

# Environmental Prevention Programs on Combating the COVID-19 Pandemic by Community Participation

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# Environmental Prevention Programs on Combating the COVID-19 Pandemic by Community Participation

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<sup>1</sup> COVID-19 is a new disease that has become a pandemic. This disease must be wary of because of relatively rapid transmission, has a mortality rate that cannot be ignored, and the absence of definitive therapy. In Indonesia, 463,007 cases with COVID-19 and 15,148 deaths have been established on November 2020. To determine the distribution that goes fast, and education on prevention and disinfection have not been adequately spread in the community. Candisari, was a village located in the middle of teak forest with several entrances to the residents' villages. This condition is the main cause of the high risk of disease transmission from people entering and leaving the village, besides prevention measures have not been optimal. The development of educational methods, assistance for the prevention and disinfection of the environment of the village of Candisari has been compiled by the community service team of Airlangga University. Research on anti-virus disinfecting materials has also been developed at Airlangga University. The synergy between academia and the community is expected to be able to improve the understanding of citizens and prevent transmission of COVID 19 in Candisari village, Sambeng sub-district, Lamongan regency.

**Key words:** *COVID 19, Environmental, community, Lamongan*



## Introduction

COVID-19 is a new disease that has become a pandemic. This disease should be watched out for because transmission is relatively fast, has a mortality rate that cannot be ignored, and there is no definitive therapy which then spread rapidly to more than 190 countries and territories. The spread of this disease has had broad social and economic impacts (Hudyono et al, 2020, Kandel et al, 2020)).

Mysterious pneumonia were first reported in Wuhan, Hubei Province in December 2019. The source of the transmission of this case is still uncertain, but the first case was linked to a fish market in Wuhan. From 18 December to 29 December 2019, five patients were treated with Acute Respiratory Distress Syndrome (ARDS). This outbreak is named coronavirus disease 2019 (COVID-19) which is caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). From 31 December 2019 to 3 January 2020, this case increased rapidly, marked by the reporting of 44 cases. In less than a month, the disease has spread to various other provinces in China, Thailand, Japan and South Korea (Mo et al, 2020).

This virus could be transmitted from person to person. As of August 29, 2020, there were 30,675,675 confirmed cases of COVID-19, including 954,417 deaths worldwide. In Indonesia, on 24 Agustus 2020 there were 155.412 confirmed cases, including 6.759 deaths.

The spread was fast, and education on prevention and disinfection measures was not sufficiently distributed in the community. The same condition happened in Candisari Village, a village located in the middle of a teak forest with several entrances to the residents' villages. This condition is the main cause of the large risk of disease transmission from people entering and leaving the village, in addition to not optimal preventive measures.

The result of Airlangga University's research should be able to solve problems in society through the transfer of science and technology to the community (Nugroho,2020). The development of educational methods, assistance for the prevention and disinfection of the environment in Candisari village has been prepared by the community service team of Universitas Airlangga. Research on anti-viral disinfectant materials has also been developed at Airlangga University. Furthermore, the synergy between the academia and the community is expected to be able to increase residents' understanding and prevention of COVID 19 transmission in Candisari village, Sambeng District, Lamongan Regency.

## Materials and Methods

This article does not go through research involving human participation. Observations were made by researchers to formulate the participation of villagers against the spread of COVID



19. Questionnaires and handbooks were developed as a means of transferring technology and knowledge.

### **Situation Analysis**

Geographically, Lamongan Regency is located at 6o51 '- 7o23' South Latitude and 112o33 '- 112o34 East Longitude. Lamongan city has an area of approximately 1,812.8 km<sup>2</sup> or ± 3.78% of the area of East Java Province itself. With a long coastline of 47 km, the sea area of Lamongan city is 902.4 km<sup>2</sup>. Candisari Village, Sambeng District, Lamongan City is located in a lowland area that is overgrown with vegetation of sugar cane and papaya.

Total population of Candisari Village is 3,200 people. The majority of the population living in the village are elderly and children, while the population of productive age prefers to work outside the city.

Based on the results of observations, the majority of the livelihoods of Candisari Village residents include farmers, foreign workers, breeders and traders. The result of farming is the main commodity of the village. When viewed from the soil condition and irrigation system, some of the potential plants that can grow in this area are corn, sugar cane, eucalyptus and lemongrass.

### **Status of Covid 19 in Indonesia**

<sup>2</sup> The first COVID-19 was reported in Indonesia on March 2, 2020, totaling two cases. March 31, 2020 data shows that there are 1,528 confirmed cases and 136 deaths. The mortality rate for COVID-19 in Indonesia is 8.9%, the highest in Southeast Asia. Europe and North America have been at the epicenter of the COVID-19 pandemic, with cases and deaths already surpassing China. The United States is in the first place with the most COVID-19 cases with the addition of 19,332 new cases on March 30, 2020 followed by Spain with 6,549 new cases. Italy has the highest mortality rate in the world, at 11.3%.

<sup>5</sup> Currently, human-to-human spread of SARS-CoV-2 is the main source of transmission, so the spread has become more aggressive. SARS-CoV-2 transmission from symptomatic patients occurs via droplets that are released when coughing or sneezing. disinfection is absolutely necessary to cut the transmission of the virus. The low number of people of productive age causes this village to need a touch of technology and the help of experts to disseminate information about the spread of the corona virus (Li et al, 2020; Anfinrud et al, 2020)



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### **The need for COVID 19 prevention in Candisari village**

Candisari Village is an area that has the potential to be exposed to COVID 19 because of the the movement of humans is enormous and it location with many entrances from various regions. Workers of productive age who come from Candisari Village work outside the area so they are prone to become carriers of viruses. It takes a touch of technology and academic assistance to suppress virus transmission. It requires assistance with correct disinfection methods and the development of simple disinfection tools. Dissemination of prevention methods for spreading the virus to all community groups

### **Management community participation to combating Covid 19**

A survey was carried out through communication with the village head of Candisari and discussions with village officials. This survey will determine the participants who will be involved, the needs and the implementation schedule.

Counseling topics were arranged to increase people understanding about how to increasing people's body resistance to viruses, the application of physical distancing, environmental disinfection and developing a referral system of COVID 19. This mentoring process is intended the disinfection material used always accordance to health standards.

Evaluation for monitoring the increase of people understanding about implementation of physical distancing and basic prevention to determine community behavior was designed to stop the virus transmission

### **Isolation**

Newcomers or residents who enter the village area from other areas are required to carry out independent isolation for 14 days. During this quarantine period, medical staff will monitor the health of the migrants. The isolation of these newcomers is reflected in several incidents of the spread of Covid 19 brought by immigrants from infectious areas to the Candisari village area. This isolation is carried out to protect the 60% of the total population consisting of old age population and children who live in Candisari. This method is expected to be able to reduce the pandemic rate and accelerate the breaking of the chain of infection (Mao et al, 2020).

### **Infection Control**

Raising public awareness to avoid crowds of people, always using a mask, maintaining a physical distance of at least 1m, washing hands using soap and running water, eating high



nutritious foods, getting enough sunshine, exercising every day, are infection control methods which is easy to apply in the community (Poole et al, 2020)

Since SARS CoV2 was declared a pandemic by WHO, keeping from coughing and sneezing around crowds people is a smart move to protect the public from the spread of the virus. Campaigns on this must be carried out using appropriate language and methods for each community, considering that each community has different levels of participation and concern (Shabu et al,2020).

### **Social Distancing**

The governments of China, Denmark, France, Hong Kong, Lithuania and Singapore recommend a distance of one meter from other people, while South Korea recommends a minimum distance of 1.4 meters. Authorities in Australia, Belgium, Germany, Greece, Italy, the Netherlands and Portugal recommend that you maintain a minimum distance of 1.5 meters. In the United States, the government recommends keeping a distance of 1.8 meters. England, Spain and Canada said that the distance in implementing physical distancing is two meters (Sun and Zhai, 2020; Belingheri et al, 2020)

The Indonesian government, as published on the official website of the Task Force for the Acceleration of Handling Covid-19, asks residents to maintain a distance of about one meter when doing activities outside the room or in public places, as recommended by the World Health Organization (WHO).

### **Community Unity and participation**

Community support for infected residents, like preparing their daily needs and caring for sufferers and suspect sufferers from contact with other residents, can be carried out by the community personally, under the supervision of the local health office. awareness of residents to guard the entrance of the village by spraying and checking, is a simple method to keep the Candisari village area safe from the spread of CoVID 19. The recommendation to residents who enter the village area to carry out independent isolation at home for 14 days is a support for entire community to terminate the SARS COV 2 infection

### **Community Development**

Counseling to villagers about methods of eliminating infection, healthy lifestyles through wearing masks, washing hands and physical distancing in a way that is acceptable to the community, carried out by local villagers, in language that is easy to understand.

Training on making simple disinfectant fluids, using natural ingredients as a booster for the





immune system and setting air circulation in each village's house, was conducted as an effort to increase people's understanding of the system of spreading disease. The Indonesian government provides financial support to fulfill patient's daily needs during the isolation period.

12

## Results and Discussion

Controlling the COVID 19 pandemic requires collaboration between the government and the community to disseminate information that is easily understood by the community, can be trusted and is able to change people's behavior. Researchers from various universities are expected to be the backbone of creating new methods to change the perspective of the people of an area in preventing the spread of COVID 19 disease. Academia Universitas Airlangga together with the community of Candisari village, Lamongan created a method of environmental prevention and disinfection programs on combating COVID 19 based on culture and natural resources by involving the participation of villagers. Changing people's habits by using local languages is a method that is very suitable for the people with different social level, many kinds of educational background, many religious background and many local natural conditions. This synergy is expected to be able to accelerate the response to the pandemic and become practical knowledge for the surrounding community.

Invitations to implement health protocols such as washing hands with running water and soap, maintaining a safe distance, maintaining contact with sufferers or suspected sufferers of COVID 19 and understanding the spread of the virus are important things to prevent the spread of the disease. Health facility administrators are the most competent to control this outbreak. Every citizen is responsible for the safety of himself, his family, the surrounding environment and the world. For this reason, the government of the Republic of Indonesia has formed a National Pandemic Management Agency, with a multi-disciplinary approach to save citizens' health.

## Conclusion

Control of the Covid-19 pandemic must be carried out systematically by residents of Candisari village, Lamongan, Indonesia, in accordance with community culture to handle the risks and impacts of a pandemic. Handling pandemics to promote prevention against pandemics in a multisectoral and multidimensional manner been done through communication. The community must be totally involved in handling this outbreak problem. Citizen must be able to create methods of environmental prevention and disinfection, according to the nature of the virus, disinfectant materials that are easily available in the area and in accordance with the culture of the local community. These methods must be sustainable and can be modified over time with the development of the pandemic.



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PAGE 1

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PAGE 2

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PAGE 3

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PAGE 4

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PAGE 5

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PAGE 6

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PAGE 7

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