

## Analysis of the Relationship of Income and Knowledge to Habits of Open Defecation in Langkat Regency in 2022

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### Abstract

*The purpose of this study is to analyze of the relationship of income and knowledge to habits of open defecation in Langkat Regency in 2022. The type of research used in this study is a quantitative study with a cross sectional approach. The population of this study is all heads of families in Langkat Regency, totaling 256,025 Families. The sample in this study is the subject taken from the population of the community residing in 2 Sub-Districts from 23 Sub-Districts in Langkat Regency. The total of each sample is Tanjung Pura and Stabat Districts 4 and 2. Data analysis used bivariate analysis. The results show that there is a significant relationship between income and knowledge to habits of open defecation in Langkat Regency in 2022.*

### Keywords

income; knowledge;  
habit; open defecation



### I. Introduction

Community-based total sanitation is a government program in order to strengthen efforts to cultivate clean and healthy living, prevent the spread of environmental-based diseases, increase community capacity, and implement government commitments to increase access to drinking water and sustainable basic sanitation in achieving the Millennium Development Goals 2015. Sanitation efforts are based on the Regulation of the Minister of Health of the Republic of Indonesia Number 3 of 2014 which is called community-based total sanitation, including toilet and hand washing, and stop defecation, household food, household waste protection, and household liquid waste protection (Kementerian Kesehatan, 2014).

The implementation of the community-based total sanitation program starts from the first pillar, namely the stop open defecation which is the entry point for total sanitation and is an effort to break the chain of contamination of human waste to raw drinking, eating and other water. With the trigger method, community-based total sanitation is expected to change the behavior of community groups in an effort to improve their environmental sanitation conditions, so that open defecation free conditions are achieved in a community or village. A village is said to be open defecation free if 100% of the villagers have access to defecate in healthy latrines (Kementerian Kesehatan, 2014).

Based on data from the Ministry of Health of the Republic of Indonesia in 2021, 30,22 of the 287,72 million people in Indonesia still defecate indiscriminately, and as many as 33 Cities/Districts, 443 Sub-Districts and 6,113 villages in North Sumatra Province, only 568 villages have verified open defecation free villages.

Based on data from the Ministry of Health of the Republic of Indonesia in 2021, 2,19 of the 14,66 million people in North Sumatra Province still defecate indiscriminately. As many as 206,50 thousand people from 1,41 million people in Langkat Regency are still defecating indiscriminately.

Based on the Ministry of Health of the Republic of Indonesia in 2021 the coverage of healthy latrines is 49.59%, semi-permanent healthy latrines are 25.60%, sharing is 9.26% and open defecation is 15.55% and access to latrines is 84.45%.

According to the results of Indah's research (2019) regarding Factors Related to Ownership of Healthy Latrine in the Working Area of the Kayu Tanam Public Health Center, Padang Pariaman in 2019 that there is a significant relationship between knowledge, attitudes, habits, and roles of health workers and ownership of healthy latrines, while income does not have a significant relationship with ownership of healthy latrines. Annissa's research (2019) regarding the determinants of latrine ownership in the Kalanganyar District, Pancur Health Center's working area, showed that there was a significant relationship between defecation habits and income with latrine ownership and there was no significant relationship between education, the role of health workers and latrine ownership.

Based on the results of data from the Health Office in Langkat Regency that from 23 Sub-Districts with a total of 256,025 Families, with a total of 277 Villages, only 109 Villages have stopped open defecation by 39.4% and only Bahorok and Wampu sub-districts have verified open defecation free. Most of the people live on the banks of the river. With these habits, people in this region will be threatened with environmental-based diseases. One of them is gastrointestinal infection, such as diarrhea which is still the most common disease in Langkat Regency.

Based on these data, it can be seen that the use of healthy latrines has not yet reached 100% and there are still many people who defecate arbitrarily even though the community health center has triggered the community for the community-based total sanitation program pillar 1 to stop open defecation, this is due to a lack of awareness and community involvement in the program. Most of the people still use their backyards, gardens, ditches to dispose of their waste/feces. And most of the people live on the banks of the river. With these habits, people in this region will be threatened with environmental-based diseases. One of them is gastrointestinal infection, such as diarrhea which is still the most common disease in Langkat Regency.

The purpose of this study is to analyze the Relationship of income and knowledge to habits of open defecation in Langkat Regency in 2022.

## II. Review of Literature

### Habits of Open Defecation

Open defecation is an act of throwing dirt or feces in fields, forests, bushes, rivers, beaches, or other open areas and allowed to spread to contaminate the environment, soil, air and water. Meanwhile, stopping open defecation is a condition when every individual in the community does not open defecation. Stop defecation behavior is followed by the use of sanitary facilities in the form of healthy latrines (Kementerian Kesehatan, 2014).

Technical standards to support the implementation of the first pillar of community-based total sanitation can be carried out by triggering. Triggering is a way to encourage changes in individual or community hygiene and sanitation behavior on their own awareness by touching the feelings, mindset, behavior, and habits of individuals and or communities. Triggering as intended in Minister of Health Regulation Number 3 of 2014 is carried out by health workers, cadres, volunteers, or the community who have succeeded in developing community-based total sanitation behavior and evaluate the results of behavior change.

Knowledge and attitudes of the community towards sanitation gradually improve after the triggering is held. This can be seen from the majority of respondents who can answer correctly about the community-based total sanitation movement, the description and importance of latrines, and understanding of the negative impact of feces caused by open defecation.

Environmental conditions, an area that will be triggered must be really known and observed by a facilitator. One way to analyze and identify the environmental conditions of the village that will be triggered is to explore the village. The environmental conditions of an area that must be recognized include the geophysical and socio-cultural environment, because the conditions of these two aspects are very influential in the triggering process and the level of success (Kementerian Kesehatan, 2014).

From the results of the introduction or identification of the existing geophysical and socio-cultural environment in the community, conclusions can be drawn which elements fall into the category as strengths/opportunities or as obstacles/challenges, which can then be used as a reference or foothold for triggering activities.

Before the triggering is carried out, the facilitator must have made contact with other related units, especially the local Community Health Centers, so that these units can co-exist with the facilitator in the implementation of triggering.

With the joining of Community Health Centers Officers, it is hoped that the triggering process will be more focused and on target, because Community Health Centers Officers will be able to provide information/counseling assistance about health problems faced by the community, especially related to water and sanitation-based diseases, and can motivate a person or group of people to succeed in triggering stop open defecation in creating a healthy environment.

### **III. Research Method**

The type of research used in this study is a quantitative study with a cross sectional approach. Cross sectional approach involves looking at data from a population at one specific point in time (Pandia et al., 2018; Pandiangan et al., 2018). The participants in this type of study are selected based on particular variables of interest (Asyraini et al., 2022; Jibril et al., 2022; Octiva et al., 2021).

Population is a group of people, animals, plants, or objects that have certain characteristics to be studied (Octiva, 2018; Pandiangan, 2018; Pandiangan et al., 2021). The population of this study is all heads of families in Langkat Regency, totaling 256,025 Families. The sample is a part to be taken from the whole object under study and is considered to represent the entire population (Pandiangan, 2015; Pandiangan, 2022). The sample in this study is the subject taken from the population of the community residing in 2 Sub-Districts from 23 Sub-Districts in Langkat Regency. The total of each sample is Tanjung Pura and Stabat Districts 4 and 2.

Data analysis used bivariate analysis. Bivariate analysis is one of the simplest forms of quantitative analysis. It involves the analysis of two variables, for the purpose of determining the empirical relationship between them. Bivariate analysis can be helpful in testing the simple association hypothesis (Octiva et al., 2018; Pandiangan et al., 2022; Tobing et al., 2018).

## IV. Results and Discussion

### 4.1 Characteristics of Respondents

Based on the data, it is known that the majority of respondents are aged 26-50 years as many as 56 respondents (65.9%), most of them are female, namely 55 respondents (64.7%), most of the respondents work as housewives as many as 44 respondents (51.8%), education of the most respondents is high school graduates as many as 39 respondents (45.9%), and income < Rp2.711.000 as many as 55 respondents (65%).

### 4.2 Bivariate Analysis Results

**Table 1.** Bivariate Analysis Results

Variable	Habits of Open Defecation				Amount		p
	Yes		Not				
	n	%	n	%	n	%	
Income							
Low	52	94.5	3	5.5	55	100	0.001
Tall	3	10	27	90	30	100	
Knowledge							
Not Good	31	93.9	2	6.1	33	100	0.001
Well	24	46.2	28	53.8	52	100	

The results show that there is a significant relationship between income and knowledge to habits of open defecation in Langkat Regency in 2022.

High income allows family members to get better things such as health, education and so on. On the other hand, if the income is low, there will be obstacles in meeting daily needs. The economic situation plays an important role in improving the health status of the family. Thus the income of children will influence the community to start a healthy life by establishing latrines as a way to reduce the habit of open defecation (Hasibuan, 2009). According to the Kementerian Kesehatan (2014), family latrines that meet the health requirements are the septic tank that is impermeable and safe, does not pollute drinking water sources, the location of the holding hole is 10-15 meters from the drinking water source, does not have an odor and feces cannot be touched by insects or rats, wide enough and sloping towards the squat hole so that it does not pollute the surrounding soil, easy to clean and safe to use, equipped with a protective roof, waterproof walls and light colors, adequate lighting, waterproof floors, good ventilation, and available water and cleaning equipment. In the income variable, it is indicated by people who are generally at a high economic level so that people are easy or able to build latrine facilities so that it affects the use and utilization of latrines. The percentage of respondents with high incomes behaved to defecate haphazardly less than those with low incomes. The income of respondents in this study is based on the Langkat Regency/City Minimum Wage, which is Rp2,711,000/month. The results of the study in Langkat Regency have an income below the Regency/City Minimum Wage of 65%. Respondents with mediocre low incomes can only meet their daily needs so that respondents are unable to have a family latrine. Respondents with high incomes on average have a latrine to meet their daily needs so they are able to have a family latrine. Based on the survey in the field, most of the people are

housewives with small incomes. So that all community income is used to meet daily needs. People who have low incomes will find it difficult to build family latrines, even though these communities already have good knowledge about the benefits and importance of latrines for families and health. The income level of a family is closely related or very influential on the level of procurement of healthy latrines and good use, the better the income of the family, the better the condition of the latrines made and their utilization will also be maximized because the construction of latrines is closely related to a person's income level, because the construction of healthy latrines requires no small amount of cost.

Knowledge is the result of knowing and occurs after someone has sensed a certain object. Knowledge will raise awareness and eventually will cause people to behave in accordance with the knowledge they have, and the addition of knowledge cannot be only in a short time, but must be continuous and sustainable. It also provides new information so that knowledge continues to increase and deepen, because by crystallizing knowledge it will still be a control for someone to behave well (Notoatmodjo, 2011). Knowledge or cognitive is a very important domain in shaping a person's actions or behavior, in other words if someone has good knowledge then that person tends to behave well. Behavior that is based on knowledge, awareness, and a positive attitude then the behavior will be long lasting and vice versa if the behavior is not based on knowledge and awareness then it will not last long (Soekidjo, 2003). According to Kurniawati's research (2015), it shows that there is a relationship between knowledge and the behavior of the head of the family in the use of latrines. The results in the field show that respondents who have high knowledge about the benefits of latrines, people who already know the importance of using latrines but only know, but have not been able to implement healthy latrines. Knowledge can be obtained from information seen or witnessed and heard such as radio, television or advice or counseling from related parties, therefore it is necessary for continuous efforts from related parties to repeatedly remind and provide information about the need to build a septic tank so that a clean and healthy life behavior is created.

## V. Conclusion

The results show that there is a significant relationship between income and knowledge to habits of open defecation in Langkat Regency in 2022.

The suggestions that researchers can give include:

1. For the Langkat Regency Health Office, it is hoped that it can empower the community more through the community-based total sanitation program so that it can improve knowledge of respondents about using latrines and the government should build public latrines near community settlements.
2. For village heads, it is recommended to do government advocacy related to the provision of communal bank loans in the area.



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