

# Analysis of Using the Mobile Education Model in The Community in Health Emergency Conditions

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**Submission date:** 06-Jul-2023 07:20AM (UTC+0700)

**Submission ID:** 2127003028

**File name:** cation\_Model\_in\_The\_Community\_in\_Health\_Emergency\_Conditions.pdf (106.54K)

**Word count:** 1819

**Character count:** 10485

# Analysis of Using the Mobile Education Model in The Community in Health Emergency Conditions

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**Abstract.** The COVID outbreak has been declared a global health problem since January, 2020. Behavior change is the key to the spread of the Coronavirus that causes COVID-19, and conveying information regarding the application of health protocols requires appropriate counseling methods. One of the outreach programs to the community that is run at the Puskesmas is mobile counseling. The purpose of the study was to determine whether the mobile extension method brought changes in health protocol behavior in the community. This type of research uses experimental research with a pre-test and post-test design. The research at Sekayu Health Center, Semarang City, with a population of 3616 people. The accidental sampling technique was chosen. The respondents were 50 people. The Wilcoxon test was used to analyse differences behavior before and after treatment during health protocol COVID-19. The results showed the average behavior of respondents before being given the mobile counseling method is 35 and after being given the mobile counseling method is 45. The results of statistical tests obtained a p-value = 0.001 ( $p < 0.05$ ), which means there is a difference in the behavior of respondents regarding the COVID-19 health protocol before and after being given health education using the mobile method.

**Keywords:** Mobile education, health emergency condition, COVID-19, pandemic.

## 1 Introduction

Countries with vulnerable health systems have a high risk of handling COVID-19. Severe Acute Respiratory Syndrome identified as COVID-19 [1][2][3]. Early detection, isolation, appropriate treatment, and the implementation of a strong tracking system is a standard systematic response to the spread of COVID-19[4].

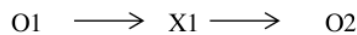
Some rules have been issued by the WHO and the government regarding protocols to prevent the transmission of COVID-19. The protocols include wearing masks, washing hands, avoiding touching the face, coughing and sneezing etiquette, maintaining distance, self-isolation when not feeling well, and maintaining health. Behavior change is the key to the spread of the Coronavirus that causes COVID-19. Changes in behavior in adapting new habits during the COVID-19 pandemic are important because COVID-19 has changed human civilization, such as how to get along, go to an office, and work. In delivering information regarding the application of health protocols, appropriate counseling methods are needed[5].

Counseling is a behavioral change process carried out through a systematic, directed educational approach with the active participation of individuals and groups or communities to solve problems at community. The communities are expected to know and ultimately be able to make changes. The changes that occur in society are expected to be able to increase production, income even profits so as to increase welfare [6][7].

One of the outreach programs to the community at the Puskesmas is Mobile education. It is counseling carried out around (moving) without any community gathering using loudspeakers<sup>8</sup>. Mobile education is expected to change the knowledge of people to be good. The problem in this study is "Does the mobile education method bring changes in health protocol behavior in the community". The urgency of this research is that public health education is an important part, especially in a state of critical health problems such as a pandemic. The method must be chosen properly.

## 2 Methods

Experimental research (pre-post test design) was used. The research design can be seen as below



Remarks:

- O1 : Measurement of respondent's behavior before counseling was carried out using the mobile education method.
- X1 : The treatment of providing health education with the mobile education method.
- O2 : Measurement of respondent behavior after being given counseling using the mobile education method.

The research location is based on: high COVID-19 cases (red zone), visited by many immigrants, has a mobile health education program, namely the work area of the Sekayu Health Center, Semarang City, with a population of 3616 people. The sample was determined by an accidental sampling technique that met the requirements of 50 people who were determined using the Slovin formula. The sample requirements are 1) Citizens with an age  $\geq 40$  years, 2) Willing to be research respondents, 3) Participate in mobile education activities. The dependent variable in this study is the behavior of the community concerning the COVID-19 health protocol, while the independent variable is the mobile education health education model.

The research instrument consisted of counseling materials and questionnaires to assess community behavior related to the COVID-19 health protocol. The questionnaire has been tested for validation and reliability. Univariate analysis to describe the characteristics of each research variable using a frequency distribution. The Wilcoxon test was used to know about differences in community behaviour.

### 3 Results

**Table 1.** Distribution Behavior during Mobile Education Method.

No	Behavior	Before		After	
		n	%	n	%
1	Good	0	0	26	52
2	Moderate	39	78	24	48
3	Poor	11	22	0	0
	Total	50	100	50	100

Based on Table 1, it is known that the behavior of the respondent's health protocol before counseling using the mobile education method had the highest percentage, namely the behavior of respondents in the moderate category of 39 respondents (78%). While the behavior of respondents after counseling using the mobile education method has the highest percentage, namely the behavior of respondents in the good category of 26 respondents (52%).

Based on the results, the average behavior of respondents before being given counseling using the mobile education method was 35. After being given counseling using the mobile education method was 45. There are differences in respondent behavior regarding the COVID-19 health protocol before and after being given health education using the mobile education method ( $p=0.001$ ).

Before and after health counseling, there was an increase in behavior regarding the COVID-19 health protocol. Analysis of the questionnaire results showed that only 43% of respondents showered and changed clothes after doing activities outside. After being counseled, it increased to 72%. 29% of respondents who exercise regularly after counseling increased to 72%. While from 43% of respondents taking regular vitamins after being given counseling increased to 72%.

### 4 Discussion

Health education using the mobile education method can provide results of differences in respondents' behavior regarding the COVID-19 health protocol before and after treatment. Improved behavior related to bathing and changing clothes after doing activities outside the home, doing sports regularly, and taking regular vitamins.

Mobile education is counseling carried out by traveling around the community (moving) with material about current health problems without any community gathering. Mobile education aims to remind citizens of the health protocols that must be implemented. Mobile education can change people's knowledge from poor to good. One thing that plays a role to determine a person's attitude regarding handling COVID-19 is the availability of correct information about COVID-19. Effort to prevent transmission of COVID-19 can be done through. The mobile education method is one method that can be used in this situation without gathering residents. Mobile education is an activity of delivering information by traveling around with specific routes and counseling materials. Mobile education directs the health protocol application steps to targets of counseling. The results aligned with Wirawati et al. (2020), stating an increase in knowledge before mobile education was carried out from 71% to 90% after it [8].

Mobile education is one of the methods that can be used during an emergency, such as during the COVID-19 pandemic. In choosing an education method, we must consider the level of emergency or the impact on mortality events, cultural values, and public perceptions affecting the public's health behavior [9]. The results stated that the spread of COVID-19 in a pandemic situation forced changes in work habits, as well as the methods of education and counseling, are carried out [10],[11]. Quality health education involves the delivery of accurate information in simple, understandable by individuals or groups to increase awareness, change behavior, and reduce illness and death. Community education can take place in various settings, such as community centers, places of worship and schools, sporting events, local health awareness days, or in the context of screening campaigns [12]. The form of community education in groups is not possible during the COVID pandemic. Policymakers need to consider other forms of public education, including safer counseling method [13].

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