

## Education of Preventive Measures Against SARS-CoV-2 to the Population in the Emergency Area

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**Abstract:** Reducing the spread of the virus is a complex task because it is achieved with the actions of the population. Through this project the approach and involvement of people is sought through training with space to resolve doubts to accomplish this objective. After the talks, a significant increase was observed in the attachment to the use of masks and proper placement. It was obtained that 72.5% used masks, and of these 82.75% did it correctly, however, there were observed unfavorable results regarding the adequate physical distance and hand hygiene. With the analysis of results, proposals for improvement were generated to increase the adherence to the measures and thereby decrease the risk of contagion among people.

**Key words:** education, SARS-CoV-2, pandemic, spread, preventive measures

### 1. Introduction

In late December 2019, there were reports of pneumonia of unknown cause linked to a market in Wuhan province, China. According to Wang et al. (2020), the World Health Organization (WHO) called the disease COVID-19 on February 11, 2020, later it was called a COVID-19 pandemic outbreak on March 11, 2020, according to Sheng (2020). Hui (2020) states that it has spread rapidly since its discovery, causing the epidemic in communities, families, and hospitals. As of July 18, 2020, 13,876,441 confirmed cases and 593,087 deaths have been reported worldwide, with a global fatality rate of 4.3%, Ministry of Health Mexico (2020). The SARS-COV-2 virus is responsible for causing COVID-19 and is transmitted from person to person through close contact according to Chu et al. (2020).

According to Wu et al. (2020) preparation, transparency, and information exchange are crucial for risk assessments and to begin outbreak control activities, as an example of the influenza epidemic that Mexico experienced in 2009 to measure the importance of interventions educational. According to Franco C., del Río C., Carrasco P. and Santos José (2009), the difference in the response at that time with other points in history was the availability of better epidemiological surveillance and information dissemination systems; the early institution of

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social distancing measures; better hospital infection control protocols; the availability and/or search for effective antivirals to reduce transmission, symptoms and potential associated complications, and better medical management in intensive therapies in patients with severe respiratory failure. These measures were combined with effective and truthful communication with civil society and education of the population regarding the epidemic. The objective of the project is to train the population in the emergency area to reduce and/or avoid the spread of SARS-CoV-2.

## **2. Developing**

The fact that asymptomatic individuals are potential sources of SARS-CoV-2 infection may warrant a reassessment of the transmission dynamics of the current outbreak. In this context, the detection of SARS-CoV-2 and a high sputum viral load in a convalescent patient raise concerns about the prolonged shedding of SARS-CoV-2 after recovery.

## **3. Theoretical Framework**

In the publication by Tejada et al. (2020), it was possible to appreciate the level of knowledge reported by respondents about general information about COVID-19. At the beginning of the intervention, 23.4% of the patients had adequate knowledge; once the intervention had been carried out, the people with adequate knowledge were 95.4%. The educational intervention study on COVID-19 in the population needs to provide the necessary information and prepare through a closer contact with the population, and give them tools to cope. With this intervention, the effectiveness of the educational intervention was verified, since it increased the knowledge in the population about COVID-19. The needs and motivations of each of the individuals play a relevant role in determining health, therefore adequate information work by health personnel is essential in the education of the population. The authors consider it important to keep the population informed with real and updated information about this disease, to raise awareness that allows better self-care. The more the patient participates in her care, the more positive her adherence will be to stay healthy. The medical responsibility to provide as much information as possible, as well as the most accurate and complete information about the disease contributes to this.

Hamid S., Mir M. Y. and Rohela G. K. (2020) mention that the symptoms of the COVID-19 disease begin to appear after 5 to 6 days, this time is the incubation period, at the beginning of the infection there is fatigue, cough and fever, there is even evidence of a patient who only presented rhinorrhea according to Liu et al. (2020).

A case of SARS-CoV-2 infection acquired outside of Asia was reported in which transmission appears to have occurred during the incubation period in the index patient according to Rothe et al. (2020). This case of SARS-CoV-2 infection was diagnosed in Germany and transmitted outside of Asia. However, it is notable that the infection appears to have been transmitted during the incubation period of the index patient, that is, the first case of a disease in a family or a defined group that comes under the attention of the researcher (Ministry of Health, 2015).

Gao et al. (2020) state that those infected who are asymptomatic can transmit the virus in the same way as symptomatic people. Pan et al. (2020) documented a case of two people who were under active surveillance due to a history of exposure to patients infected with SARS-CoV-2, showed positive results in RT-PCR one day before the onset of symptoms, suggesting that the Infected people can be infectious before they become symptomatic.

According to Young et al. (2020) of 18 hospitalized patients with SARS-CoV-2 infection confirmed by PCR,

the clinical presentation was an upper respiratory tract infection in 12, and viral shedding from the nasopharynx lasted for 7 days or more between 15. Of According to Zheng (2020), human-to-human transmission occurs through droplets, contact, and fomites. Because there is no vaccine to prevent COVID-19 infection, the best available method is to avoid exposure to the pathogen (Douglas & Douglas, 2020).

#### 4. Innovation Implementation Process

The project began with an idea that arose while going to the areas that we're preparing to respond to the pandemic, the lack of implementation of the measures to prevent the spread of SARS-CoV-2 by the people who came to the Hospital. The bibliography search was carried out, the information in Figure 1 was decided according to PAHO & WHO (2019) to train, the problem was raised, it was discussed with the doctor of the hospital, and it was authorized. The main tool used to train people were face-to-face talk.

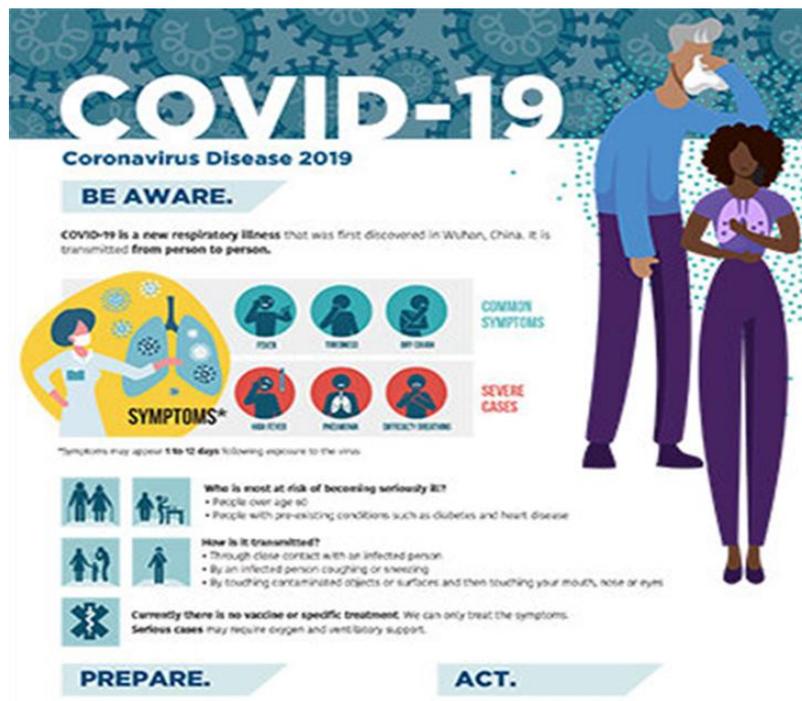


Figure 1 Infographic — COVID 19 Coronavirus Disease 2019: Be Aware

Source: PAHO & WHO, 2019

The half-life of SARS-CoV-2 in aerosols is approximately 1.1 to 1.2 hours according to Van Doremalen et al. (2020), in addition to the findings of Chu et al. (2020) suggesting that the use of face masks protects people against coronavirus infection, the recommendation to use a face mask was added. Evidence supports the universal use of face masks with physical distancing (MacIntyre & Wang, 2020).

The training was carried out from Monday to Friday, in the morning, the dynamics of meeting the people who were in the emergency area, commenting on the concern about the increase in cases, mentioning the three measures (use of covers-mouth, distancing social and hand hygiene) and invite them to the talk.

As shown in Table 1, a checklist was made to apply after sharing the recommendations. This was validated by the hospital's head doctor and aims to assess adherence to the three measures (use of covers-mouth, social distancing, and hand hygiene).

**Table 1 Checklist of Adherence to the Recommended Measures**

Evaluation									
Use of face mask		Proper use of mask		Adequate physical distancing		Hand hygiene when entering the hospital		Hand hygiene when leaving the hospital	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

## 5. Evaluation of Results

The training was held from April 29, 2020, to June 5, 2020, 35 people attended the talks, 17 observational evaluations were made to a total of 200 people and the following results were obtained: 105 (52.5%) did use covers-mouth, of these, 50 (47.61%) used it improperly. Of the 200 people evaluated, 18 (9%) had adequate social distancing. 31 people were admitted to the hospital, 8 (25.80%) performed hand hygiene, 28 people left and 1 (3.57%) performed hand hygiene.

A subsequent evaluation was carried out from 06/08/2020 to 06/23/2020, with a sample size of 80 people in which an increase in adherence to the use of covers-mouth and adequate placement was observed, it was obtained that 72.5% used covers - mouth, of this 82.75% did it correctly, however, it continues with unfavorable results regarding the adequate physical distance and hand hygiene, of the total of analyzed, 1 person maintained a healthy distance, of the 7 who entered and left none of the hospital performed hand hygiene. It is visualized that the choice for face-to-face talks appears to obtain favorable results.

## 6. Discussion

Evidence is created that supports the option of face-to-face educational interventions to increase the population's knowledge regarding the issue of preventive measures, as documented by Tejeda et al (2020), those who carried out an educational intervention on COVID-19, non-observational quasi-experimental, in its first stage "diagnosis" applied a survey to evaluate the level of knowledge in relation to the subject, which included: the source of information for the acquisition of knowledge, general information about COVID-19, clinical symptoms of COVID-19, differences from other common respiratory conditions, and measures for prevention. Its second stage was the design and implementation of a program based on the variables described above. Finally, a third stage in which the initial survey was repeated after the intervention and knowledge were evaluated before and after. Prevention measures were the cornerstone of the strategy, before applying for the program 29% had adequate knowledge, after the intervention the entire population studied (415) had adequate knowledge.

The results obtained with our study also support the use of face-to-face educational intervention as a tool that increases people's knowledge of COVID-19, increasing the use of mouth covers by 20% and their adequate use by 30.36%. utilization. In addition, the study carried out by us evaluated in an observational way the implementation of prevention measures by the population that received the talks, that is, it is inferred that through the intervention, adherence to prevention measures was increased, being more notable the use of mouth covers and their correct use, a measure directly attributable to the person and not influenced by the environment where they are. As a result, the number of people who can contract or spread SARS-CoV-2, decrease in hospital admissions and the number of deaths.

## 7. Conclusions

There was an increase in an attachment in the main measure to avoid and/or reduce the spread of SARS-CoV-2, however, poor implementation of adequate social distancing and hand hygiene continues, the lack of space and property were identified as causes, lack of awareness of people to the recommended measures, the large number of people who come to the hospital per person who is receiving care, there are institutional areas of opportunity, however, it is the educational ones that continue to be considered as priorities because finally Protection is individual regardless of the measures taken and/or granted in the places attended. To counter the COVID-19 pandemic, sustained long-term response strategies must be prepared in conjunction with coordination between the government and health systems (Kanj et al., 2020).

The following improvement proposals were generated from the results: manage the feasibility of providing a space to be able to maintain a healthy distance between people, hold brief talks with the security personnel at the entrance so that they can provide 100% alcohol - gel of the people entering and leaving the Hospital, and making an alliance with all the personnel who have contact with the specific population of the emergency area to constantly remember the measures.

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