Original Article

Awareness of Coronavirus Disease-19 Preventive Measures among General Population in Chengalpet District, Tamil Nadu

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Abstract

Background and Aim: Measures to prevent and control coronavirus disease (COVID-19) include regular handwashing, physical distancing, and covering the mouth and nose, thereby reducing the spread of droplets. It is advised to follow preventive measures such as the use of facemask, social distancing, hand sanitizer during this pandemic for reducing the risk of infection transmission. The current survey was conducted to understand the public awareness about the preventive measures and its importance in preventing the spread of COVID-19 at the community level in Chengalpattu district, Tamil Nadu. **Materials and Methods:** A cross-sectional survey was conducted to assess the awareness among the general population concerning the preventive measures of COVID-19 in the public area in Chengalpattu district, Tamil Nadu. The data collection was done in the month of December 2020, the sample size for the present study was estimated to be *N* = 268. **Results:** Altogether 308 individuals, male (129 [49.1%]), female (179 [59.1%]). Maximum 299 (97.1%) were aware of the COVID-19 pandemic. Almost 274 (89%) feel that wearing mask protect them from COVID-19 and knew that wearing mask would protect themselves as well as others at the same time. *N* = 144 (46.8%) unaware that they should not share their facemask with their family members. *N* = 266 (86%) use the hand wash/sanitizer before and after removing their mask. *N* = 223 (72.4%) practice social distancing in day-to-day life. *N* = 186 (60.4%) population believe that preventive measures at personal level will reduce the spread. **Conclusion:** The study population was well aware of the preventive measures to contain the transmission and spread of COVID-19; however, there is a lacunae in the application of their awareness on practice, which has to be overcome by continuous health education and motivational measures.

Keywords: Awareness, coronavirus disease-19, prevention

Introduction

The World Health Organization (WHO) received information about pneumonia of unknown cause from Chinese authorities in Wuhan, China on December 31, 2019, which was soon shown to be caused by a coronavirus temporarily named 2019-novel coronavirus and later called severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2).[1] The first case of coronavirus disease (COVID-19) infection reported in Kerala, India. On January 27, 2020. By the month of December 2020, about 10,244,852 cases were reported in India.[2] Common symptoms of COVID-19 are fever, dry cough, tiredness, diarrhea, loss of taste or smell, a rash on the skin, difficulty in breathing or shortness of breath, chest pain, or pressure.[3] Asymptomatic cases were also found which can be major issue of concern with respect to being extension into transmission chain of virus.[4]

Measures to prevent transmission and control COVID-19 spread include regular hand washing, physical distancing and covering mouth and nose using a face mask, thereby reducing the spread of droplets.[1] It is advised to follow protective and preventive measures during this pandemic for reducing the risk of infection transmission. The current survey was conducted to understand the extent of public awareness about the preventive measures and its importance in preventing the

Access this article online

Quick Response Code:

Website: www.ijcommdent.com

DOI: 10.4103/ijcd.ijcd_30_21

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How to cite this article: Subramani P, Thereesha P, Thenmozhi M, Kumar JV. Awareness of coronavirus disease-19 preventive measures among general population in Chengalpet District, Tamil Nadu. Int J Community Dent 2021;9:140-3.

Received: 22-12-21; **Accepted:** 02-01-22; **Web Published:** 26-03-22

spread of COVID-19 viral infection at the community level in Chengalpattu district, Tamil Nadu.

Materials and Methods

A cross-sectional survey was conducted to assess the awareness among the general population concerning the preventive measures of COVID-19 which included the use of masks, hand sanitizer and maintain social distancing in the public area. The data collection was done in the month of December 2020, sample size for the present study was estimated to be $N = 268$, based on the study conducted by Kaushik M *et al.*[4] using Openepi, approval was given for the study by Institutional Scientific Review Board, Asan Memorial Dental College and Hospital.

General population aged >18 years willing to participate in the study with no psychological disorders were included; people with mental disorders and taking medication for the same are excluded. A self-administered questionnaire consisting of 22 questions were developed from previous studies by[1,5] literature reviews and by utilizing and WHO course materials. Validation of the questionnaire was carried out in the Department of Public Health Dentistry, Asan memorial dental college and Hospital, Chengalpattu.

The questionnaire was comprised two sections in which (A) demographic information and (B) Awareness of preventive measures of COVID-19 among the general population. Self-administered questionnaire was given to the people in public places and in our hospital premises. Statistical analysis was made using IBM, Chicago, USA, SPSS Version 23.

Results

A total of $n = 308$, individuals participated in the present study, of which $n = 129$ (49.1%) were male and $n = 179$ (59.1%) were female.

Table 1 depicts the distribution of the study population on the basis of education, $n = 222$ (72.1%) were graduates, 11 (3.6%) were elementary schooling, 23 (7.5%) were completed high schooling, 52 (16.9%) were completed higher secondary schooling, shows that majority of the study population were well educated.

Table 2 shows the response of the general population about the knowledge and awareness toward the existence and preventive measures of COVID-19. Around $n = 299$ (97.1%) were aware of COVID-19 pandemic existence and most of them $n = 274$ (89%) feel that wearing facemask protect them from COVID-19. Almost $n = 275$ (89.3%) knows that wearing mask will protect themselves as well as the others at the same time. Among the study population, $n = 186$ (60.4%) people believe that preventive measures at the personal level will reduce the spread of COVID-19.

Table 1: Distribution of study population on the basis of education

Qualification	*n* (%)
Elementary	11 (3.6)
High school	23 (7.5)
Higher secondary	52 (16.9)
Graduate	222 (72.1)
Total	308 (100)

The response to questions 3 and 6 showed that there is lack of knowledge towards the usage of facemask because nearly half of their study population $n = 158$ (51.3%), remove mask while sneezing and coughing, and $n = 144$ (46.8%) of the population share reusable mask with their family members.

Regression analysis based on gender, education, and occupation showed that the study population with higher education levels had significantly higher knowledge on COVID-19 preventive measures.

Figure 1 shows the way of wearing mask by the public. Around $n = 265$ (86%) of the study population wear their mask in a correct way by fully covering their nose and mouth.

Figure 2 depicts the practice of disposing of the mask by the general public. In that majority of population $n = 206$ (66.2%) dispose their mask in the wrong way by throwing it in open space and in public bins.

Figure 3 depicts that majority of the population $n = 266$ (86%) use the hand wash/sanitizer before and after removing their mask in their daily practice.

Figure 4 shows the response of daily use of hand sanitizer/wash while traveling in public places.Majority of population $n = 287$ (93.2%) were using hand sanitizer/wash while traveling and they were aware of getting infected from the public environment if they did not follow it.

Figure 5 shows the response of the public toward disinfecting their gadgets and food products before use it. Most of the population $n = 293$ (95.1%) are aware of getting infected from contaminated things and they disinfect it before use.

Figure 6 depicts the attitude toward social distance maintaining. Around $n = 299$ (97.1%) people agree that they encourage social distancing, but among 299 only $n = 223$ (72.4%) practice social distancing in day-to-day life.

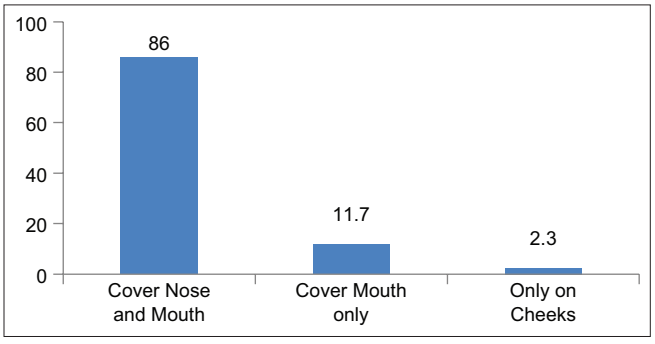

Figure 1: Way of wearing mask by the public

Table 2: The response of the general population about the knowledge and awareness toward existence and preventive measures of coronavirus disease-19

Question number	Questions	Response	
		Yes, *n* (%)	No, *n* (%)
1	Are you aware of COVID-19	299 (97.1)	9 (2.9)
2	Do you feel wearing mask will protect you from COVID-19	274 (89)	34 (11)
3	Do you remove your mask while sneezing and coughing	158 (51.3)	150 (48.7)
4	Why do you wear mask	275 (89.3)	33 (10.7)
5	Do you advice others to wear mask while speaking to you	294 (95.5)	14 (4.5)
6	Do you share your reusable mask with your family members	144 (46.8)	164 (53.2)
7	Do you touch the front side of mask while wearing or removing	162 (52.6)	146 (47.4)
8	Do you believe that preventive measures at personal level will reduce the spread	186 (60.4)	122 (39.6)

COVID-19: Coronavirus disease-19

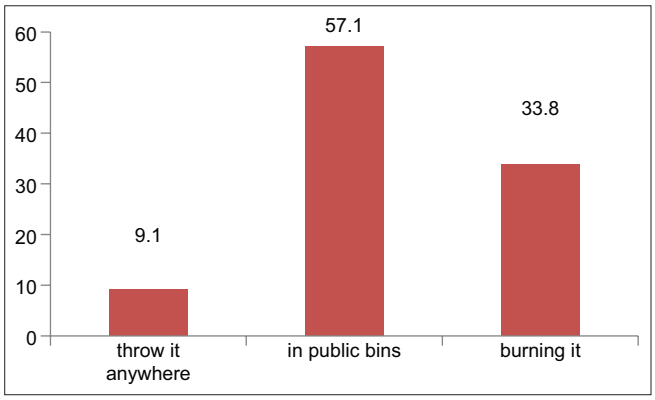

Figure 2: Practice of disposing the mask by the general public

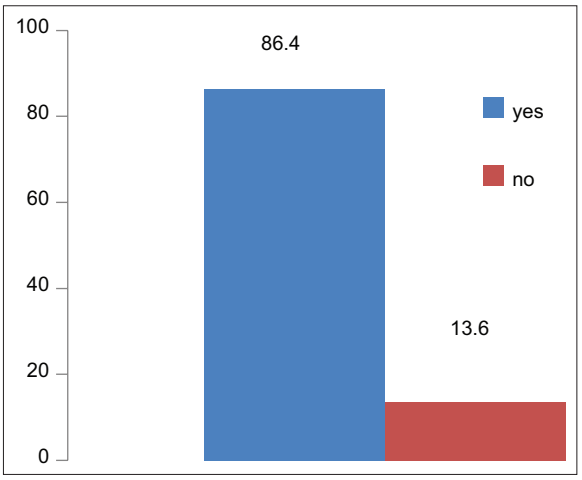

Figure 3: Use of hand wash/sanitizer before and after removing the mask by the general population

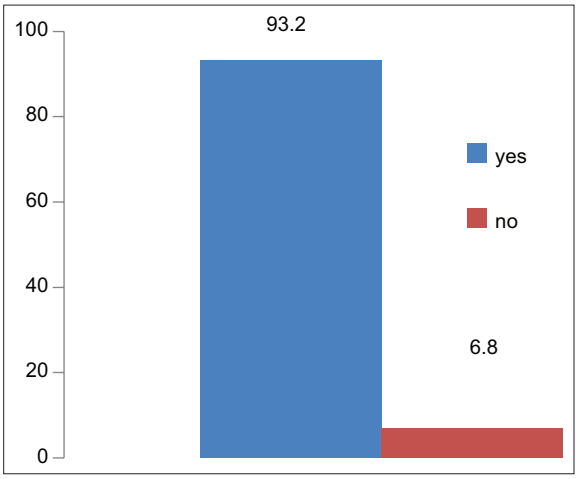

Figure 4: Use of hand sanitizer/wash while travelling in public places

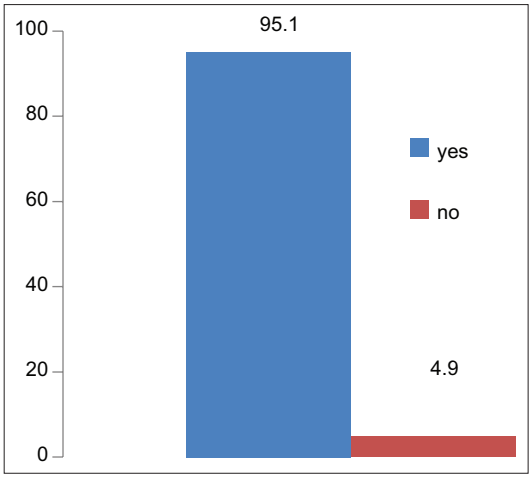

Figure 5: Disinfecting their gadgets and food products

Discussion

COVID-19 pandemic is a major public health emergency. Lack of effective drug treatment and preventive vaccines has required the adoption of different nonpharmacological measures to mitigate the problem to the maximum possible extent. Various strategies such as social distancing, lockdowns, use of facemask, and hand sanitizing are considered effective interventions by many health experts and policymakers.[1] Coronavirus was spreading human-to-human to transmission by close contact via airborne droplets generating by coughing, sneezing.[6] The SARS-CoV-2 is a large sized virus (approximately 120 nm in diameter) and can be filtered by face masks.[1]

The current study focuses on awareness and knowledge about COVID-19 and its preventive measures among the general

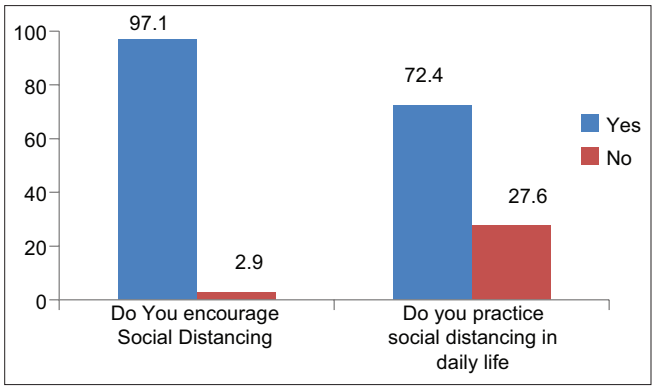

Figure 6: Attitude towards social distancing

public. About 89% of the study population feels wearing mask will protect us from COVID-19, but the way of wearing mask and its actual uses are unknown. In the present research, the respondents' knowledge scores were significantly lower among the population with lower literacy levels compared to those who had completed secondary school and those with professional education. This is correlate with the study result of Kaushik M *et al*.[4]

About half of the population (51.9%) remove their mask while sneezing and coughing. Wearing mask is necessary while sneezing and coughing, that will protect others from us if we are already infected and also protects ourselves by preventing frequent contact of infected hand to the nose and the mouth. Swarna Priya *et al*. State that, In a situation where biomedical waste disposal can pose serious risk to humans, this inappropriate disposal of the mask by the general public can cause harm and can increase the risk of community spread as it handled by sanitation workers without proper protective aids.[5] In the present study, based on the statistical analysis, 62.2% of the population are unaware about the disposal of the mask. If once take off a mask, it should be stored it in a clean plastic bag, or dispose of a medical mask in a trash bin.[7]

Anyone who comes in close contact with someone infected from COVID-19 has increased risk of infecting themselves and also infecting others. Thus, the use of hand sanitizer/ hand wash and maintaining social distancing must practice in day-to-day life to prevent the COVID 19 spread. About 86.7% of the population use hand sanitizer in their day-to-day life. Washing hands frequently with soap and water or with hand sanitizer is required.[8]

Almost (97.1%) population aware of social distancing, but when it comes to practice the response rate decreases to (72.4%), this might be due to the gross population in India, which is practically difficult to imply such social distancing in day-to-day life. Therefore, it is important to explain the population about the circumstances, criteria, and reasons for decisions which will definitely pave the way for healthy discharge.[5]

The present study does not highlight the reason for the discrepancy in the knowledge and practice of COVID-19 preventive measures among the study population; further studies need to investigate the reason for the difference in knowledge and practice of the preventive measures.

Conclusion

The general public in Chengalpattu district, Tamil Nadu, possessed a high knowledge on preventive measures to use during COVID-19. However, practicing preventive measures was low and influenced by education, literacy, and age. With the limited resources available for treatment, the only way is to prevent the spread of COVID-19 is to strictly follow the nonpharmacological preventive measures like wearing the mask, maintaining social distancing, and frequent use of hand sanitizer to prevent COVID-19 at the personal level.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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