

Factors Related to Household Waste Water Channels (SPAL) in the Working Area of the Sanggaran Agung Community Health Center, Kerinci Regency in 2023

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Abstract

Sewerage is a drain used to dispose and collect waste water from bathrooms, washing places, kitchens (not from latrines). Data from the Kerinci District Health Office shows that the percentage of SPAL ownership in the working area of the Sanggaran Agung Health Center is 76.20%. This study aims to determine factors related to the management of household wastewater sewerage (SPAL) in the working area of the Sanggaran Agung Health Center, Kerinci Regency in 2023. This type of research is Quantitative with Cross Sectional approach. The sampling technique uses the Proportionate Stratified Random Sampling Technique with a sampling of 104 households. The study instrument used questionnaires and observation sheets. The analysis of this study used univariate and biivariate analysis with chi square test. The results of the analysis showed that 66.3% of respondents did not meet the SPAL requirements and there was a relationship between education (P-Value = 0.002), Knowledge (P-Value = 0.000), Attitude (P-Value = 0.000) towards household wastewater sewerage management (SPAL) in the working area of the Sanggaran Agung Health Center.

Keywords: Sewerage management, education, knowledge, attitude

INTRODUCTION

Health development aims to improve health status for all Indonesian people (1). According to Hendrik L Blum, there are various factors that affect health status, namely the environment, behavior, health services and genetic factors (heredity). The environment is one of the factors that has the greatest influence on health. Environmental health efforts are one of the ways to realize the quality of a healthy environment and sanitation, both physical, chemical, biological and social, which allows everyone to achieve the highest degree of health. The scope of basic sanitation is clean water supply facilities, family latrines, garbage disposal facilities, and waste water disposal facilities (SPAL)(2).

Waste is waste material or residual material that is no longer used from the results of human activities both on a household, industrial and mining scale. Household wastewater is water that comes from daily human activities related to water usage. At certain concentrations, the presence of waste can have a negative impact on the environment and on human health, so it is necessary to deal with waste appropriately(3).

Sewerage (SPAL) is a channel used to dispose of and collect waste water from bathrooms, washing places, kitchens (not from latrines) for rural areas, so that the waste water

can seep into the ground and not cause the spread of disease and not pollute the residential environment.(4)

According to WHO/UNICEF, 60% of the rural population in Indonesia lacks access to sanitation including household SPALs so that household liquid waste is directly disposed of on the ground and in rivers.

Many impacts are caused by the absence of SPALs that meet health requirements. The first thing that is felt is that it disturbs the view, and seems dirty because wastewater flows everywhere. In addition, wastewater can also cause a foul odour that reduces comfort, especially for people who pass by the house. Wastewater can also become a mosquito breeding ground that can transmit diseases such as Diarrhoea, Cholera, Typhus, Hepatitis A, Amoeba Dysentrie, Dysentery and Filaris/Elephantiasis(5). The most common disease experienced by people in Indonesia is Dysentery/Diarrhoea.

Access to wastewater treatment services in 2018 was 62 percent. According to place of residence, the percentage of households with sewerage is higher in urban areas at 77,15 per cent, compared to the percentage of households with sewerage in rural areas at 44,74 per cent.

Based on Basic Health Research Data in 2018, the proportion of main wastewater disposal in households, Jambi Province has a percentage of 64.77%. Jambi Province is 5th out of all provinces in Indonesia. Kerinci Regency has a percentage of 21,35% with closed storage and open storage as much as 4,90%. main wastewater disposal in households with no storage to the ground obtained 8,11% and direct disposal to the ground obtained a high percentage of 65,64%(6).

SPAL sanitation condition report data from the Kerinci District Health Office in 2022 shows that the percentage of families with sewerage ownership is 59326 households (87,64%) which are examined as many as 13865 households (23,37%) who have wastewater management, while wastewater management with a healthy category is 10534 households or 17,75%.

The Sanggaran Agung Community Health Center has a working area of 19 villages, based on the results of the annual report on data on the condition of waste water channels in 2022, the total ownership of waste water channels is 76,20% with the open spa type without infiltration, and the number of spas inspected is 91%, for the level category low spall was 18,42%, moderate spall risk level was 22,14%, and 58,83% high spall risk level. Judging from data on burst conditions, the type of open burst without infiltration is very likely to have a high risk of disease transmission and reducing the quality of community housing.

Based on the phenomenon above, it is necessary to conduct research on "Factors related to the Management of Household Sewerage Channels (SPAL) in the Working Area of the Sanggaran Agung Community Health Center, Kerinci Regency in 2023".

METHOD

The type of research used is quantitative with a cross-sectional approach. Data will be collected using observation sheets and questionnaires. The total population is 5001 families. The sampling technique used was Proportionate Stratified Random Sampling which was selected from the proportion of villages that met the research inclusion and exclusion criteria with a sample size of 104 families. Chi-square statistical test was used for data analysis in this research.

RESEARCH RESULT

Univariate Analysis

1. Respondent Characteristics

In this case, the characteristics of respondents can provide an overview of the characteristics of respondents from 104 samples in the working area of the Sanggaran Agung Community Health Center which include age, gender and occupation which can be seen as follows:

Table 1. Characteristics of Respondents

Characteristics	Frequency	Percentage
Age (Years Old)		
21-40 Years Old	69	66,3%
41 - 59 Years Old	35	33,7%
Gender		
Man	45	43,3%
Woman	59	56,7%
Job		
Farmer	36	34,6%
Housewife	44	42,3%
Civil servants	8	7,7%
Entrepreneur	7	6,7%
Honorary	9	8,7%
Last education		
Elementary School	19	18,3%
Junior High School	28	26,9%
Senior High School	36	34,6%
College	21	20,2%

Source: Primary Data 2023

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Respondents aged 21-40 years were the majority, namely 69 respondents (66,3%) compared to only 35 respondents aged 41-59 years (33,7%). Gender shows that the dominant respondents were female as many as 59 respondents (56,7%) rather than male. The type of work most respondents do is as a housewife with 44 respondents (42.3%) and the least is as a civil servant with 8 respondents (7,7%). Respondents' most preferred education was at Senior High School (SMA) as many as 36 respondents (34,6%) and as many as 19 respondents (18,3%) had their last education as elementary school.

2. Research Variables

The results of the research from 104 respondents obtained an overview of research variables related to household wastewater drainage (SPAL) management in the Sanggaran Agung Public Health Center Working Area, Kerinci Regency as follows:

2. Distribution of Household Wastewater Management (SPAL) in the Sanggaran Agung Community Health Center Working Area

SPAL Management	Frequency	Percentage
Not eligible	69	66,3%
Eligible	35	33,7%
Total	104	100%

Source: Primary Data 2023

In table 2 it is known that 69 respondents (66,3%) did not meet the SPAL requirements and 35 respondents (33,7%) met the requirements.

Table 3. Distribution of Respondents' Latest Education in the Sanggaran Agung Community Health Center Working Area

Education	Frequency	Percentage
Low	47	45,2%
High	57	54,8%
Total	104	100%

Source: Primary Data 2023

Based on table 3, it shows that 47 respondents (45,2%) had low levels of education and 57 respondents (54,8%) had high levels of education.

Table 4. Distribution of Respondents' Knowledge in the Sanggaran Agung Community Health Center Working Area

Knowledge	Frequency	Percentage
Low	60	57,7%
High	44	42,3%
Total	104	100%

Source: Primary Data 2023

Based on table 4, it is known that the level of respondents with a poor level of knowledge was 60 respondents (57,7%) and those with a good level of knowledge were 44 respondents (42,3%).

Table 5. Distribution of Respondents' Attitudes in the Sanggaran Agung Community Health Center Working Area

Attitude	Frequency	Percentage
Negative Attitude	47	45,2%
Positive Attitude	57	54,8 %
Total	104	100%

Source: Primary Data 2023

Based on table 5, it shows that of the 104 respondents, it is known that the number of respondents who said they were negative was 47 respondents (45,2%) and those who said they were positive were 57 respondents (54,8%).

Bivariate Analysis

Table 6. Relationship between Education and Household Waste Water Sewerage Management (SPAL).

Education	SPAL Management				Total	P Value	PR 95%(CI)	
	No Fulfill condition		Fulfill condition					
	N	%	N	%				
Low	39	83,0	8	17,0	47	100	0,002	1,577
High	30	53,6	27	47,4	57	100		(1,194-
Total	69	66,3	35	33,7	104	100		2,082)

Source: Primary Data 2023

The table above shows that respondents who did not meet the SPAL requirements with low education were 83,0%, while those who did not meet the SPAL requirements with higher education were 53,6%.

Statistical analysis using the Chi-Square test obtained a P-value of $0,002 < 0,05$ so the conclusion was drawn that there was a significant relationship between education and SPAL management in the working area of the Sanggaran Agung Public Health Center, Kerinci

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Regency and showed a Prevalence Ratio (PR) value of 1,577 (PR> 1) which means that a Confidence Interval value of 95% shows that respondents who have low education have a 1,577 times risk of not managing SPAL that meets health requirements.

Table 7. Relationship between Knowledge and Management of Household Waste Water Channels (SPAL).

Education	SPAL Management				Total		P Value	PR 95%(CI)
	No Fulfill condition		Fulfill condition					
	N	%	N	%	N	%		
Less	50	83,3	10	16,7	60	100	0,000	1,930
Good	19	43,2	25	56,8	44	100		(1,350-
Total	69	66,3	35	33,7	104	100		2,759)

Source: Primary Data 2023

The table above shows that the proportion of respondents who do not meet the requirements for spal management with an inadequate level of knowledge is 83,3%, while those who do not meet the requirements for spal management with good knowledge is 43,2%.

Statistical analysis using the Chi-Square test obtained a P-value of 0,000 < 0.05 so the conclusion was drawn that there was a significant relationship between knowledge and SPAL management in the working area of the Sanggaran Agung health center, Kerinci district and showed a Prevalence Ratio (PR) value of 1,930 (PR> 1) which means that a Confidence Interval value of 95% shows that respondents who lack knowledge have a 1,930 times risk of not managing SPAL that meets health requirements.

Table 8. Relationship between Knowledge and Management of Household Sewerage Channels (SPAL).

Attitude	SPAL Management				Total		P Value	PR 95%(CI)
	No Fulfill condition		Fulfill condition					
	N	%	N	%	N	%		
Negative Attitude	43	91,5	4	8,5	47	100	0,000	2,006
Positive Attitude	26	45,6	31	54,4	57	100		(1,491-
Total	69	66,3	35	33,7	104	100		2.698)

Source: Primary Data 2023

The table above shows that the proportion of respondents who do not meet the SPAL management requirements with a negative attitude is 91,5%, while those who do not meet the SPAL management requirements are positive at 45,6%.

Statistical analysis using the Chi-Square test obtained a P-value of $0,000 < 0,05$ so that it was concluded that there was a significant relationship between education and SPAL management in the working area of the Sanggaran Agung health center, Kerinci district and showed a Prevalence Ratio (PR) value of 2,006 ($PR > 1$) which means that a Confidence Interval value of 95% shows that respondents who have a negative attitude have a risk of 2,006 times because they do not manage SPAL that meets health requirements.

DISCUSSION

1. The relationship between education and household waste water drainage (SPAL) management in the working area of the Sanggaran Agung health center

The results of the research show that there is a significant relationship between education and household wastewater drainage (SPAL) management in the working area of the Sanggaran Agung Community Health Center with a p-value = $0,002 < \alpha$ and shows a Prevalence Ratio value of 1,577 ($PR > 1$) with a Confidence Interval value 95% indicated that respondents who had low education had a 1,577 times risk of not meeting the requirements for household SPAL management.

The level of education is one of the internal factors that can influence a person, including a person's behavior regarding lifestyle, especially in motivating attitudes towards participating in development. In general, the higher a person's education, the easier it will be for that person to receive information (7).

Based on research conducted by Fera Meliyanti in 2018, it was revealed that education is one of the factors that influence household waste management with a percentage of 80.8%, meaning that education plays an important role in shaping a person's knowledge and behavior in improving a person's level of health (8). In line with research conducted by Nissa Noor Annashr in 2018, the research results show that there is a significant relationship between education variables and SPAL conditions (p-value= $0,004$)(9). Research conducted by Asri Jumadewi in 2017, the results showed that there was a relationship between education level and the availability of household SPAL (P-value $0,006 < 0,05$)(10). Research conducted by Eka Joni Yansyah et al in 2022, entitled analysis of waste water disposal channel (SPAL) ownership among the community in Puser Village, the results of the research show that there

is a relationship between education and SPAL ownership (11). In line with research conducted by Amalia Nurfaradzila in 2022, the results of the research show that there is a relationship between education and ownership of SPAL that meets the requirements using the Fisher exact test with $\alpha = 0,05$, it is known that the p-value is greater than α , namely $0,293 > 0,05$. These results indicate that H_0 is accepted, which means there is no relationship between education and ownership of SPAL that meets the requirements in Bogem Village, Kediri Regency (12)

Based on the research results, it is known that as many as 83,0% of respondents who have a low level of education do not manage spal that meets health requirements. This is because the respondents' low or high education is related to people's thought patterns and behavior. Respondents with low education will find it difficult to change their thought patterns and behavior according to expectations. Apart from that, higher education also does not guarantee that people care about the health of their environment. This proves that as many as 53,6% of respondents have a high level of knowledge but do not manage their spal well. Even though there has been outreach or provision of information to the public, there are still many people who have not been able to apply the information obtained from the outreach in their daily lives.

2. The relationship between knowledge and management of household waste water drainage channels (SPAL) in the working area of the Sanggaran Agung Community Health Center

The results of the research show that there is a significant relationship between education and household wastewater drainage (SPAL) management in the work area of the Sanggaran Agung Community Health Center with a P-value $0,000 < 0,05$ so that it can be concluded that there is a significant relationship between knowledge and SPAL management in the area. work of the Sanggaran Agung Public Health Center, Kerinci Regency and shows a Prevalence Ratio (PR) value of 1,930 ($PR > 1$), which means that a Confidence Interval value of 95% indicates that respondents who lack knowledge have a 1,930 times risk of not managing SPAL that meets health requirements.

Knowledge is the process of human sensing of objects outside him through his senses, such as sight, hearing, smell, naturally during this sensing process within the individual a process of attention, perception and appreciation of stimuli or objects from outside the individual occurs. The knowledge a person has will give rise to an inner response in the form of an attitude towards a known object, giving rise to a response in the form of action to have a healthy home. (8)

This is supported by research conducted by Sebtian Sarwoko in 2021, entitled the relationship between the level of knowledge and attitudes of the community and ownership of waste water drainage channels in Condong Village, the working area of the Jayapura Public Health Center UPTD. The research results show a relationship between the level of community knowledge and ownership of waste water drainage channels ($p\text{-value}=0,000$)(13). This is also in line with research conducted by Kasih and Nurlila in 2020, entitled factors related to ownership of waste water disposal facilities in Lamaninggara Village, West Siompu Health Center Working Area, South Buton Regency, the results of the research are that there is a relationship between knowledge and SPAL ownership. (4)

Research conducted by Fikitri Maya Sari et al in 2022, which shows that there is a relationship between knowledge and household SPAL ownership ($p\text{-value}=0,007$). (14) Research conducted by Samosir et al in 2022 explains that good public knowledge is still low with a percentage of 44,3% while poor knowledge was 55,7%. This shows that knowledge influences household wastewater management in Tanjung Diamond Barat Village, Karimun, Riau Islands (15). In line with research conducted by Dyah Suryani and Irma Listari in 2022, it was explained that there was a significant relationship between the level of knowledge and ownership of basic household sanitation facilities in Air Selumar Village, Sijuk District, Belitung Regency ($p\text{value} = 0,000$). (16)

The research results showed that 60 respondents (57,7%) of the respondents' knowledge was in the deficient category from 104 samples. The next category is the good category with 44 respondents (42,3%). In the knowledge variable, the respondent's knowledge was in the poor category, only being able to answer 5-6 questions correctly. Based on the results of the distribution of knowledge answers, there are still many respondents who have insufficient knowledge, due to the lack of information they get about environmental sanitation, especially about household SPALs that meet health requirements. This is proven based on the results of the distribution of each question in the questionnaire, 73,1% of respondents answered incorrectly when asked what the distance is between the waste water drainage tank and the clean water source/well and 66.3% of respondents did not know what waste was allowed to enter the channel. disposal. waste air. Insufficient knowledge makes household wastewater management poor. Efforts that can be made so that the community improves the importance of managing household wastewater drainage (SPAL) is by holding outreach, distributing leaflets or posters by health workers regarding the importance of wastewater drainage (SPAL) that meets health requirements, how to break the chain of transmission. diseases from household

wastewater and the impacts caused by not having wastewater disposal channels that meet health requirements.

3. The relationship between attitudes and household waste water drainage (SPAL) management in the working area of the Sanggarn Agung Public Health Center

The results of the research show that there is a significant relationship between education and the management of household wastewater channels (SPAL) in the working area of the Sanggaran Agung Community Health Center with a P-value of $0,000 < 0,05$ so that it can be concluded that there is a significant relationship between education and the management of SPAL in the area. work of the Sanggaran Agung Public Health Center, Kerinci Regency and shows a Prevalence Ratio (PR) value of 2,006 ($PR > 1$), which means that a Confidence Interval value of 95% shows that respondents who have a negative attitude have a 2,006 times risk of not managing SPAL that meets health requirements.

Attitude is a form of feeling, namely feelings of support or favorability or feelings of unfavorability towards an object. Attitude can also be interpreted as a state of self in humans that moves to act or carry out an activity. (14)

Research conducted by Sabtian Sarwoko in 2021 showed that respondents' attitudes towards SPAL ownership were 58,5%, univariate analysis showed that there was a relationship between attitude and SPAL ownership (13). Research by Suryani and Lestari in 2022, entitled ownership of basic household sanitation facilities in Air Selumur Village, Sijuk District, Belitung Regency, the research results show a relationship between attitudes and ownership of basic household facilities ($p\text{-value}=0,005$). (16)

Research conducted by Eka Joni Yansyah et al in 2022, entitled Analysis of wastewater disposal channel (SPAL) ownership among the community in Puser Village, results of the research shows that there is a relationship between attitudes and SPAL ownership ($p\text{-value}=0,003$) (11). This is in line with research conducted by Fikitri Marya Sari in 2022, the results of the research show that there is a relationship between attitude and SPAL ownership ($p\text{-value}=0,001$). (14)

However, this research is not in line with research conducted by Kasih and Nurlila in 2020, showing that there is no relationship between attitudes and SPAL ownership in Lamaninggara Village, West Siompu Health Center working area, South Buton Regency. (4)

Based on the results of the study with the distribution of attitude answers, it is known that respondents who have a poor attitude are about the statement that the distance between clean water and sewerage reservoirs must be more than 10 meters so as not to pollute clean

water sources / wells, there are 38,5% of respondents who agree that the distance between clean water sources and reservoirs must be more than 10 meters. Most of the wastewater management channels in the village in the Sanggaran Agung Public health center area are categorized as not good, because there are still many people who dispose of wastewater into the sewer or in the yard of the house, this is evidenced by 58,7% of respondents agreeing that there are still residents who channel household wastewater directly into the river/got/ketanah without prior treatment. So it is necessary to hold empowerment activities for housewives where activities can be in the form of community handover and training related to sewerage management in order to increase attitudes towards sewerage management.

CONCLUSIONS AND RECOMMENDATIONS

The conclusion of this study is that most household sewerage management does not meet the requirements (66.3%), and there is a significant relationship between education, knowledge, and attitudes with household sewerage management in the working area of the Sanggran Agung Health Center. Therefore, it is advisable for officers to be more and more active in conducting education because most of them do not know about the management of sewerage (SPAL) that meets health requirements.

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