

# The Effect of Stop Open Defecation (BABS) Triggering Method on Open Defecation Behavior

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**Abstract:** Stop Open Defecation triggering method is an effort to empower the community which aims to change the perspective and behavior of Open Defecation to defecation behavior in a hygienic and proper latrine. Panongan Community Health Center has been implementing triggering method in some of its work areas since 2014, but the percentage of Open Defecation was still high (36.21%). Biyawak village is one of the villages with the highest percentage of open defecation (39.30%) and stop Open Defecation triggering method has not been implemented there yet. This study aims to determine the effect of stop Open Defecation triggering method on Open Defecation behavior of the community. This was a pre-experiment study with one group pretest-posttest approach. The population in this study were all households that did not have latrines and households that had latrines but still conducted open defecation behavior as many as 349 households. The total number of samples was 78 households which were taken by purposive sampling. Data collection was performed using an observation method with a check list sheet as the instrument. Data were statistically analyzed using the Wilcoxon signed rank test at a significance level of 5% (0.05). The Wilcoxon test results obtained significance value (p) of  $0.000 < \alpha$  (0.05) which meant that there was a significant effect of stop open defecation triggering method on Open Defecation behavior of the community.

## 1. Background

The World Bank Water Sanitation Program (WSP) at the 2013 national sanitation and water (KSAN) conference stated that Indonesia was ranked second in the world as a country with poor sanitation. Data from Joint Monitoring Program of WHO/UNICEF in 2014 stated that 55 million Indonesian people did not have latrines and still performed open defecation behavior in rivers, the sea, or at ground level. As a result, more than 370 Indonesian under-five children died every day due to diarrhea. In addition to diarrhea, under-five children were also vulnerable to pneumonia due to airborne fecal pollution [1].

The results of WHO study in 2007 showed that interventions through environmental modifications could reduce the risk of diarrheal up to 94%. These environmental modifications included the provision of clean water which could decrease the risk by 25%, drinking water management at the household level which could decrease the risk by 39%, washing hands with soap which could decrease the risk by 45%, and utilizing latrines which could decrease the risk by 32% [2].

In 2014 in accordance with the 2015-2019 national medium-term development plan (RPJMN), the Government of Indonesia has taken the initiative to continue the national universal access (UA) program in 2019 to achieve the target of 100% access to drinking water and sanitation for all Indonesian people. Until 2015, national drinking water needs in Indonesia has only been able to provide proper access to



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68% of the total population of Indonesia. Regarding basic sanitation needs, Indonesia has only been able to provide access to proper sanitation for 60% of the total population of Indonesia. The community-based drinking water and sanitation program (Pamsimas) has become one of the national mainstay programs to improve rural population access to proper drinking water and sanitation facilities with a community-based approach [3].

In Majalengka District latrine ownership in 2015 was recorded at 62.42%, the number of people who still performed open defecation was 21.1%, while the incidence of diarrhea was 12,724 cases (3.96%), and 15.6% of deaths among under-five children were due to diarrhea [4]. In Panongan Puskesmas the ownership of latrines in 2015 was 63.79% which included 6 villages in the work area, namely: Panongan Village (65.88%), Pasindangan Village (64.16%), Panyingkiran Village (64.69%), Randegan Wetan Village (63.54%), Randegan Kulon Village (63.75%), and Biyawak Village (60.70%) with the lowest latrine ownership coverage. Meanwhile, the achievement of Open Defecation in Panongan CHC in 2015 was 36.21%, which included: Panongan Village (34.12%), Pasindangan Village (35.84%), Panyingkiran Village (35.31%), Randegan Wetan Village (36.46%), Randegan Kulon Village (36.25%) and Biyawak Village (39.30%) with the highest percentage of Open Defecation [4].

In principle, stop Open Defecation Triggering in the community is triggering disgust, shame, fear of pain, a sense of guilt and a sense of responsibility related to environmental pollution due to the Open Defecation in any place. The ultimate goal of this approach is to change sanitation perspective and behavior so that people are willing to change their behavior from open defecation to defecate in hygienic and proper latrines, and trigger the construction of latrines with community initiatives without subsidies from outsiders as well as raising awareness that Open Defecation habits are a shared problem because it can have implications for all people so that the solution must also be implemented together [2].

Panongan Community Health Center has been implementing triggering method in some of its work areas since 2014, but the percentage of open defecation was still high (36.21%). Biyawak village is one of the villages with the highest percentage of Open Defecation (39.30%) and the stop Open Defecation triggering method has not been done [4]. The study objective was to determine whether the Open Defecation triggering method had an effect on Open Defecation behavior.

## 2. Study Methods

The study type was an experimental, the study design used pre-experimental design with one group pretest-posttest approach.[5] This study was conducted to determine whether there was a change in Open Defecation behavior by providing interventions in the form of stop Open Defecation triggering method (Mapping, Transect walk, contamination flow, fecal contaminated water demo and FGD). The samples as many as 78 households that did not have latrines and households that had latrines but still conducted open defecation behavior. The sampling method used here was nonprobability sampling with purposive sampling. Open Defecation behavior data before and after triggering were obtained through observation. Open Defecation behavior assessment was done 1 (one) week before stop Open Defecation triggering and 1 (one) week after stop Open Defecation triggering. Data analysis was conducted to analyze the effect of Stop Open Defecation triggering method on Open Defecation behavior of the community by using the Wilcoxon Signed Rank Test.

## 3. Results

### 3.1. *Open defecation behavior of the community before the implementation of triggering method*

The results showed that the mean score of open defecation behavior of the community before stop Open Defecation triggering method was 4.04 with a standard deviation of 1.52. The highest score was 6 and the lowest score was 1.

### 3.2. *Open defecation behavior of the community after the implementation of triggering method*

The results showed that the mean score of open defecation behavior of the community after the stop Open Defecation triggering method was 4.49 with a standard deviation of 1.98. The highest score was 7 and the lowest score was 1.

### 3.3. Effect of stop open defecation triggering method on open defecation behavior

**Table 1.** Results of Wilcoxon Signed Rank Statistical Test on the Effect of Stop Open Defecation Triggering Method on Open Defecation Behavior

		N	Mean Rank	Sum of Ranks	Z	Sig.
Open Defecation Behavior After the Triggering - Open Defecation Behavior Before the Triggering	Negative Ranks	0	.00	.00	-4.104	.000
	Positive Ranks	21	11.00	231.00		
	Ties	57				
	Total	78				

Table 1 showed that after triggering 21 respondents behaved better than before triggering (stopped Open Defecation), while 57 respondents continued to perform Open Defecation. Statistical test results obtained significance value ( $p$ ) = 0.000 <  $\alpha$  (0.05), which meant that there was an effect of stop Open Defecation triggering method on Open Defecation behavior.

## 4. Discussion

### 4.1. Open defecation behavior before the triggering method

The results showed that the mean score of open defecation behavior before the stop Open Defecation triggering method was 4.04 with a standard deviation of 1.52. The highest score was 6 and the lowest score was 1. The results illustrated that 100 percent of respondents behaved Open Defecation.

Open defecation behavior is a daily habit or cultural practice of the community that defecates or throwing feces in an open place and without any hygienic fecal security. Open spaces for open defecation are usually in gardens, bushes, forests, rice fields, rivers and in places where people collectively make helicopter latrines or *plunglap* latrines (latrines that are made without any septic pits which the feces are thrown directly into open places such as rivers, swamps, etc.) so that the feces are spread and contaminate the environment, soil, air and water [6].

Human behavior is a reflection of various psychiatric symptoms, namely knowledge, desires, desires, interests, motivations, perceptions and attitudes. Meanwhile, psychiatric symptoms are also influenced by various other factors, namely factors of experience, beliefs, physical and socio-cultural facilities of the community [7].

### 4.2. Open defecation behavior after the triggering method

The results showed that the mean Open Defecation behavior score after triggering was higher than before triggering, which was 4.49 with a standard deviation of 1.98. The highest score was 7 and the lowest score was 1. The scores illustrated that respondents had changed their open defecation behavior. According to Lawrence Green (1980), one of the factors that influences behavior is the existence of predisposing factors that include people's knowledge and attitudes towards health, beliefs, values held by the community, demographic factors, and others [7].

Stop Open Defecation triggering method is a community empowerment activity to foster awareness, knowledge, understanding, willingness, and ability to maintain and improve health through triggering disgust, shame, fear of pain, a sense of guilt and a sense of responsibility related to environmental pollution due to open defecation habit. Thus, the community can jointly realize the dangers of open defecation and feel disgusted by doing Open Defecation habit, even though they only do Open Defecation for one day, and especially if they do it every day [2],[6].

Knowledge is the entire ability of individuals to think and act in a directed and effective manner, so that people who have high knowledge will easily admit information, advice, and recommendation.

Increased public knowledge about the dangers of open defecation will change their perspectives and their behaviors, from open defecation to defecation in a hygienic and proper latrine, and it is expected to trigger the construction of latrines with community initiative [7], [8].

To achieve the status of open defecation free, to maintain positive community behavior that has changed and abandon the Open Defecation behavior, the sanitation officer or facilitator at Panongan CHC must continue the process of community facilitation, conduct more intensive interpersonal communication and further supervision after the implementation of triggering.

#### 4.3. *Effect of stop open defecation triggering method on open defecation behavior*

The results of the bivariate analysis using the Wilcoxon Signed Rank Test obtained a significance value ( $p$ ) of  $0.000 < \alpha (0.05)$  which indicated that there was a significant influence of stop open defecation triggering method on Open Defecation behavior of the community.

The result of this study support the research from Fritje Linggar et al (2018) that there is an influence of defecation knowledge on latrines in the community after STBM triggering in Wamesa Sub District, South Manokwari District [9]. The results of the study conducted by Fajar NA, Hasyim H and Ainy A (2010) on the effect of triggering method on the changes in stop Open Defecation behavior stated that the triggering method succeeded in changing people's knowledge and attitudes towards open defecation, and 70% of respondents experienced changes in behavior towards the better behavior.[10]Meanwhile, the Ministry of Health of the Republic of Indonesia (2015) stated that the triggering method succeeded in reducing the number of rural residents who practiced open defecation 3 (three) times from an average of 0.6% per year during the period (2000- 2008) to 1.6% per year during the period (2008-2015) [11].

According to Kurt Lewin (1979), behavior can change if there is an imbalance between driving forces and restraining forces within a person, so there are three possible changes in behavior. One of them is when the driving forces are increasing. This may due to the stimuli in the form of counseling or information related to the relevant behavior that encourages behavior changes. Meanwhile, according to Lawrence Green (1980), one of the factors that influences behavior is the existence of predisposing factors that include people's knowledge and attitudes towards health, beliefs, beliefs, values held by the community, demographic factors, and others [7].

Knowledge is a very important domain in forming someone's behavior. In other words if someone has good knowledge, that person tends to behave well too. Furthermore, knowledge-based behavior will be more lasting than non knowledge-based behavior. Endeavors toward ODF with an effort to disseminate, establishment of sewerage system, and communal WWTP used anaerobic baffle reactor (ABR).[12] To increase the positive effect of stop Open Defecation triggering method on the change in BABS behavior, the Stop Open Defecation triggering method must be carried out continuously and regularly.

## 5. Conclusions

Based on the results of the study it was found that after triggering 21 respondents behaved better than before triggering (stopped Open Defecation), while 57 respondents continued to perform Open Defecation. The effect of stop open defecation triggering method on Open Defecation behavior behavior requires a process of community assistance, more intense interpersonal communication and further monitoring after triggering so that the status of open defecation free (ODF) can be achieved.

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