These different signs of water pollution are caused by different sources and types of pollutants. Industrial and technological activities, water that has been used (industrial waste water) should not be directly discharged into the environment because it can cause pollution. The water must be treated first so that it has the same quality as the environmental water quality. So industrial wastewater must undergo a recycling process so that it can be used again or discharged back into the environment without causing environmental water pollution (Pang & Abdullah, 2013).

The condition of river water is used as a disposal of hazardous waste from industry, household waste, pesticides and others. Industrial waste is very potential as a cause of water pollution. In general, industrial waste contains hazardous and toxic waste (B3), namely hazardous and toxic materials. Characteristics of corrosive B3 waste that can cause rust, are flammable and explosive, are toxic or toxic and cause infection or disease

This is in accordance with research from Mayang et al (2016) with the title Utilization of North Alalak River Water by the Community on the North Alalak River Bank in North Alalak Village, North Banjarmasin District, Banjarmasin City. The results showed that drinking was included in the high criteria state of 0%, cooking was included in the high criteria state 0%, bathing was included in the high criteria state 77%, washing was included in the high criteria state 74%, ablution was included in the high criteria state 1%, cleaning the house is included in the 95% high criteria state and watering the plants is included in the 92% high criteria state (Mayang et al., 2016)

This is in accordance with researcher Siti et al (2017) with the title Utilization of Progo River Water to Meet Drinking Water Needs in Sleman Regency. The results show that in general the water quality of the Progo River is quite good and can be used as a source of clean water because it only requires a little processing. From a series of inspection data, it was found that only the turbidity, Hg, Mn, Pb, Cd, Cr+6 was slightly higher than the limit requirement so that coagulation, precipitation and chemical processes were necessary to overcome them. However, in order to maintain the stability of water quality, it is necessary to maintain this quality properly and it is necessary to carry out inspections to check the quality of this water during the return period (Fatimah et al., 2009)

This is in accordance with the researcher Kresensia et al (2018) with the title Utilization of Bayung River Water as a Source of Clean Water for Sungai Raya District, Bengkayang Regency. The results of the analysis show that the Bayung River is suitable as a source of clean water with good water quality. The distance from the raw water source to Sungai Raya District is 32 Km. The mainstay discharge with an average probability of 99% is 668.91 lt/second for the minimum discharge in September of 41,249 lt/second while the maximum discharge is in January of 3079,505 lt/second. HDPE pipes with a diameter of 100–400 mm are used (Yolenta, 2014).

According to an initial survey conducted by researchers around the Baharu river in Kelambir Village, Hamparan Perak District, Deli Serdang Regency with 10 people from the community, it was found that 8 out of 10 people still use the Baharu river for their daily needs, such as bathing, washing, defecating/ small, the community is still very dependent on the Baharu river. In addition, the lack of knowledge about the importance of health makes people still use the river water, the attitude of the people who are less responsive to the use of river water. 2 of them use river water and know the use of river water well so that the attitude of the community is also good.

The general purpose of this study is to determine the relationship between knowledge and attitudes with the use of Baharu River water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021.

Methods

The research design is an analytical survey with a cross sectional approach, which is a study to study the dynamics of the correlation between risk factors and effects, by approaching, observing or collecting data at one time. This research was conducted in Kelambir Village, Hamparan District. Silver Deli Serdang Regency. This research starts from January to October 2021. The population is the entire object of research or the object under study. The population observed by the researcher in this study was the entire community in Kelambir Village,

Hamparan Perak District, Deli Serdang Regency as many as 267 Family Heads in Environment I and II. The sample is part of the population that is considered representative of the population. The sample in this study used the Slovin formula with simple random sampling technique. The samples in this study were only carried out in Environments I and II which were around the Baharu River flow.

Results and Discussion

Characteristics of Respondents

Based on the results of the research, the identity of the respondents including age, gender, occupation and religion can be seen in the following table:

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Table 1. Age Distribution of Respondents in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

No	Age	Frequency (f)	%
1	27-31 Years	27	37,0
2	32-36 Years	15	20,5
3	37-41 Years	20	26,0
4	42-46 Years	7	9,6
5	> 46 Years	5	6,8
Total		73	100,0

Table 1 shows that of the 73 respondents studied, 27-31 years old respondents (37.0%), 32-36 years old as many as 15 people (20.5%), 37-41 years old as many as 20 people (26.0%), aged 42-46 years as many as 7 people (9.6%) and those aged >46 years as many as 5 people (6.8%).

Table 2. Gender Distribution of Respondents in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021.

Table 2. shows that of the 73 respondents studied, 42 respondents (57.5%) were male and 31 (42.5%).

No	Sex	f	%
1	Male	42	57,5
2	Female	31	42,5
Total		73	100,0

Table 3. Distribution of Respondents' Occupations in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 202.

No	Work	f	%
1.	Farmer	21	28,8
2.	Fisher	10	13,7
3.	Self Employed	19	26,0
4.	Civil Servant	2	2,7
5.	House Wife	21	28,8
Total		73	100,0

Table 3 shows that of the 73 respondents studied, 21 people (28.8%), who worked as fishermen (13.7%) worked as entrepreneurs, 19 people worked as entrepreneurs (26.0%). , who worked as civil servants as many as 2 people (2.7%) and who worked as IRT as many as 21 people (28.8%).

Table 4. Distribution of Respondents' Religion in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

N	Religion	f	%
1.	Islam	56	76,7
2.	Protestan	6	8,2
3.	Katholic	11	15,
Total		73	100

Table 4 shows that of the 73 respondents studied, 56 respondents were Muslim (76.7%), 6 were Protestant Christians (8.2%) and 11 Catholics were Christians (15.1%).

Knowledge

Table 5. Knowledge Distribution of Respondents in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

N	Knowledge	f	%
1	Good	13	17,8
2	Enough	22	30,1
3	Less	38	52,1
Total		73	100,0

Table 5 shows that of the 73 respondents studied, 13 respondents (17.8%) with good knowledge, 22 (30.1%) sufficient knowledge and 24 (32.9%).

Univariate Analysis

After conducting research on the Relationship of Knowledge and Attitude with the Utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency, the following results were obtained:

Attitude

Table 6. Distribution of Respondents' Attitudes in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

N	Attitude	f	%
1	Positive	30	41,1
2	Negative	43	58,9
Total		73	100,

Table 6 shows that of the 73 respondents studied, 30 respondents with a positive attitude (41.1%) and a negative attitude were 43 (58.9%).

River Water Utilization

Table 7. Utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

No.	Utilization of River Water	f	%
1	Utilize	45	61,6
2	Not utilizing	28	38,4
Total		73	100

Table 7. shows that of the 73 respondents studied, 45 respondents (61.6%) used river water and 28 (38.4%) did not use river water.

Bivariate Analysis

After the univariate analysis of the research results was carried out by bivariate analysis using the Chi-Square test, the relationship between the independent variable and the dependent variable with the statistical significance limit of the p value calculation (0.05), the following results were obtained:

Table 8. Relationship between Knowledge and Utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

Knowledge	River Water Dissing				Total		Value
	Not Utilizing		Utilizing		f	%	
	f	%	f	%			
Good	3	4,1	10	13,7	13	17,8	0,008
Enough	4	5,5	18	24,7	22	30,1	
Less	21	28,8	17	23,3	38	52,1	
Total	28	38,4	45	61,1	28	100	

Based on table 8, it can be seen that of the 73 respondents studied, the category that does not use river water with good knowledge is 3 people (4.1%), 4 people (5.5%), less than 21 people (28.8%) and categories that use river water with good knowledge are 10 people (13.7%), 18 people are enough (24.7%), less are 17 people (23.3%). Furthermore, from the results of the Chi-Square analysis in the attachment of the Chi-Square test table between the relationship between knowledge and the use of new river water, it is known that the probability value is $(0.008) \leq 0.05$. The results of this analysis meet the criteria for the relationship hypothesis requirements, so it can be concluded that knowledge has a significant relationship with the utilization of new river water.

Table 9. Relationship between Attitudes and Utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2021

Attitude	Utilization of River				Total		Nilai
	No		Yes		f	%	
	f	%	f	%			
Positive	6	8,2	24	32,9	30	41,1	0,008
Negativ	22	30,1	21	28,8	43	58,9	
Total	28	38,4	45	61,6	73	100,	

Based on table 9. it can be seen that of the 73 respondents studied, the category that does not use river water with a positive attitude is 6 people (8.2%), a negative attitude is 22 people (30.1%) and the category that uses river water with positive attitude as many as 24 people (32.9%), negative attitude as many as 21 people (28.8%).

Furthermore, from the results of the Chi-Square analysis in the attachment of the Fisher's Exact Test test table between the relationship between attitudes and the use of new river water, it is known that the probability value is $(0.008) \leq 0.05$. The results of this analysis meet the criteria for the relationship hypothesis requirements, so it can be concluded that there is a relationship between attitudes and the use of new river water.

Knowledge with Water Utilization

Baharu River

The results showed that of the 73 respondents studied, 13 respondents (17.8%) had good knowledge, 22 (30.1%) had sufficient knowledge and 24 (32.9%). The results of the study statistically showed $p = 0.008$ or < 0.05 . It means that there is a relationship between knowledge

and the utilization of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2020.

The results of this study are in line with research conducted by Sharah et al (2018) on the Relationship of Knowledge, Attitudes and Culture with River Water Use Behavior (Study in Martapura Health Center Work Area 2). The results showed that most of the respondents in the case group were in the unknown, namely 25 people (55.6%) and the control group in the tofu, namely 35 people (77.8%) and the known p value = 0.000, meaning p less than 0.05 . So it can be concluded that there is a relationship between knowledge and behavior of river water use.

The results of this study are in line with research conducted by Gugum & Yoni (2017) with the title Relationship Between Knowledge of Water Resources and Attitudes towards Water Use with Behavior in Utilizing Water (Study on Communities in Linggasirna Village, Sariwangi District, Tasikmalaya Regency). the relationship between community knowledge about water resources with behavior in using water. The higher the community's knowledge about water resources, the more positive their behavior in using water will be. This is indicated by $r = 0.415$ and $r^2 = 0.172$, meaning that public knowledge about water resources contributes 17.2%. (Gugum & Yoni, 2017)

This research is in line with Notoatmodjo's theory, Knowledge is the result of human sensing, or the result of someone knowing about objects through their senses (eyes, nose, ears, and so on). By itself at the time of sensing to produce knowledge is strongly influenced by the intensity of attention and perception of the object. Most of a person's knowledge is obtained through the sense of hearing (ears), and the sense of sight (eyes). positive attitude, then the behavior will last a long time (Gugum & Yoni, 2017)

According to the researcher's assumption that knowledge has a very close relationship with the use of river water, the results of the research show that the majority of respondents' knowledge is lacking in knowledge, lack of knowledge makes people not know what will be felt or the impact if they always use river water, so people always use water. the river and they think that river water is easier to take and more economical.

Attitude with the Utilization of New River Water

The results showed that of the 73 respondents studied, respondents with a positive attitude were 30 people (41.1%) and 43 people had a negative attitude (58.9%). The results of the study statistically showed $p = 0.008$ or <0.05 . This means that there is a relationship between attitudes and the use of Baharu River Water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency in 2020.

The results of this study are in line with research conducted by Sharah et al (2018) on the Relationship of Knowledge, Attitudes and Culture with River Water Use Behavior (Study in Martapura Health Center Work Area 2). The results showed that some respondents in the case group had an unfavorable attitude, namely 26 people (58.0%) and the control group had a good attitude, namely 32 people (71.1%) with p value = 0.000, meaning p less than 0.05 . So it can be concluded that there is a relationship between attitudes towards river water usage behavior.

The results of this study are in line with the research conducted by Gugum and Yoni (2017) with the title Relationship Between Knowledge of Water Resources and Attitudes towards Water Use with Behavior in Using Water (Study on Communities in Linggasirna Village, Sariwangi District, Tasikmalaya Regency). The results show that there is a positive relationship between attitudes towards water use and behavior in using water in Linggasirna Village, Sariwangi District, Tasikmalaya Regency. The more positive the attitude of the community towards the use of water, the more positive their behavior in using water will be. This is indicated by $r = 0.396$ and $r^2 = 0.157$, meaning that people's attitudes towards water resources contribute 15.7%. (Sharah, 2018).

This research is in line with Notoadmodjo's theory, someone who has a non-supportive attitude tends to have a level that is only limited to accepting and responding, while someone is said to have a supportive attitude that is not only having a level of accepting and responding but has reached a level of respect and responsibility, because the attitude What a person shows is an inner response to a stimulus in the form of material or an object outside the subject that gives rise to knowledge in the form of a subject which then causes an inner response in the form of an object's attitude towards what he knows. The existence of a relationship between attitudes and using river water is supported by the notion of attitude which states that attitude is a tendency to act. So that there is a relationship between the two variables that is influenced by the attitudes of respondents who show negative attitudes, most of them use river water for daily needs, and respondents who show positive attitudes mostly do not use river water for daily needs.

Attitude is a form of evaluation or reaction to feelings, attitude is seen as a feeling of either favoring or against a psychological object. A person's attitude towards an object is a feeling of support or partiality or a feeling of not supporting or not taking sides with a particular object. In determining a complete attitude, knowledge, thoughts, beliefs and emotions play an important role. Like knowledge, attitude also has a level based on its intensity, namely being willing to accept the given stimulus (object), giving answers or responses to questions or motorcycle taxis encountered, giving a positive value to the object or stimulus, in the sense of language with other people, even inviting or influence or encourage others to respond, the attitude of the highest level is to be responsible for what he believes (Gugum & Yoni, 2017).

According to the researcher's assumption that attitudes have a relationship with river water use, the majority of respondents have a negative attitude, the negative attitudes given by respondents have an impact on the continuous use of river water by the local community without thinking about what impacts or health problems will be felt if they always use river water

Conclusion

The conclusion of this study is that there is a relationship between knowledge and attitudes with the use of Baharu River water in Kelambir Village, Hamparan Perak District, Deli Serdang Regency.

Thank-You Note

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