*Original Research Article*

# Enhancing COVID-19 Control in Jambi City: Evaluating the Impact of Triggering Methods for Effectiveness

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## ABSTRACT

During the pandemic, the implementation of health protocols has not been maximized by the community, particularly among schoolchildren. It is essential to convey the implementation of health protocols for controlling COVID-19 effectively to ensure that the community adopts good behavioral practices in implementing these protocols in daily life. This study aims to assess the effectiveness of the triggering method in controlling COVID-19 in Jambi City. This experimental study uses a Pre and Post Test Only Design which was carried out in April 2021 to April 2022, involving 35 high school students. The statistical test used was paired t test. The results indicated a noteworthy contrast in elementary school students' knowledge before and after the utilization of printed media for COVID-19 control, exhibiting a p-Value of 0.001. Similarly, a significant difference was observed in the attitude of elementary school students before and after the utilization of video media for COVID-19 control, displaying a p-value of 0.001. Moreover, there was a significant distinction in the change in the actions of elementary school students before and after the utilization of props media for COVID-19 control, demonstrating a p-value of 0.020. The counseling-based triggering method proves effective in enhancing students' understanding, attitudes, and behaviors concerning COVID-19 control.

## INTRODUCTION

Throughout the pandemic, the government has initiated the "new normal" phase as a means of fostering socio-economic recovery [1–3]. The new normal signifies a shift in behavior and habits, allowing us to continue our routine activities while consistently adhering to health protocols amid the ongoing COVID-19 pandemic. This governmental directive implies that we can coexist with a virus responsible for the loss of hundreds of thousands of lives globally [4,5].

The Ministry of Health has mandated health protocols that all citizens must adhere to in the effort to control Covid-19, as stipulated in the decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/382/2020. This decree addresses Health Protocols for the Public in Public Places within the Context of Prevention and Control of Corona Virus Disease 2019 (COVID-19) [6,7]. These health protocols encompass: a) Utilizing personal protective equipment in the form of a mask that covers the nose and mouth extending up to the chin. b) Regularly washing hands. c) Maintaining a minimum distance of 1 meter from others to prevent exposure to droplets

emitted when people talk, cough, or sneeze, and avoiding crowded places. d) Enhancing immunity by adopting Clean and Healthy Living Behavior (PHBS) practices [8,9].

Overall, health protocols encompass the adoption of Clean and Healthy Living Behavior (CHLB). According to Regulation of the Minister of Health of the Republic of Indonesia Number 2269/Menkes/Per/XI/ 2011, CHLB constitutes a series of behaviors rooted in awareness and acquired knowledge. These practices enable individuals, families, groups, or communities to autonomously address health concerns and actively contribute to public health initiatives [10,11].

This regulation implies that CHLB serves as the cornerstone in controlling environment-based diseases, particularly those transmitted through the airways. The execution of health protocols is an integral component of the CHLB program initiated by the government since 2011. These health protocols not only serve to curb the transmission of Covid-19 but also encompass other respiratory-transmitted diseases like Tuberculosis (TB) and upper respiratory tract infections (URTI) [12].

There is an immediate necessity to minimize the transmission of COVID-19 in densely populated areas and healthcare facilities, in accordance with the guidelines provided by the Ministry of Health and recommendations from the World Health Organization (WHO). Administrative measures and environmental controls for both settings are identical, encompassing basic infection prevention and control practices, cough etiquette, and the segregation of individuals suspected of being afflicted by the disease[13].

The community, particularly school students, has not fully adhered to the implementation of health protocols. It's crucial to effectively communicate the importance of adhering to these protocols in controlling Covid-19 to ensure that individuals adopt favorable behaviors in integrating health protocols into their daily lives [14].

Triggering serves as an option for initiating behavior change. It involves community-based facilitation activities aimed at analyzing their behaviors. The primary goal of triggering is to enable the community to collectively recognize the risks associated with unhealthy behavioral habits [15,16].

The triggering method employed involves counseling, training, and providing assistance by installing health promotion media like banners [17–19]. This approach demonstrates a noticeable difference in knowledge before and after counseling sessions. As a result, residents become more cognizant of the second pillar of STBM (Community-Led Total Sanitation), specifically understanding proper handwashing techniques and recognizing environmental health-related illnesses that may arise due to inadequate hygiene and sanitation practices [20].

Triggering the community about the implementation of health protocols aims to modify people's behavior, thereby contributing to the control of Covid-19. Consequently, this study will examine the effectiveness of the triggering method in managing Covid-19 in Jambi City.

## MATERIALS & METHODS

This research constitutes an experimental study employing a Pre and Post Test Only Design. The study involved 35 tenth-grade students (aged 16 years) from two public high schools, namely SMAN 11 and 12, located in Alam Barajo District, Jambi City. The research was conducted between April 2021 to April 2022, with participants selected at random.

In this study, the dependent variables were the students' knowledge, attitudes, and actions, while the independent variable was counseling utilizing the triggering method. Measurement of the students' knowledge, attitude, and action variables was conducted through a questionnaire, with each variable comprising 10 questions graded on a scale of 0-10. Triggering tools, such as spray bottles with colored water, masks, handwashing materials with soap, cameras,

and stationery, were utilized during the intervention.

No economic incentives were offered or provided for participation in this study. The study protocol matched the Declaration of Helsinki ethical guidelines for clinical studies.

Data are presented as numbers and percentages for categorical variables. Continuous data were expressed as mean ± standard deviation (SD) or median with Interquartile Range (IQR). Then proceed with bivariate analysis using the Paired t test. The Paired t test was used to determine the effect of counseling using the triggering method on students' knowledge, attitudes and actions. All tests with p-value (p)<0.05 were considered significant. Statistical analysis was performed using the SPSS version 16.0 application.

## RESULT

The findings regarding the level of high school students' knowledge regarding Covid-19 control through counseling using the triggering method are presented in Table 1 below:

**Table 1. Overview of Students' Knowledge of Covid-19 Control**

| Sample | Good Knowledge Level | |
|---|---|---|
| | Pre | Post |
| High school I | 20 (57%) | 33 (94%) |
| High school II | 18 (51%) | 32 (91%) |
| Average | 19 (54%) | 33 (94%) |

Referring to Table 1 above, it is evident that students with a proficient level of knowledge prior to undergoing triggering intervention amounted to an average of 19 students (54%), whereas after the triggering intervention, this number increased to 33 students (94%).

**Table 2. Overview of Student Attitudes Regarding Covid-19 Control**

| Sample | Good Attitude Level | |
|---|---|---|
| | Pre | Post |
| High school I | 22 (63%) | 34 (97%) |
| High school II | 20 (57%) | 32 (91%) |
| Average | 21 (60%) | 33 (94%) |

Referring to Table 2 above, it is apparent that students who exhibited a positive attitude before undergoing the triggering intervention totaled an average of 21 students (60%), while after the triggering intervention, this number increased to 33 students (94%).

**Table 3. Overview of Student Actions Regarding Covid-19 Control**

| Sample | Good level of practice | |
|---|---|---|
| | Pre | Post |
| High school I | 16 (46%) | 26 (74%) |
| High school II | 14 (40%) | 24 (67%) |
| Average | 15 (43%) | 25 (71%) |

According to Table 3, it is evident that students who demonstrated positive actions before undergoing the triggering intervention averaged 15 students (43%), whereas after the triggering intervention, this figure increased to 25 students (71%).

**Table 4. T-test Results of Differences in Knowledge of High School Students Before and After Triggering on Covid-19 Control**

| Students' Knowledge of Covid-19 Control | Mean±SD | p |
|---|---|---|
| Prepost Trigerring | 0,386±0.490 | 0.001 |

In Table 4, a notable difference exists in the knowledge of high school students before and after the triggering intervention for Covid-19 control, indicating a p-value = 0.000, which suggests statistical significance.

**Table 5. T-test Results of Differences in Attitudes of High School Students Before and After Triggering towards Covid-19 Control**

| Students' Attitude of Covid-19 Control | Mean±SD | p |
|---|---|---|
| Prepost Trigerring | 0,343±0.478 | 0.001 |

Table 5 indicates a notable difference in the attitude of high school students before and after triggering in their approach to controlling Covid-19, exhibiting a p-value = 0.000. This aligns with Gunawan et al. (2021), who affirmed a significant relationship between attitudes and adherence to the 5 M health protocol during the Covid-19 pandemic.

**Table 6. T-test Results of Differences in the Actions of High School Students Before and After Triggering on Covid-19 Control**

| Students' Practice of Covid-19 Control | Mean±SD | p |
|---|---|---|
| Prepost Trigerring | 0,114±0.401 | 0.020 |

Based on Table 6, it is evident that there is a significant difference in the actions of high school students before and after the triggering intervention in controlling Covid-19, displaying a p-value = 0.000. Triggering through instilling fear and disgust fosters awareness among students to adhere to health protocols to prevent contracting Covid-19.

## DISCUSSION

The study results reveal a significant difference in the knowledge of high school students before and after triggering for Covid-19 control, demonstrating a p-value = 0.000. Consistent with research by Mardiati [21], a noteworthy relationship exists between knowledge and compliance with Covid-19 prevention health protocols among adolescents in Vocational High Schools.

Triggering techniques utilizing fear-inducing instruments along with explanations and information delivery about respiratory disease transmission, such as Covid-19 through saliva droplets, substantially elevate the knowledge of high school students. Enhanced knowledge subsequently influences changes in student behavior towards Covid-19 control, highlighting the pivotal role of increased knowledge in fostering positive behavioral changes and the effective implementation of health protocols for managing respiratory diseases like Covid-19.

Additionally, the study reported a significant difference in the attitude of high school students before and after triggering in controlling Covid-19, demonstrating a p-value = 0.000. This finding aligns with Gunawan et al. [22], which establishes a significant correlation between attitudes and compliance with the 5 M health protocol during the Covid-19 pandemic.

Triggering strategies involving fear and disgust induction, such as using a spray assumed to contain pathogenic microbes, create awareness about the risks of contracting respiratory diseases like Covid-19, leading to improved attitudes among students towards controlling the spread of the virus.

Attitude refers to an individual's response to a specific stimulus, which can result in either a positive or negative outlook. This resultant attitude subsequently influences the person's behavior, often influenced by the acquired knowledge [23].

The study revealed a significant difference in the actions of high school students before and after triggering for Covid-19 control, displaying a p-value = 0.000. Triggering methods involving fear and disgust contribute to raising students' awareness regarding the necessity of adhering to health protocols to prevent contracting Covid-19. Triggering, as a community-based activity, aims to facilitate behavioral analysis among community members. Its primary objective is to collectively recognize the hazards associated with unhealthy behavioral patterns, striving for a shift towards hygienic and appropriate conduct [24].

The dissemination of information about the significance of health protocols through triggering mechanisms instills a fear of Covid-19 contraction among students. This awareness underscores the omnipresent risk of the coronavirus in various settings. Students acknowledge their fear of proximity to individuals exhibiting flu or cough symptoms due to the potential exposure to respiratory droplets. School educators frequently remind students about the risk of contamination from others' droplets, emphasizing the need for vigilance and strict adherence to health protocols [25].

The outcomes of triggering sessions contribute to enhancing individuals' existing knowledge about Covid-19, ultimately shaping positive attitudes towards the disease and its preventive measures. This knowledge and positive attitude serve as motivating factors for taking proactive actions. Triggering methods, particularly those incorporating fear and disgust, play a pivotal role in influencing student behavior modification. Behavioral change occurs through triggering sessions that collectively encourage and empower the targeted

community to independently develop sanitation facilities in line with their capacities [26].

## CONCLUSION

The study concludes that there exists a noteworthy disparity in the variations of knowledge, attitudes, and actions among high school students before and after triggering interventions for controlling Covid-19. It is anticipated that the community will recognize the importance of using masks as a preventive measure against transmission, particularly for individuals with respiratory ailments. Furthermore, the study underscores the crucial role of schools and teachers in effectively implementing health protocols among students.

### *Declaration by Authors*
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This research has been approved by the Health Research Ethics Commission of the Health Polytechnic of the Jambi Ministry of Health with the number LB.02.06/2/64/2023.
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