LATRINES PROBLEM, DEFECATION BEHAVIOR, AND IMPLEMENTATION OF HEALTHY LATRINE BUILDING PROGRAM (GERBANG JASA) A VILLAGE IN PAMEKASAN, INDONESIA

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ABSTRACT

Unhealthy latrines and defecation behaviors are associated with a higher diarrhea and stunting incidence. The authors developed Healthy Latrine Building Program (GERAKAN BANGUN JAMBAN SEHAT), which is was abbreviated as Gerbang Jasa, to improve latrine problems and long-term effort to prevent stunting. This study aimed to describe the latrine problems and implementation of Gerbang Jasa in Murtajih Village, Pamekasan., Indonesia This research was a descriptive study and involved all families with unhealthy or sharing latrines in Telaga Sari and Pao Gading, Murtajih. We assessed the knowledge and family characteristics through a questionnaire and collected children's height and age under five years. Thirty families were included in this study, 16 from Pao Gading and 14 from the Telaga Sari. Half of them used unhealthy latrine (cemplung) and the others shared latrines, 59% of farmer occupation and most of them had income under Rp.1.000.000,00. Meanwhile, 12 children under five years from their family was not stunted. During our movement, the authors got funds Rp 18.261.000,00 and successfully built 63,3% latrines with sept tank, 16,7% of latrines only and all the unhealthy latrines were closed by subject. Farmer occupation, family income under Rp 1.000.000,00 were the most cause of latrines problems. Meanwhile, Gerbang jasa could improve latrines problem in Murtajih Village, Pamekasan.

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INTRODUCTION

As a developing country, Indonesia has a major problem with sanitation and the maintenance of a healthy lifestyle (World Bank, 2013). In 2017, the World Health Organization reported that 2 billion people worldwide lacked access to basic sanitation (World Health Organization, 2019). Although it has increased compared to previous years, the percentage of homes with prior sanitation in Indonesia 2020 remained 69.27 percent and 68.84 percent in East Java (Badan Pusat Statistik, 2020). Several elements, including knowledge, attitude, and other considerations, significantly impact this sanitation issue (Moyo & Moyo, 2017). This impact of poor sanitation (open defecation and unhealthy latrines) affects the mortality rate of children and stunting, in

addition to socioeconomic and nutritional status (Badriyah & Syafiq, 2017). According to previous studies, living conditions with a lack of clean water supply and poor environmental cleanliness could trigger childhood stunting through gastrointestinal disturbance in intestinal mucosal damage, inflammation as a result of fecal bacteria ingestions. Infections, particularly diarrhea and subclinical condition characterized by malabsorption and mucosal inflammation in infants under the age of two, and sanitation problems leading to tropical enteropathy can be significant causes of stunting and developmental disturbance (Demirchyan et al., 2016; Kwami et al., 2019).

The government of the Republic of Indonesia strives to overcome sanitation problems, especially the access to healthy latrines and is strengthened by the National Strategy Community-Led Total Sanitation through The decree of the Minister of Health, Republic of Indonesia No.3/2014. The triggering method strategy improves hygiene and sanitation behavior. (Ministry of Health Rebulic of Indonesia, 2014). Based on Pademawu Community Health Center data, Pademawu had reached 100% open defecation free. However, there were still some families with Latrines sharing and unhealthy Latrines (called "cemplung"), and In Murtajih Villages, 21,04 percent of latrines were shared latrines. (Pademawu Community Health Center, 2018).

According to Riskesdas 2018, East Java had 33,6% stunted children under five years, while Pamekasan had 48,5% (Kementerian Kesehatan Republik Indonesia, 2019). As our medical internship program final mini-project, we developed a movement "Gerbang Jasa (*Gerakan Bangun Jamban Sehat*/Healthy Latrine Building Program)" to assess the problem in this behavior, creating responsible volunteers, initiating and building healthy Latrines with the subject, finding contributors and funding for these activities.

This study aimed to describe the sanitation and stunting problem and implementation of Gerbang Jasa into this problem in Murtajih Village, Pademawu Regency, Pamekasan, East Java.

MATERIALS AND METHODS

This research was a descriptive study. This study's subjects involved all families with unhealthy latrines or latrines sharing in Telaga Sari and Pao Gading district, Murtajih Village, Pademawu Residency, Pamekasan, East Java and the exclusion criteria were families that refused to follow this study. We developed "Gerbang Jasa" (Gerakan Bangun Jamban Sehat/Healthy Latrine Building Program) as an initiation movement for our subject. This study and Gerbang Jasa were conducted during June-November 2018. Every head of families included in this study was given a questionnaire and surveyed by the authors. The questionnaire consisted of occupation, family income, level of education, type of latrines, consumed and sanitation water, reasons for using an unhealthy latrine and willingness to construct a latrine. We conducted a questionnaire survey on the use of healthy latrines and classified the results into three categories: Very Good, Good, and Less Knowledge. We collected children under five years of age data from their families and recorded their height and length. Then, we classified this height and length-for-age based on the WHO growth chart for stunting (-3 Standart Deviation<= height/ length for age <-2 standard deviations from the median) and severely stunted (height/length for age <-3

Standard Deviation). All data were recorded and analyzed using SPSS 20.0 for windows and presented in tables. All fundings were recorded through one bank account. After making cadres and initiating the movement, the authors and subject continued to build Latrine and were reported in our final project. Ethical approval is not applicable for this article.

RESULTS

There were 30 families in Telaga Sari and Pao Gading District, Murtajih Village, Pademawu Residency included in this study, and 16 of them in Telaga Sari. Half of them (50%) had unhealthy Latrines 'cemplung' and 15 families still latrines sharing. The questionnaire result was described in Table 1

Table 1. Characteristics of 30 families with unhealthy latrines and latrines sharing

Characteristics	n (%)
Occupation	
- Farmer	19 (63,4 %)
- Construction worker	5 (16,7%)
- Bird seller	1 (3,3%)
- Wood seller	1 (3,3%)
- Pedicab driver	1 (3,3%)
- Not Working	3 (10%)
Family income (per month)	
- Rp 100.000,00- Rp 500.000,00	14 (46,7%)
- Rp 500.000.00- Rp 1.000.000,00	13 (43,3%)
- Not Working	3 (10%)
Level of Education	
- Not complete elementary school/ not go to school	7 (23,3%)
- Elementary school	14 (46,7%)
- Junior high school	6 (20%)
- Senior high school	3 (30%)
Type of water used for drink	
- Weil water	30 (100%)
- Gallon water	0 (0%)
Type of water used for bath	
- Weil water	30 (100%)
- PDAM	0 (0%)
Reason using unhealthy Latrines and Latrines sharing	
- No Funds	30 (100%)
- Culture	0 (0%)
Feel using unhealthy Latrines and Latrines sharing	
- Ashamed	25 (83,3%)
- Normal	5 (16,7%)
Willingness to build Latrines	
- Yes	30 (100%)
- No	0 (0%)
Knowledge	
- Very Good	28 (93,4%)
- Good	1 (3,3%)
- Less	1 (3,3%)
Children under 5 years of age (n = 12)	
- Stunted	0 (0%)
- Not Stunted	12 (100%)

The authors recruited 12 cadres and received Rp 18.261.000,00 in funding and 10 sacks of cement. This funding and cement were equally divided into all subjects. Environmental health professionals from the community health care system, village authorities and bureaucrats, cadres, authors, and subject families in Murtajih village worked together to construct latrines. This program successfully built 19 (63,3%) latrines with sept tank, 5 (16,7%) latrines only, 2 (6,7%) latrines built individually by the subjects, and 2 (6,7%) sept tank only. However, two families still used their family's Latrine that was built in this program. All members of the families utilized the healthy latrines, whereas the unhealthy latrines (cemplung) were entirely closed by the subjects.

DISCUSSION

Based on our study, Gerbang Jasa had successfully initiated and persuaded all subjects to have healthy defecation behaviors and build healthy latrines together. According to Notoadmodjo, 2014, health behavior is a person's response to a stimulus or object related to illness or disease, the health service system, food and beverages, and the environment. Improving health behavior requires studying what domains affect it. This is affected by three mainly behavioral domains: cognitive, affective, and psychomotor domains (Committee on Health and Behavior, 2001; Notoadmodjo, 2014).

Figure 1. Latrine building training to Gerbang Jasa volunteers (Left), Latrine's building process (Right)

Figure 2. Unhealthy Latrine before Gerbang Jasa Movement (left) Healthy Latrine build after Gerbang Jasa (right)

The cognitive domain is measured based on human knowledge. Our subject showed most of them had very good knowledge about healthy latrines, which later better latrine knowledge, maintenance, cleanliness, and accessibility were also associated with higher latrine use, whereas poorer sanitation was also associated with lower latrines usage. The community that already understood healthy Latrines and the impact of unhealthy latrine would have healthy bowel behavior with good knowledge (Garn et al., 2017).

Household incomes and their socio-economic status influenced the behavioral aspects. Subject hygiene and sanitation are formulated regarding their socio-economic circumstances, personal and communal belief, education status, perceived need, previous experience, and visibility of the program's impact. The lower-income level will affect awareness about hygiene and sanitation (Psaki et al., 2014). A study by Laika and Adriyani stated that people would find difficulty maintaining and providing healthy latrine with lower income. Income becomes the main factor associated with the health program (Laika & Adriyani, 2021).

The level of education is a predisposing factor to health behavior. Our study showed that almost half graduated from elementary school, and 23,3% did not complete school. Some studies exhibited a higher level of education, making it easier for a person to receive information to change behavior. The previous study stated that occupation was also latrine utilization compared to other types of occupation, and farmers were 65.2 percent less likely than other inhabitants to use the toilet (AOR = 0.348, 95% CI 0.148, 0.817) because they spent most of their time away from their resident house (Gebremedhin et al., 2018).

We also assess their readiness to utilize and maintain a healthy latrine. Our survey results revealed that all participants had prepared to improve their sanitation behavior and showed their willingness to construct healthy latrine after getting funds. These findings showed that their income had been the main causes of the unhealthy latrine. Our results showed no stunted children below 5 years of age in their families. Stunting is influenced by many factors, one of which is sanitation. However, improvement in other factors such as type, quantity, and quality of food given, exclusive breastfeeding, and other factors might not enable stunting in children (Nshimyiryo et al., 2019).

Gerbang Jasa was done by fixing their attitude in the Healthy Latrine, volunteers to construct healthy latrines, providing funds to build latrines, and role of multisectoral in the building latrine. A study by Darsana *et al*. proved a significant correlation between healthcare workers and community support with latrine ownership and construction. Improved behavior and urge to build healthy latrines can be manifested through a good attitude, knowledge, support, skill. (Darsana et al., 2014). However, the long-term effect of Gerbang Jasa on stunting prevention remained unclear and needs further research and monthly follow-up to the use of health latrines.

CONCLUSION

Family incomes per month under Rp.1.000.000,00 and farmer occupation became the most cause of latrines problem in Murtajih Village. However, Gerbang Jasa could improve the latrines problem by making latrines and decreasing latrines sharing in Murtajih Village, Pamekasan. Further research is needed to examine the

effect on this movement as stunting prevention. This movement is expected to be implemented in other districts, cities, or countries to improve latrine problems.

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