

Conference Paper

A Pilot study of Seven-Day Education Program “door-to-door” to Improve Knowledge, Attitude, and Practices towards 2019-nCoV During Stay at Home in Indonesia

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ORCID:Eli Amaliyah: <https://orcid.org/0000-0003-0057-8825>**Abstract**

Because of the 2019-nCoV shutdown, there is a need for creative ways to spread the information to those without internet access. The aim of this study to test the feasibility of a ‘Seven-Day Education Program to Improve Knowledge, Attitude, and Practices’ in Indonesia. This research involves a quasi-experimental study with one group pre-test and post-test design, and was carried out from April to May 2020 in Serang, Banten Province, Indonesia. The education program was developed in seven days providing information door-to-door and direct consultation via a social media group for studied participants. The topics consisted of 7 themes, namely: (1) general information of 2019-nCoV; (2) transmission of 2019-nCoV; (3) signs and symptoms of 2019-nCoV; (4) what should I do if they have symptoms of COVID-19 and when should they seek medical help; (5) self-isolation; (6) how to use a mask correctly; (7) prevention of 2019-nCoV. The study had a total of 140 respondents. Knowledge of transmission routes and prevention and control for clinical presentation was enhanced after seven days experiencing the educational program. Following the intervention, the trust of the participants in winning the fight against 2019-nCoV increased. There has been a decline in the last few days before people who go to a crowded place and a rise in the proportion of people wearing masks as they go out ($p < 0.05$). Probably this approach could be applied to reach more people in Indonesia’s rural area during this condition. A future study involving more comprehensive methods and more innovation is required in Indonesia to improve awareness, attitudes, and practices towards 2019-nCoV.

Keywords: Education Program, Knowledge, Attitude, Practices, 2019-nCoV.

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1. Introduction

The latest outbreak of coronavirus (2019-nCoV) which began in Wuhan, China, has spread rapidly, with cases now confirmed in many countries (WHO, 2020b). On 12 April 2020, a total of 1,794,819 cases were registered in at least 213 countries. In Indonesia, the Republic of Indonesia government announced 4,241 confirmed cases

in at least 17 provinces and 373 deaths linked to 2019-nCoV on April 12, 2020, while 359 patients recovered from the disease (National Disaster Management Authority, 2020). Empirical clinical statistics indicate that overall in China the fatality rate for 2019-nCoV cases was 2.3% lower than SARS (9.5%), MERS (34.4%), and H7N9 (39.0%) (Chen et al., 2020; Munster et al., 2020; WHO, 2020b). The Republic of Indonesia's Ministry of Health has taken steps to step up response efforts for 2019-nCoV, referring to the initial recommendations on new coronaviruses from WHO. The Government of Indonesia has been issuing a policy for all institutions to work and study from home to control the 2019-nCoV transmission since 17 March 2020.

Knowledge, attitudes, and practices (KAP) towards 2019-nCoV play an important role in assessing the ability of a population to embrace measures of behavioral improvement from health authorities. Knowledge, attitude and practice towards 2019-nCoV including information and communication, knowledge, causes and symptoms, prevention, treatment, care, and risk search (WHO, 2020a). Maintaining adequate knowledge, behaviors, and activities for nursing students in both endemic and non-endemic areas is very necessary (Harapan et al., 2017; Zammarchi et al., 2016). Lack of knowledge from them will make a major difference to their attitudes towards the disease and potentially impact the quality of patient care (Ali et al., 2017). However, there has been a lot of uncertainty and speculation about the virus itself due to the nature of this novel virus, how it can spread, and the appropriate measures that should be taken to avoid infection. It is becoming more difficult with the huge amount of misinformation and disinformation spread on social media that clouds the 2019-nCoV perception of the people (Mohamad & Azlan, 2020). A previous study conducted in Indonesia reported good knowledge of a total of 201 people (98 percent) and a positive attitude (96 percent) regarding the 2019-nCoV pandemic. The respondents had a pessimistic outlook about two aspects of the 2019-nCoV outbreak: frequently keeping a gap of 1.5 m while in crowds, and not being able to exercise or consume healthy food daily (78.6% and 79.1%, respectively).

Because 2019-nCoV is a new disease, many unknown and unclear knowledge of this disease remains. A tailor-made health education programs are required in Indonesia to improve levels of awareness, attitudes, and practices among the population. Because of the lock-down and couldn't keep an educational program that included many people, creative ways are required to communicate the information even to those without internet access to society. The goal of this study was to test the feasibility of the 2019-nCoV pandemic in Indonesia's Seven-Day Education Program to Improve Awareness, Attitude, and Practices During Stay at Home

2. Methods

2.1. Design

In Serang, Banten Province, Indonesia, from April to May 2020 a quasi-experimental with one group pre-test and post-test design was carried out. Around 1,600 confirmed 2019-nCoV at Banten with 81 deaths each and recovered about 1089. This study has been approved by the ethical commission of the studied hospital (No. 01.01 / VIII.2/123/2020). Participants were told that the information collected would be kept private, and the questionnaire would be anonymous

2.2. Sample

In education-based intervention analysis, a convenient sample collection was applied. Inclusion requirements were age 18 or older; ability to speak Bahasa and oral communication; no pre-existing cognitive disability, mental disorders, or persistent post-traumatic disorder. We had joined a total of 140 respondents in our survey.

2.3. Intervention

The education program was implemented using a “drive-thru-education” car to reach every house even in difficult to reach the place. The seven-day education program was designed to provide door-to-door information and direct consultation for studied participants via social media community. The topics consisted of seven themes, namely: (1) general information of 2019-nCoV. (2) 2019-nCoV transmission; (3) 2019-nCoV sign and symptoms; (4) What will I do if they have COVID-19 symptoms, and when will they seek medical assistance? (5) Isolation. (6) How to correctly apply the mask. (7) 2019-nCoV prevention. Each topic was delivered directly by a minimum of 1–2 researchers to the house (door to door) of each participant. Academic researchers involved in the study developed and implemented the program. Material on education was delivered using a leaflet and brochure. Every work used national protocol for 2019-nCoV prevention (use of mask, face shield, and alcohol-based handwashing) during the distribution of educational content. Table 1 summarizes the overall scope of the intervention-based education report. The seven-day instructional program was designed to provide knowledge door-to-door and consisted of data collected both before and after an intervention to assess the impact.



Figure 1: Drive thru education program using car

TABLE 1: The overall content of the education-based intervention study.

Timing	Activities
April 2020 Before education (Baseline)	Data collection with knowledge, attitudes, practices towards 2019-nCoV, socio-demographic factors.
April 2020 Education program (lasting 7 days)	The implementation of 2019-nCoV education program with 7 topics.
April 2020 After education (7 days from baseline)	Data collection with knowledge, attitudes, practices towards 2019-nCoV.

2.4. Questionnaire for Data Collection

The questionnaire consisted of two parts: KAP and Demographic. Variables in demographics include age, gender, marital status, education, employment, and current residence.

The 2019-nCoV questionnaire on knowledge, attitude, and practices was developed by (Zhong et al., 2020). The questionnaire had 12 questions, 4 clinical presentation topics, 3 transmission path topics, and 5 prevention and control topics. With the additional option “I don’t know” these questions are answered correctly / incorrectly. Correct answers are given 1 point and 0 points are given for incorrect/unknown answers. Total knowledge scores range from 0 to 12, with higher scores indicating a better knowledge for 2019-nCoV. The information questionnaire’s Cronbach alpha coefficient was 0.71, suggesting sufficient internal accuracy (Zhong et al., 2020).

Attitudes towards 2019-nCoV were measured by 2 questions on the final control and confidence of the 2019-nCoV agreement to win the battle against 2019-nCoV. The response is yes or no. The reliability was 0.69, indicating reasonable quality internally (Zhong et al., 2020).

Practice towards 2019-nCoV was evaluated using 2 items, namely going to a crowded place and wearing a mask when going out over the last couple of days with the answer

being yes or no. The reliability was 0.70, showing reasonable quality internally (Zhong et al., 2020).

2.5. Data analysis

To characterize the respondent’s demographic characteristics a descriptive statistics using mean, standard deviation, proportion was used. Pre- and post-test data were evaluated using a paired t-test for ongoing data, and Mcnemar for categorical data. The level of significance has been set to 0.05. All analyzes were conducted for windows using version 22 of Statistical Product and Service Solutions.

3. Results

The research had joined a total of 140 respondents. Table 1 provides a list of respondent characteristics. The mean age was 31.45 (SD=2.41) and married (67.1%). Most of the participants were female, and over half were high school graduates. Most (52.9 percent) were unemployed (just get fired due to situations in the 2019-nCoV). They mostly lived in rural areas (62.8 percent).

TABLE 2: Demographic characteristics of the nurses at the medical-surgical ward (n=140)

Characteristics	n=36 (%)
Age, mean (SD)	31.45 (2.41)
Marital status	
Married	94 (67.1)
Unmarried	46 (32.8)
Education level, n (%)	
Below senior high school	49 (35.0)
Senior high school	74 (52.9)
University	17 (12.1)
Working status	
Employed	66 (47.1)
Unemployed	74 (52.9)
Gender, n (%)	
Female	29 (80.5)
Male	7 (19.4)
Resident	
Rural	88 (62.8)
Urban	52 (37.1)

TABLE 3: Knowledge, Attitude, and Practices towards 2019-nCoV (n=140)

	Pretest (Mean±SD)	Post-test (Mean±SD)	p-value
Knowledge			
Clinical presentation	2.45±1.18	3.21±0.56	0.045
Transmission routes	1.31±0.67	2.76±0.91	<0.001
Prevention and control	2.43±1.75	3.98±1.12	0.050
Attitude, yes n (%)			
Agree on 2019-nCoV' final control	46 (23.9)	72 (51.4)	<0.001
Confidence in winning the battle against 2019-nCoV	35 (25.0)	80 (57.1)	<0.001
Practices, yes n (%)			
Going to a crowded place in the last few days	58 (41.1)	34 (24.3)	0.056
Wearing a mask when going out	41 (29.3)	87 (62.1)	<0.001

Note: McNemar for categoric data and pair t-test for continues data

At baseline, the mean of knowledge towards 2019-nCoV clinical presentation was 2.45(SD=1.18) and their knowledge was increased 3.21 (SD=0.56), $p<0.05$ after a seven-day education program. There has also been an improvement in knowledge of transmission routes and prevention and control from 1.31 (SD=0.67) and 2.76 (SD=0.91) to 2.43(SD=1.75) and 3.98(SD=1.12) respectively with $p<0.05$. Attitude towards 2019-nCoV, in terms of an agreement on the final control of 2019-nCoV, only 23.9% of respondents agreed before the intervention and 51.4%, $p<0.001$ after an intervention. Then, before the intervention, only 25% have confidence in winning the battle against 2019-nCoV but after the intervention, there was increasing to be 57.1%, $p<0.001$. Also, for practice toward 2019-nCoV; There was a decline in the number of people going to the crowded place in the last few days before and after the action, from 41.1% to 24.3%, and the proportion of people wearing masks rises from 29.3% to 61.2% ($p<0.05$) while going out

4. Discussion

It is possibly the first research to extend the seven-day education system to enter rural areas in Indonesia by “door to door.” Findings from this study have shown an improvement in understanding of the 2019-nCoV clinical presentation, transmission routes, and prevention and control. Knowledge, attitude and practice towards 2019-nCoV, including information and communication, knowledge, causes and symptoms, prevention, diagnosis, care and risk search (WHO, 2016a). It is very important to establish

adequate knowledge, behaviors, and practices for nursing students in both endemic and non-endemic areas (Harapan., 2017; Zammarchi, Spinicci, & Bartoloni, 2016). Lack of knowledge from them will make a significant contribution to their attitudes towards the disease and potentially affect the quality of future patient care (Ali, Khan, Malik, Iqbal, & Aadil, 2017). Health care professionals connect with the community to promote cooperation by offering organizational encouragement to participate in 2019-nCoV prevention and control. Health education is an intervention designed to increase patient knowledge and understanding which is expected to be a positive change in behavior (Pueyo-garrigues et al., 2019). Management will endorse health education initiatives such that quality health care is received, patient satisfaction can be improved, and the role of the nurse in performing her position as an effective and productive educator can be supported (Notoatmodjo, 2014). Thus, nursing programs in health education as well as family social care are projected to enhance patient self-efficacy to boost a patient's quality of life (Huriani, 2019).

This study also found an improvement in attitude toward 2019-nCoV. Attitude towards 2019-nCoV were based on agreement on the final control and trust of 2019-nCoV to win the fight against 2019-nCoV. By 2019-nCoV their custom took steps to avoid infection: not going to crowded areas and wearing masks while going out. Such stringent preventive policies may be due largely to the very stringent prevention and control measures enforced by local authorities, such as prohibiting public meetings. Sadly, this research also found that 24 percent of the residents went to crowded places and 38 percent did not wear masks when they recently left homes being part of Indonesia, the slightly higher risk of going to a crowded place and not wearing a mask while leaving homes can be due to the less severe situation of the 2019-nCoV outbreak in Banten. Therefore, KAP against 2019-nCoV of disadvantaged communities such as those living in rural areas with restricted access to knowledge deserves specific attention from the study.

An essential limitation of this study was no control group; therefore, pre-existing factors are not taken into account. Furthermore, This study does not generalize to other Indonesian people because Indonesia has more than 100 islands with diverse backgrounds in culture and education. Future research is required using more robust methods to assess the efficacy of a targeted intervention to improve the 2019-nCoV knowledge, attitude, and practices.

In conclusion, this study found that the “door-to-door” seven-day education program could improve knowledge, attitude, and practices towards 2019-nCoV while staying at Home in Indonesia. Perhaps this method could be extended to reach more people in

Indonesia's rural area during this situation. The future study involving more comprehensive methods and more innovation is required in Indonesia to improve knowledge, attitudes, and practices towards 2019-nCoV.

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