

# Implementation of the SMart-Punakawan COVID-19: Empowering communities and families against COVID-19

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SUBMITTED: 20 Desember 2021 REVISED: 10 November 2022 ACCEPTED: 29 November 2022

## KEYWORDS

SMart-Punakawan  
COVID-19 health  
education  
Health education  
media

**ABSTRACT** The end of the Corona Virus Disease 2019 (COVID-19) pandemic cannot be predicted. In June 2021 and again in February 2022, there have been very significant increases in new cases. The government has tried to control transmission by launching the 5M propaganda, which consists of wearing masks, maintaining distance, washing hands with soap, avoiding crowds and reducing mobility. However, there are still problems existing related to community compliance in preventing the transmission of COVID-19, for example, low participation in the use of masks and avoiding crowds. The aim of this project is to develop and implement health education media related to 5M and COVID-19 vaccinations. This project started with the development of the education media considering the local cultural wisdom, in order for it to be easily accepted by the community. The term SMart-Punakawan COVID-19 (Sebelas Maret-Pendampingan UNtuk mAsyarakat dan KeluargA melaWAN COVID-19) was chosen to name this media. Punakawan is a puppet character, the "servant" of the knights but who has an important role as an advisor, so it is very suitable to represent health workers. There are several media used to convey the SMart-Punakawan including videos, banners, brochures and these were implemented to the community either face-to-face or online (YouTube, and WhatsApp group) in order to reach the wider community. The effectivity of this project was measured quantitatively using instruments to measure knowledge about 5M and COVID-19 vaccinations before and after implementation. We used the Wilcoxon test because the data were not normally distributed. According to the results, there were significant differences in respondents' knowledge before and after implementation ( $p < 0.001$ ). The SMart-Punakawan is effective in improving people's knowledge related to 5M and COVID-19 vaccinations. However, further exploration is still needed to know the full impact of the SMart-Punakawan in changing people's behavior.

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## 1. Introduction

The Corona Virus Disease 2019 (COVID-19) was first reported in Wuhan, China, in December 2019. After that, it gradually spread to various countries until it was designated a global pandemic by the World Health Organization (WHO) in March 2020.<sup>1</sup> COVID-19 is an acute respiratory disease caused by SARS-CoV-2.<sup>1</sup> This disease causes relatively high mortality, especially in the elderly and patients with

aggravating medical factors such as cardiovascular disease, diabetes, and cancer.<sup>2</sup> As a result of its sudden and rapid spread, COVID-19 has caused significant changes in the global health care system that have impacted various aspects of human life.<sup>3</sup>

A study stated that several sectors are affected by the spread of this disease, such as health, agriculture, industry, tourism, and education.<sup>3</sup> The uncertainty of how long this pandemic will last leads to a 'new normal' life condition, where quarantine and physical distancing will still be needed indefinitely in social life.<sup>1</sup>

The Indonesian government has launched the Five M (5M) procedure which consists of wearing

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**Figure 1.** Implementation of SMart-Punakawan in Purwodiningratan public health care.



**Figure 2.** SMart-Punakawan video on YouTube channel.

masks, maintaining distance, washing hands with soap, avoiding crowds, and reducing mobility. However, the level of community compliance with the basic 3M's health protocols, namely wearing masks, maintaining safe distance and washing hands, is still not satisfactory. Based on the COVID-19 Indonesian Task Force data, the monitoring of health protocol discipline, which has been done since November 18, 2020, indicated the graph had fluctuated starting in November 2020.<sup>4</sup>

Therefore, assistance activities for the community related to 5M regarding COVID-19 need to be conducted. The community's character with a solid social life can be used to assist this community. Surakarta is an area with a reasonably solid cultural background and active arts life. By incorporating

cultural elements in community assistance, it is hoped to strengthen the delivery of the health messages given. The cultural aspect used in this study is Punakawan. Punakawan is the clown servant of the hero in Javanese shadow puppet performances (wayang).

Punakawan symbols and the delivery of health messages to the community through dialogues of figures in Punakawan, is one way to insert humor as a feature of Punakawan that is considered touching, which will cause the messages conveyed to be more readily accepted by the community. Several media were used to represent the material, including videos, banners, leaflets so that they are expected to reach the wider community (figure 1). Videos and presentations about SMart-Punakawan were given

offline to the community in the Purwodiningratan Public Health Center area in training on 5M, or online, namely videos and leaflets that were widely distributed through social media such as WhatsApp groups and YouTube (figure 2). This study aimed to analyze the effectivity of the implementation of SMart-Punakawan to improve people's knowledge about COVID-19 disease in Surakarta.

## 2. Method

This cross-sectional study was conducted in Surakarta, Indonesia and followed a community service program named SMart-Punakawan. The community services comprise educational media such as videos, presentations, and leaflet about SMart-Punakawan. The media were given to the community in the Purwodiningratan Public Health Center. In addition, videos and leaflets were widely distributed through social media (WhatsApp groups and YouTube). The video was played during offline community activities, through a wall mounted LCD screen, and have been seen by the people who were visiting the Public Health Center. The target population of this study was people who were visiting Purwodiningratan Public Health Center. Respondents was taken by consecutive sampling.

To evaluate the program, a pre-test and post-test were conducted. The pre-test and post-test instruments have Cronbach alpha of 0.58. Then the pre-test and post-test data were analyzed using Wilcoxon test because the data were not normally distributed. This study has received an ethical clearance letter from the Faculty of Medicine Universitas Sebelas Maret ethics committee with letter number 42/UN.27.06.6.1/KEP/EC/21.

## 3. Result

We visited Purwodiningratan Public Health Center on August 28, in 2021 in order to implement the SMart-Punakawan. We met the people who were there and gave them education about 5M and COVID-19 vaccinations. We discussed with the public health center visitors (patients and family), and they were very enthusiastic, as seen from the many question that they addressed to us.

For example, there were questions about when

**Table 1.** Characteristics of the respondents.

Characteristics	N	%	Min	Max
Sex				
Male	5	11		
Female		21		
Education				
Elementary school	2	3.4		
Junior high school	5	8.6		
Senior high school		41.4		
University		46.6		
Occupation				
Unemployment		32.8		
Government employees	4	6.9		
Private sector employees		27.6		
Have own business		32.8		
Age			18	68

Min, Minimum; Max, Maximum

**Table 2.** Respondents' knowledge score before and after implementation of the SMart-Punakawan.

Measurement time	N	Min	Max	Mean±SD
Pretest/ before	58	50	100	78.45 ± 14.96
Posttest/ after	58	70	100	88.97 ± 8.72

SD, standard deviation; Min, Minimum; Max, Maximum

could COVID-19 survivors be vaccinated, what types of COVID-19 vaccine are the good ones for them, and so on. We played the SMart-Punakawan video through Public Health Center LCD screen, and placed the banners in public spaces in the Purwodiningratan Public Health Center, and also handed out flyers and masks for the people.

Besides at the Purwodiningratan Public Health Center, we also implemented the SMart-Punakawan via online and social media. We shared the SMart-Punakawan videos through the YouTube channel and community WhatsApp group in order to reach the wider community. On October 2021, we also distributed the banner and videos of the SMart-Punakawan to Public Health District Office.

To evaluate the effectivity of the SMart-Punakawan as health education media, especially in promoting 5M and COVID-19 vaccinations, we collected data before and after respondents were exposed with SMart-Punakawan as shown in Table 1. We shared the survey instrument in the WhatsApp

group and 58 respondents completed it.

We tested the data distribution using Kolmogorov-Smirnov tests. The data as shown in Table 2 were not normally distributed ( $p = 0.048$ ) so we used Wilcoxon test to measure the effectiveness of the SMart-Punakawan program. The result of the Wilcoxon test shows  $p$  value  $< 0.001$ , that indicated there was a significant difference in the respondents' knowledge before and after exposure with SMart-Punakawan media. It can be said that the SMart-Punakawan program was effective in improving people's knowledge about 5M and COVID-19 vaccinations.

#### 4. Discussion

The results of this study indicated that there was a significant difference in the respondents' knowledge before and after exposure to the SMart-Punakawan media, so SMart-Punakawan is effective in increasing people's knowledge about COVID-19. Health education is very important to increase people knowledge, attitude and health practice. Awareness about the right health information is an important concern for the community, especially in the era of the COVID-19 pandemic. There is so much information circulating on social media, but people may find it difficult to distinguish between right and wrong information. The SMart-Punakawan is one of the media for health education, which aims to improve health knowledge in the short-term period, and then we hope it will affect their attitudes and health practices.

The evaluation showed that Smart Punakawan was effective in increasing public knowledge about the 5M and COVID-19 vaccinations. Health education related to COVID-19, which was developed by considering local wisdom, is accessible to people of all ages. One of the targeted populations is the elderly, who during this pandemic are the vulnerable groups. The elderly are a group that may have access to the outside world that is different from younger people.<sup>5</sup> Previous research stated that health education for the elderly can use print or video media.<sup>6</sup>

Health promotion for the elderly can also be done online, for example by distributing videos to maintain the health of the elderly in the era of the

COVID-19 pandemic.<sup>7</sup> The results of this activity are in accordance with previous research which stated that the mass media had an important role in conveying health information to the public during the COVID-19 pandemic.<sup>7,8</sup>

However, it should be considered that not all elderly people in Indonesia have access to gadgets that can download videos that are distributed through mass media or social media. For this reason, comprehensive health promotion is needed through various activities, offline and online. In this study not only were the elderly exposed with SMart-Punakawan, but for wider community, we wanted to know how young people could accept this media, so the benefit of this program could become wider too. The result showed that this education program was effective in increasing people's knowledge. So, from this study we know that SMart-Punakawan was not only accept limited for elderly, but SMart-Punakawan was well-received by the young people as well.

In this study, in quantity, female respondents were more than male. Respondents who filled in the questioner are people who were exposed by SMart-Punakawan, and agreed to become our respondents. From all of the community member who came to Purwodiningratan Public Health Center at that time or joined the SMart-Punakawan WhatsApp group, more female respondents agreed to sign the informed consent form and fill in the pre-test and post-test compared with males. Some reasons for this were because in this study population, males tended to have more activities than females as workers, so they did not have time to fill in the pre-test and post-test after being exposed to SMart-Punakawan.

Regarding the COVID-19 pandemic, previous research has shown that social media has an important role in disseminating information.<sup>9</sup> For example, regarding vaccinations, there is much information in the community, both true and false. Social media is now the main source of information. Health service institutions need to develop health workforce resources related to health promotion capabilities through digital social media.<sup>10</sup>

Research in China suggests that young and high-income people tend to underestimate the safety of vaccines.<sup>11</sup> With various types of SMart-Punakawan

media exposure to the public, online and offline, it can reach people from various groups of the community. It can be seen from the respondents who filled in the evaluation form that varied in age from 18-68 years, with variations in education levels from elementary to college, as well as variations in terms of employment. Social media have positive and negative impacts in the COVID-19 pandemic era, both for health care providers and for the community. Positive impacts for the community include people could obtain government announcements rapidly as well as they could follow instructions from the government easier.

Much data which were not verified is one of the negative impacts, along with the possibility that false information could be received by the community.<sup>10-13</sup> To remove incorrect information about COVID-19, transparency, good information governance and strong leadership are needed.<sup>14</sup> Social media may have some potential limitations, so in response, the health care providers are important to have roles as leaders in social media.<sup>15</sup>

Some limitations of this project are we did not observe changes in people's behavior about 5M and vaccination, because when we implemented this program, the government still imposed the people's activity restriction due to the increasing incidence of COVID-19. If we want to measure behavior change then we have to follow the respondents for a longer period of time. Accordingly, the impact about the effect of SMart-Punakawan in people's behavior is not yet fully known. The strength of this project is that it is an educational media that was developed by considering local wisdom, using figures who have been known by the public in conveying health information, so that the information obtained is more easily accepted by the community. Another aspect is the SMart-Punakawan was shared with the community in several ways, online and face-to-face (offline) so it can reach the wider community.

## 5. Conclusion

The SMart-Punakawan is effective in improving people's knowledge about 5M and COVID-19 vaccinations. However, further exploration is still needed to evaluate the effect of the SMart-

Punakawan program in improving people's behavior about 5M and COVID-19 vaccinations, in order to prevent COVID-19 transmission and reduce the incidence of COVID-19.

## Acknowledgment

We would like to say thank you to The Ministry of Education and Culture through Universitas Sebelas Maret Surakarta for financing this project in the Community Service Grant scheme. And also we would like to deliver our gratitude to dr. Faradilla Mirshanti, MPH and Purwodiningratan Public Health Center, also the Government of Surakarta District for being partners in this project.

## Conflict of interest

There is no conflict of interest in this project.

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