

Factors Influencing Community Utilization of Public Toilets in Aek Kota Batu Village

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ABSTRACT

Feces are one of the waste products that lead to several issues in the medical field and act as a breeding ground for bacteria, thus their disposal requires extra care. Many individuals still do not use latrines, according to the first survey that researchers did in Batu City's Aek Puskesmas working region. Analyzing the variables influencing latrine use in the Aek City Health Center's Work Area in Batu was the aim of this study. This kind of research was carried out between October and November 2019 and used a cross-sectional study design and analytical survey. All household heads without a separate restroom made up the study's population. Purposive sampling was used in this study to establish the sample size, which consisted of 71 households. The data were analyzed using the logistic regression test formula for multivariate analysis, the chi-square formula for bivariate analysis, and univariate analysis.

According to the study's findings, health workers' expertise, attitudes, and information have an impact on how often people use the public restrooms in Aek Kota Batu Village in 2019. In Aek Kota Batu Village in 2019, the information provided by health officers was the most significant factor preventing the population from using public restrooms. As a result, it is advised that residents of Desa Aek Kota Batu have access to public restrooms for proper bowel movements.

Keywords: Knowledge, Attitudes, Information of Health Officers, Utilization of Latrines

INTRODUCTION

The environment has a big impact on people's and communities' health. Both urban and rural populations may be negatively impacted by an environment that does not adhere to health standards. The availability of family latrines is one environmental factor that significantly affects health (Eko, 2017). A latrine, often known as a toilet or WC, is a facility used by households to dispose of human waste. Priority attention must be given to latrines since they are a basic sanitation facility that is necessary for preserving environmental cleanliness and enhancing public health (Ikhtiar, 2017). Providing latrines for the disposal of feces is a difficult task, especially when it comes to implementation, since it requires community participation, which is frequently tightly tied to behavior,

economic status, cultural values, and education. Because it is a major cause of health issues and a conduit for the spread of diseases like cholera, helminthiasis, diarrhea, typhoid, dysentery, and skin conditions, fecal disposal requires specific attention. Furthermore, inappropriate disposal can result in unpleasant smells, deteriorate aesthetics, and contaminate the environment, especially water sources (Wardani, Efendy, Hadi, & Asriwati, 2019).

The largest percentages of households using private defecation facilities were observed in Riau (84.3%), Lampung (80.4%), and the Bangka Belitung Islands (79.0%), according to the 2018 National Basic Health Research (Riskesdas), which was carried out throughout all provinces in Indonesia. On the other hand, Gorontalo Province

(32.1%), Central Kalimantan (49.4%), and North Maluku (49.5%) had the lowest percentages. In particular, 26.77 percent of people living in East Java on Java Island lacked access to private restrooms. In reality, 2 out of 10 East Java inhabitants often shared latrines with other families (Indonesia, 2018).

According to data from the 2016 National Socioeconomic Survey (Susenas) performed by Statistics Indonesia (BPS), around 15.3 million families in Indonesia still did not have latrines in their houses. This means that 2 out of 5 families lacked access to private sanitation facilities. Additionally, the statistics showed that 2.74 percent of the 68.2 million families utilized public latrines, 10.25 percent chose to share latrines with other homes, and the remaining families defecated in open spaces such as gardens, open fields, rivers, rice fields, or even beaches (Statistik, 2018). Lack of awareness among households is the main cause of the large number of families without latrines. Furthermore, a lot of folks lack the funds necessary to build a restroom. Some areas, especially those with arid climates, are reluctant to construct latrines since they require a steady supply of water to function correctly (Statistik, 2018). Efforts to enhance public health and the environment are nevertheless hampered by the habit of open defecation. Three primary factors—predisposing, enabling, and reinforcing—have an impact on an individual's health behavior, according to Green's health behavior theory. These three elements are essential to the community's effectiveness in promoting healthy habits, such as the use of appropriate and hygienic restrooms (Green & Kreuter, 1991).

The district's coverage of Clean and Healthy Living Behavior (PHBS), particularly with regard to access to sanitary latrines, was only 52.7% in 2019, according to statistics from the North Labuhan Batu District Health Office. Additionally, many residents continued to use rivers as a place for open defecation.

This indicates a low level of public awareness and concern regarding the use of latrines, despite the fact that defecating in rivers can spread diseases such as diarrhea and skin infections (Utara, 2015). Aek Kota Batu Village is one such area where the community makes limited use of latrines. This is particularly concerning given that the village was designated as one of the target locations for Indonesia's "One Million Latrines" Development Program. The construction of latrines under this program was focused on households without latrines or those with facilities that did not meet health standards. The goal of the program was to assist low-income families and promote a clean and healthy living environment. However, the public latrines constructed by the government in this area did not meet the criteria for a healthy latrine, primarily because they lacked access to clean water. As a result, the community rarely used the public latrines that had been provided.

Based on a preliminary survey conducted by the researcher in Aek Kota Batu Village, it was found that many residents still do not use public latrines. Of the 10 community members interviewed, 7 admitted that they preferred defecating in the river rather than using either private or government-provided public latrines built in 2016. Observational data from the village indicated a notable incidence of diarrhea attributed to the use of the river as a toilet over the past five years. In 2015, there were 221 cases of diarrhea, which increased to 450 cases in 2016. In 2017, the number dropped to 199 cases, but rose again in 2018 to 330 cases. The continued use of the river as a latrine by the community is undoubtedly influenced by various factors. According to Green, individual and environmental factors significantly affect behavior—for example, knowledge, which is the result of awareness gained through sensory experiences related to a particular object (Green & Kreuter, 1991). However, information gathered during the initial survey revealed that promotion related to

the use and benefits of latrines—both existing ones and for households without latrines—was not carried out effectively by health workers, community health volunteers (*kader*), village officials, or local leaders. Only a small percentage of the community recognized the efforts to promote latrine use. Additionally, neither the sub-district nor the health center held any meetings or outreach initiatives to address the role and significance of latrines. Brief introductions or the simple supply of public restrooms without providing comprehensive instruction on what makes a hygienic latrine and how to use it were the extent of health promotion initiatives (Publik, n.d.). This study's goal is to examine the variables affecting household latrine usage in the community within the Aek Kota Batu Health Center's service area in 2019.

MATERIALS AND METHODS

This study used a cross-sectional research design and an analytical survey. The study was conducted at Aek Kota Batu Village. The fact that many families in Aek Kota Batu Village were still observed to

defecate in the open or refrain from using the public restrooms was taken into account when choosing the research site. The research was conducted in 2019 between October and November. The population consisted of all heads of households in Aek Kota Batu Village, totaling 132 individuals. However, the target population for this study included only those heads of households who did not own private latrines and preferred to use public facilities. There were 71 such individuals identified in the village. The sampling method used was purposive sampling, with the following inclusion criteria: heads of households who resided and were officially registered as permanent residents of Aek Kota Batu Village, did not have private latrines, were physically and mentally healthy, and agreed to participate as respondents. Data collection was conducted using observation techniques and structured questionnaires. The data comprised primary, secondary, and tertiary sources. Data analysis was performed using univariate, bivariate, and multivariate methods.

RESULTS

Table 1. Distribution of Respondent Characteristics in Aek Kota Batu Village, 2019

Respondent Characteristics	f	%
Age (Year)	5	7,04
18-24		
25-31	13	18,30
32-38	22	30,98
39-45	20	28,16
46-52	6	8,45
53-59	5	7,04
Education		
Low	41	57,7
High	30	42,2
Total	71	100

Based on Table 1 above, it is known that out of 71 respondents, the majority belonged to the 32–38 years age group, accounting for the highest proportion at 30.98%, while the lowest proportions were found in the 18–24 years and 53–59 years age

groups, each at 7.0%. In terms of education level, most respondents had a medium level of education, totaling 41 respondents (57.7%), while the remaining 30 respondents (42.2%) had a higher level of education.

Table 2. Influence of Variables on Latrine Utilization in Aek Kota Batu Village, 2019

Knowledge	Latrine Utilization						p value
	Not Utilized		Utilized		Total		
	n	%	n	%	n	%	
Poor							0,010
	31	43,66	12	16,90	43	60,56	
Good	15	21,13	13	18,31	28	39,44	
Attitude	31	43,66	12	16,90	43	60,56	0,010
Negative							
Positif	15	21,13	13	18,31	28	39,44	
Health Worker							
Information							
Not Available	37	52,11	8	11,27	45	63,38	0,000
Available	9	12,68	17	23,94	26	36,62	

Based on Table 2, it was found that out of the 71 respondents studied, the majority had poor knowledge, totaling 43 respondents (60.56%). Among those 43 respondents, 31 (43.66%) had poor knowledge and did not utilize latrines, while 12 (16.90%) had poor knowledge but did utilize latrines. The results of the statistical test showed a significance value of $p = 0.010 < 0.05$, indicating that there is a significant relationship between knowledge and latrine utilization. Of the 71 respondents, most also exhibited negative attitudes, accounting for 43 respondents (60.56%). Among them, 31 (43.66%) had a negative attitude and did not use latrines, while 12 (16.90%) had a negative attitude but did utilize latrines. The statistical test

resulted in a p -value of $0.010 < 0.05$, leading to the conclusion that there is a significant relationship between attitude and latrine utilization. Furthermore, out of the 71 respondents, the majority (45 respondents or 63.38%) reported that health worker information was not available. Of these, 37 respondents (52.11%) did not receive information from health workers and did not utilize latrines, while 8 respondents (11.27%) did not receive information but still utilized latrines. The statistical test showed a significance value of $p = 0.000 < 0.05$, indicating a significant relationship between the availability of health worker information and latrine utilization in the working area of the Aek Kota Batu Health Center in 2019.

Table 3. Multivariate Analysis of Research Variables

Variable	B	P value	Exp(B)OR	95%CI for Exp(B)
Knowledge	0,409	0,518	1,505	0,436 – 5,197
Attitude	0,294	0,670	0,745	0,193 – 2,881
Health Worker Information	1,429	0,034	4,176	1,116– 15,621

Based on Table 3 above, logistic regression analysis shows that the most dominant variable influencing the community's failure to utilize household

latrines in the working area of Aek Kota Batu Health Center is the availability of health worker information, with a significance value of $p = 0.034 (< 0.05)$ and

an odds ratio (OR) of 4.176 (95% CI = 1.116–15.621). This means that respondents who did not receive information from health workers were 4.176 times more likely not to use latrines compared to those who received such information.

DISCUSSION

The Influence of Knowledge on the Utilization of Public Latrines in Aek Kota Batu Village

The low level of public knowledge in Aek Kota Batu Village is evident from respondents' answers, which reveal that 46 respondents (23.9%) were unaware that defecation should be done in a sanitary latrine, while only 25 respondents (76.0%) stated that they defecate in a healthy latrine. Furthermore, 47 respondents (66.2%) did not know the benefits of using a latrine, and the same number (66.2%) were unaware that open defecation could cause diseases. A total of 35 respondents (49.3%) did not understand what constitutes a healthy latrine, and 42 respondents (59.2%) did not know the recommended safe distance between the fecal containment site and a clean water source. Although 39 respondents (54.9%) were aware that river water use contradicts safe water sanitation, 61 respondents (85.9%) did not know that defecating in rivers is a source of skin disease. Additionally, 35 respondents (49.3%) did not know that the river water they use is a source of diarrheal disease. Another 46 respondents (23.9%) were unaware that defecating in open spaces pollutes the environment, and the same number did not know that a proper latrine should have clean water and adequate ventilation. This lack of knowledge contributes to the absence of positive behavior regarding the use of latrines. According to Darmadi (2018), the lower a person's knowledge about latrines, the lower their likelihood of utilizing them (Darmadi, Sudiadnyana, & Suyasa, 2019). This reinforces the importance of improving community education on

sanitation to ensure the effectiveness of health infrastructure interventions. Without a fundamental understanding of the health risks associated with poor sanitation and the benefits of hygienic practices, behavioral change is unlikely to occur. Thus, efforts to increase knowledge must be integrated into sanitation programs to achieve sustainable improvements in public health.

Kurniawati (2017) stated that knowledge about latrines acts as a confounding variable in the relationship between education and family behavior in latrine usage. This is because individuals with high knowledge about latrines are generally those with higher levels of education. Higher education enables individuals to better comprehend information (*comprehension*) and apply it (*application*) correctly in their daily lives (Kurniawati & Windraswara, 2017). In this context, education contributes to the development of critical awareness and practical behavior regarding sanitation. The widespread habit of defecating in the river and the low utilization of latrines in Aek Kota Batu Village are also linked to the lack of motivation among heads of households to seek out information or learn about things they do not yet know. Most respondents in this study work as farmers. They travel to the fields in the afternoon and return in the evening, while they spend the mornings cooking and taking care of the house. Many people believe they don't have the time to learn about the purpose and significance of latrines because of this repetitive cycle of activities. Furthermore, some members of the community could already be aware of how important it is to use latrines, but they may not be able or want to do so. Since they are already at ease with open defecation in the river, many people without private latrines refuse to utilize public facilities or borrow those of friends, family, or neighbors. These people complained about the claustrophobic conditions and unclean water in public restrooms. They also talked about how inconvenient it is to have to carry water

from their homes to the latrine, while they have unlimited access to water at the river. This instance demonstrates the disconnect between awareness and action. Without the motivation, encouragement, and supportive environment to turn that understanding into regular practice, simply knowing the value of utilizing latrines is insufficient. Sanitation programs must therefore be supported not only by the provision of infrastructure but also by effective behavioral change communication, water access, and community engagement tactics that take into account structural constraints, cultural norms, and convenience.

The researcher assumed that respondents' decisions to use a latrine or not are influenced by a wide range of underlying circumstances. The majority of respondents in Aek Kota Batu Village do not own private restrooms, and the government-constructed public restrooms do not have access to potable water. Given its direct connection to the community's health, this issue is urgent and needs careful consideration. Lack of funds to construct a suitable or ideal latrine in their houses is a primary factor in respondents' lack of private latrines. The geographic location of the respondents' homes—many of which are close to rivers—is another commonly mentioned factor. Because of this close proximity, open defecation is more convenient, which helps explain why it is still practiced. But the absence of latrines is not just a financial problem; it also indicates a lack of knowledge about Clean and Healthy Living Behavior (Perilaku Hidup Bersih dan Sehat, PHBS). The community's reliance on government support for the development of sanitary facilities is another important contributing element. While such aid can be helpful, it would be significantly more effective if accompanied by educational outreach and awareness efforts that promote behavioral change. In order to guarantee that communities not only acquire latrine infrastructure but also comprehend and implement appropriate sanitation practices in their daily life,

educational socialization initiatives are crucial. Infrastructure by alone is unlikely to result in long-lasting gains in public health without this element.

The Influence of Attitude on the Utilization of Public Latrines in Aek Kota Batu Village

The results of the survey showed that many respondents' opinions in Aek Kota Batu Village had a big impact on how they use public restrooms. According to 71 participants' comments, a sizable portion of them had negative opinions and misunderstandings regarding the use of public restrooms. Up to 39 respondents (54.9%) said they didn't like using public restrooms because they were too small. In contrast, 35 respondents, or 49.3%, said that using a latrine was less comfortable than open defecation. In addition, 47 respondents (66.2%) said they didn't care what other people thought about their defecation habits since they thought it was fine as long as they could do it "safely." Furthermore, 35 respondents, or 49.3%, stated that their families frequently used small earth holes to defecate close to the house. Up to 42 respondents (59.2%) acknowledged that they would urinate anywhere that was accessible at night or in situations where they experienced unexpected stomach pain. Regardless of the method or location, 39 respondents (54.9%) said they use enough water when defecating, which is a noteworthy perspective of water usage during feces. However, 35 respondents (49.3%) were doubtful if open defecation led to environmental degradation, and 39 respondents (54.9%) were unsure if defecating in the river may result in diarrheal illnesses. It is concerning to note that 46 respondents (23.9%) acknowledged that they did not care about environmental cleanliness as long as they could defecate without restriction. A similar percentage also acknowledged that they were unaware of what constituted a healthy toilet. These results suggest that apathy, disinformation,

and the cultural acceptance of open defecation are examples of negative attitudes that contribute significantly to the community's resistance to using public restrooms. A person's attitude is a predisposing element that influences their readiness to undertake health-related actions, according to Green and Kreuter's theory of health behavior. Regardless of the availability of facilities, health-promoting behaviors like utilizing latrines are unlikely to be adopted when attitudes are influenced by convenience, habit, or false information. Behavior change strategies should aim to influence community attitudes in addition to providing physical infrastructure in order to address this. Activities aimed at promoting health must emphasize the negative effects of open defecation on one's health, the environmental consequences, and the social advantages of implementing hygienic behaviors. Persistent, culturally aware, and community-based teaching approaches including local role models, community leaders, and health professionals will be necessary to change deeply ingrained attitudes. On the surface, breaking a habit might seem easy, but in practice, it can be very challenging, particularly if the tendency has grown comfortable. Long-standing habits are difficult for many individuals to break, and when a behavior provides ease or a sense of familiarity, its absence can be unnerving. In Aek Kota Batu Village, where open defecation has grown commonplace, this is clearly visible. A cycle of unhygienic behavior within families could be reinforced if this habit is not addressed and is carried down from one generation to the next. According to Notoatmodjo, attitude is a person's reaction or perspective of an item, frequently influenced by their emotional responses to social cues. A person's interpretation, emotional reactions, coping strategies, and adaptability all affect how they perceive an object. Recognizing the value of using latrines and comprehending its effects on health should be the main focus of this adaption for the

people of Aek Kota Batu. To change this ingrained behavior, intervention is needed, particularly through the promotion of Clean and Healthy Living Behavior, or *Perilaku Hidup Bersih dan Sehat* (PHBS). The goal of PHBS-based interventions is to raise awareness and promote behavior change that promotes regular use of latrines and other good sanitation practices. Open defecation can be gradually curbed by increasing community awareness and fostering positive attitudes through persistent outreach and education. Ultimately, ending the cycle of disease transmission brought on by inadequate hygiene practices requires a shift in attitudes regarding sanitation. In addition to enhancing personal health, addressing this problem advances the larger objective of establishing a more sanitary and healthy community. As emphasized by Wardani et al. (2019), without such behavioral interventions, efforts to improve public health infrastructure may fall short, and the risk of sanitation-related diseases will persist. The implementation of targeted interventions is essential to achieving a higher standard of public health in Aek Kota Batu Village, aiming to foster a community that practices healthy behaviors and supports environmentally conscious health development. Based on the findings of this study, the researcher assumes that the community's overall attitude toward latrine utilization remains poor, as reflected in their reluctance to use available sanitation facilities. Therefore, efforts to improve these attitudes must be prioritized and directed toward positive behavioral change. To guide attitudes in the right direction, practical demonstrations on proper latrine use should be introduced, allowing the community to observe and internalize correct sanitation practices. When people see clear, relatable examples—especially from figures they trust—they are more likely to respond positively and adapt their behaviors accordingly. This change should begin at the smallest unit of society: the family.

Families can be empowered to model healthy behaviors, which then ripple outward into the wider community. Support from the government and health workers is also critical, particularly through structured outreach and educational programs. These programs should not only be designed *for* the community but should also actively *involve* the community from the planning stage through to implementation. Engaging residents as active participants—rather than passive recipients—in sanitation promotion initiatives enhances the sense of ownership, cultural relevance, and long-term sustainability of these efforts. By aligning educational strategies with community values and fostering collaboration among families, health professionals, and policymakers, a healthier, cleaner, and more sanitation-aware society in Aek Kota Batu Village can be achieved.

The Influence of Health Worker Information on the Utilization of Public Latrines in Aek Kota Batu Village

Aek Kota Batu Village is still within the working area of Aek Kota Batu Public Health Center (Puskesmas). Several environmental health programs from the health center related to this study include: 1) The Residential Environmental Sanitation and Household Latrine Program (Activity: Home sanitation inspection); 2) The Promotion of Clean and Healthy Living Behavior (PHBS) Program (Activity: PHBS campaigns targeting households), educational institutions, health institutions, public facilities, and workplaces. According to the health officer in Aek Kota Batu Village, the home inspections conducted under this program were limited to data collection on housing conditions and latrine ownership. The health officer stated that health education and information regarding latrine utilization were provided during home visits; however, these activities were not carried out continuously due to limited personnel capacity. At Aek Kota Batu Public Health Center, there is only one

officer, who also serves as the epidemiologist, and one field officer. As a result, the sanitarian established health cadres in each village within the working area of the Aek Kota Batu Public Health Center, with the expectation that these health cadres would encourage and involve community participation in practicing healthy and clean living behaviors. In addition to the aforementioned programs, health workers have made efforts to increase community knowledge in the field of environmental health, particularly regarding the importance of household latrine ownership and the development of community participation among those who do not yet have private latrines. Furthermore, the implementation of the Community-Based Total Sanitation (STBM) program has been ongoing since 2011. However, based on the information obtained during the study, respondents reported that promotion regarding the use and benefits of latrines—whether for those who already own one or those who do not—was not optimally carried out by health workers, community health cadres, village officials, or local community leaders. The encouragement to utilize latrines was only perceived by a few respondents (Wardani et al., 2019).

The large number of respondents who were still unaware of the proper use of latrines is related to the lack of comprehensive information that should have been provided by health workers or other directly involved parties. This individual behavior is influenced by behavioral determinants, one of which is knowledge. Knowledge serves as the foundation or motivation for individuals in making decisions. The lack of knowledge, in addition to a lack of interest or willingness to seek information, is also caused by the insufficient information provided about latrines—information that should be received by every client when visiting a healthcare facility (Green & Kreuter, 1991). This is in line with the findings of Maulana, who stated that the

lack of information can influence the utilization of household latrines. The results of this study further indicate that promotion regarding latrine usage remains inadequate or has not been optimally implemented. Moreover, no specific method or approach has been introduced that aligns with the respondents' preferences in terms of latrine use (Maulana, 2009). Information obtained from interviews with respondents revealed that promotion of latrine usage was not optimally conducted by health workers or other community educators. According to them, such promotion only occurred during *posyandu* (integrated health post) activities and was not carried out in the health center or other meetings. Even then, the health promotion efforts were limited to basic introductions without providing in-depth knowledge about latrines to the community.

This indicates that the implementation of latrine use promotion has not been carried out optimally as part of the community mobilization and empowerment efforts, which include the continuous and sustainable provision of information that evolves with the target population. The objective is to move individuals from a state of not knowing to knowing, from knowing to willingness, and from willingness to being capable of adopting the introduced behavior. The key to enabling someone to become aware lies in the success of helping them understand the problems they face personally and within their community. Once the community becomes aware of the problems they are dealing with, it is necessary to provide further general information about latrines themselves. In addition, there are no activities or meetings held at the village or health center level that discuss the function of latrines. Health promotion has been limited to mere introduction and the distribution of public latrines without offering the community comprehensive knowledge regarding the concept of sanitary latrines and their utilization. The role of health workers is essential in providing motivation, technical guidance,

mobilization, empowerment, and education. Health workers at the public health center, supported by community health cadres, are expected to empower the community by fostering and enhancing individual, family, and community knowledge, willingness, and capacity to prevent disease. These efforts are expected to improve public health, foster a healthy environment, and promote active community participation in the implementation of all health initiatives.

CONCLUSION AND RECOMMENDATION The conclusion drawn is that knowledge, attitudes, and information provided by health personnel have an influence on the utilization of public latrines in Aek Kota Batu Village. Among these variables, the most dominant factor influencing the community's lack of use of public latrines is the information provided by health personnel. It is recommended that the community enhance their understanding of public latrine usage, for instance, by attending educational sessions conducted by health workers.

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