



**Original Article**

# **Public's awareness on usage of facemask among general population in Chengalpattu district**

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## **Abstract**

**Introduction:** The coronavirus disease (COVID-19) is the novel disease, causing the on-going pandemic with flu-like symptoms. COVID-19 spreads primarily by contacting the virus either from a COVID-19-infected individual through coughing or sneezing or from COVID-19-contaminated surfaces. Use of face mask is considered as an effective and safe method to control the spread of the disease. **Objectives:** This study is to assess the knowledge, attitude, and practice of usage among general population in Chengalpattu district. **Methodology:** A cross-sectional descriptive study was conducted among the Chengalpattu population to assess the awareness regarding the usage of face mask during the pandemic. A self-administered questionnaire which consists of demographic data, knowledge, attitude, and practice regarding the usage of face mask was prepared and distributed to the general population of Chengalpattu district. **Results:** Majority of population, 261 (96%), knew that wearing face mask prevents COVID-19. Use of reusable, low-cost masks is preferred among the study population. Out of which, 63.6% (99 people) of the population prefer reusable masks over disposable masks (36.4%, 173 people). 78.3% (213 people) of the study population prefer low-cost masks than high-cost masks (21.7%, 59 people). **Conclusion:** The general population of Chengalpattu district have an acceptable knowledge, positive attitude, and required practice to overcome the COVID-19 pandemic. However, it is strongly recommended to create more awareness and health education programs to battle against COVID-19.

**Keywords:** *Corona virus, disease-19, vaccination, facemask, India, Pandemic, public awareness*

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## INTRODUCTION

The coronavirus disease (COVID-19) is the novel disease, causing the on-going pandemic with flu-like symptoms. It is caused by a virus known as severe acute respiratory syndrome coronavirus-2. This disease affected the entire world. On March 12, 2020, the World Health Organization announced COVID-19 as a pandemic.<sup>[1]</sup>

COVID-19 spreads primarily by contacting the virus either from a COVID-19-infected individual through coughing or sneezing or from COVID-19-contaminated surfaces. Measures that prevent and control coronavirus disease include regular hand washing, physical distancing, and covering mouth and nose using a face mask. Use of face mask is considered as an effective and safe method with minimum disruption in day-to-day life.<sup>[2]</sup> This study is to assess the knowledge, attitude, and practice of usage among general population in Chengalpattu district.

## MATERIALS AND METHODS

A cross-sectional descriptive study was conducted among the Chengalpattu population to assess the awareness regarding the usage of face mask during the pandemic. A sample size of  $N = 272$  was calculated based on the study conducted by Azlan *et al.*<sup>[3]</sup> using OpenEpi software.

People who are above the age of 18 years with sound mental health and willing to participate in the study were included. People who are unable to read and understand by themselves, those who are mentally challenged, and those who were hospitalized for COVID infection were excluded. Prior to the start of the study, approval was obtained from the institutional scientific review committee of Asan Memorial Dental College and Hospital.

A self-administered questionnaire which consists of demographic data, knowledge, attitude, and practice regarding the usage of face mask was prepared and distributed to the general population of Chengalpattu district in public places, the questionnaire was developed and validated (English and Tamil Version) in the department of public health dentistry, Asan Memorial Dental College and Hospital, before the field survey with the help of OP patients reporting to the institution.

The statistical analysis was performed using SPSS Version 23, Manufacturer IBM, Chicago, USA. Regression analysis was performed to assess the impact of various factors on knowledge, attitude, and practice toward face mask usage during this pandemic of COVID-19.

## RESULTS

A total of 272 participants took part in this study. Out of them, a total of 151 (55.5%) were male and 121 (45.5%) were female [Table 1]. On the basis of occupation, out of 272, 79 (29%) were self-employed, 107 (39.3%) were salaried, and 86 (31.6%) were unemployed [Table 2]. On the basis of monthly income, 143 (54.4%) earned < Rs. 10,000–20,000 per month and 77 (28.3%) people earned > Rs. 20,000/month [Table 3].

Table 4 depicts the knowledge and attitude toward usage of face mask among the study population; majority of population, 261 (96%), knew that wearing face mask prevents COVID-19. However, 167 (61.4%) people discard their mask with general waste, and linear regression showed that there is no significant difference in knowledge and attitude in usage of face mask among the study population with the independent variables gender, age,

occupation, and income.

Table 5 depicts the face mask handling practices among the study population,  $n = 151$  (55.5%) reported of washing handson handling the mask,  $n = 234$  (86%) reported “No” to removal of mask on speaking whereas  $n = 38$  (14%) reported removal of mask during speech and  $n = 52$  (19.1%) reported “Yes” toward touching the front of the mask, these practices may not servethe purpose of wearing face mask among the study populationand may lead to the spread of infection.

Figure 1 shows that use of reusable, low-cost mask is preferredamong the study population. Out of which, 63.6% (99 people)of the population prefer reusable masks over disposable masks (36.4%, 173 people). 78.3% (213 people) of the studypopulation prefer low-cost masks than high-cost masks (21.7%,59 people).

Figure 2 shows that people wearing mask for <6 h/day (56.7%)spend <Rs. 100/month (41.2%). People wearing mask for 6–10 h/day (36.7%) spend Rs. 100–300/month (48.9%) for mask. People wearing mask for >10 h/day (6.6%) spend more than Rs. 300/month (9.9%). People wearing mask for more than 10 h/day spend more than INR 300/month toward mask.

**Table 1: Distribution of study subjects according to gender**

Gender	N (%)
Male	151 (55.5)
Female	121 (45.5)
Total	272 (100)

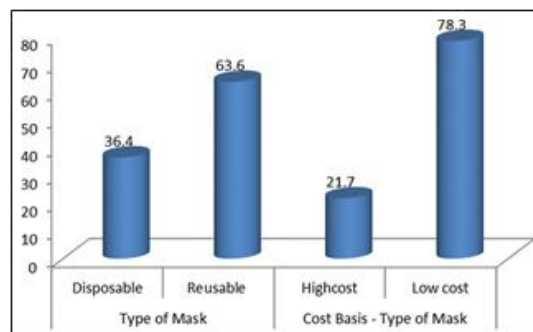
**Table 2: Distribution of study subjects according to occupation**

Employment category	N (%)
Self-employed	79 (29)
Salaried	107 (39.3)
Unemployed	86 (31.6)
Total	272 (100)

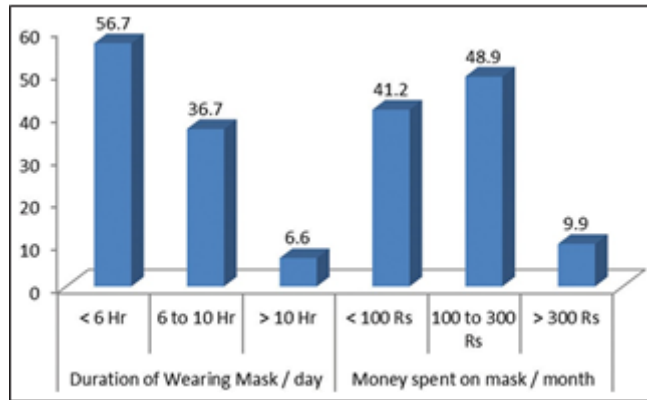
**Table 3: Distribution of study subjects according to income**

Monthly income (INR)	N (%)
<10,000	148 (54.4)
10,000–20,000	47 (17.3)
>20,000	77 (28.3)
Total	272 (100)

<b>Table 4: Knowledge and attitude toward usage of face mask among the study population</b>	<b>Yes [n (%)]</b>		<b>No [n (%)]</b>
Do you know that wearing face mask can prevent COVID-19 infection?	261 (96)		11 (4)
Do you know about the various types of mask available in the market?	235 (86.4)		37 (13.6)
Do you think all the masks are equally effective in preventing the infection?	34 (12.5)		238 (87.5)
Do you know how to discard the mask after usage?	249 (91.5)		23 (8.5)
Do you discard mask with the general waste?	167 (61.4)		105 (38.6)
Do you know that discarding mask with general waste can cause spread of infection?	247 (90.8)		25 (9.2)
Do you cover the mouth and nose fully while wearing the mask?	263 (96.7)		9 (3.3)
Do you share your mask with others?	24 (8.8)		248 (91.2)
COVID-19: Coronavirus disease 2019			
<b>Table 5: Face mask usage practices among the study population</b>			
<b>Question</b>		<b>Response</b>	
	<b>Yes [n (%)]</b>		<b>No [n (%)]</b>
Do you wash your hands every time when you handle your mask?	151 (55.5)		121 (44.5)
Do you remove your mask on speech?	38 (14)		234 (86)
Do you touch the front side of your mask?	52 (19.1)		220 (80.9)
Do you wash your reusable masks separately?	231 (84.9)		41 (15.1)



**Figure 1:** Type of mask preferred by the study population



**Figure 2:** Duration of wearing mask and money spent on mask by the study population

## DISCUSSION

COVID-19 has been the talk of the world, since its discovery in December 2019. Its impact over the economic, political, and social life of the people all over the world cannot be described, leaving a scar in the history of mankind. The novelty of the disease, along with its uncertainty and rapid spread, makes the management and control of this disease an almost impossible task. Thereby, the knowledge, attitude, and practice of the population toward the COVID-19 is of greater value, in order for the government and health authorities to take appropriate measures.

The result of the study obtained from the study population shows that there is no significant difference observed among different age groups of the population in Chengalpattu district. This result contradicts with the study conducted by Azlan *et al.*,<sup>[3]</sup> which states that people above the age of 50 years had more knowledge possibly due to its higher rate of spread and complication among elderly Malaysian population. The study conducted by Azlan *et al.* also revealed that those with lower monthly income had the least knowledge regarding handling and usage of mask, which was not the result observed in our study.

Although there has been a lot of false and inaccurate information spreading since the disease was first detected, the majority of population (96%) knew that wearing face mask prevents COVID-19. Thus, from the results we have obtained, we can conclude that the general population has a higher level of knowledge with a higher confidence level and positive attitude during this health crisis. This attitude of the study population was developed mainly by combined efforts of several government and private authorities.

Our study results show that there is no significant relationship among the people with varied income range and their attitude toward the usage of face masks. This result contradicts with that of the result obtained by Wong *et al.*,<sup>[4]</sup> which states that people with higher income were less willing to comply with health recommendations and perceived less fear as stated in the results obtained by Raude and Setbon.<sup>[5]</sup>

Majority of the study population (96%) actually wear face mask when they venture into public spaces. This result is also contradicted by that of the result obtained by Azlan *et al.*,<sup>[3]</sup> which states that only 50% of Malaysian population wears face mask when leaving their house.

Although it is unpopular for the Indian population to wear face mask when they are ill, still the majority of population (96%) were willing to wear face mask during COVID-19 pandemic, which was not the case observed with the Malaysian population as stated in the results provided by Azlan *et al.*<sup>[3]</sup>

The result of this study states that there is no significant relationship between both the genders regarding face mask usage. This result coincides with that of the result obtained by Howard *et al.*<sup>[6]</sup> However, their perception toward face mask varies.

From the results of this study, we can conclude that 53.7% of population in Chengalpattu district prefer N95 mask, whereas only 13.3% of the population in Poland prefer N95 mask, as stated in the survey results of Poland Matusiak *et al.*<sup>[7]</sup>

In this study population, 55.5% of people wash their hands every time they handle their mask. This result coincides with that of the results obtained by Tan *et al.*,<sup>[8]</sup> which shows that 44.7% of the population seldom clean their mask. In our study population, only 36.4% preferred disposable over reusable masks, whereas the majority of Chinese population (93.8%) prefer disposable medical masks over reusable masks.

## CONCLUSION

We can conclude the survey by stating that the general population of Chengalpattu district have an acceptable knowledge, positive attitude, and required practice to overcome the COVID-19 pandemic. However, certain proportion of the population discard their face mask with general waste despite knowing that it enhances the spread and removes their mask when speaking. Thus, it is strongly recommended that much more awareness and health education programs have to be provided to the population by the government and/or health authorities to battle against COVID-19.

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Nil.

## CONFLICT OF INTEREST

There are no conflicts of interest.

## REFERENCES

1. Alahdal H, Basingab F, Alotaibi R. An analytical study on the awareness, attitude and practice during the COVID-19 pandemic in Riyadh, Saudi Arabia. *J Infect Public Health* 2020;13:1446-52.
2. Alam K, Palaian S, Shankar PR, Jha N. General public's knowledge and practices on face mask use during the COVID-19 pandemic: a cross-sectional exploratory survey from Dharan, Nepal [version 1; peer review: awaiting peer review]. *F1000Research* 2021;10:376. Available from: <https://doi.org/10.12688/f1000research.52661.1>.
3. Azlan AA, Hamzah MR, Sern TJ, Ayub SH, Mohamad E. Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. *PLoS One* 2020;15:e0233668.

4. Wong KK, Cohen AL, Norris SA, Martinson NA, von Mollendorf C, Tempia S, *et al.* Knowledge, attitudes, and practices about influenza illness and vaccination: A cross-sectional survey in two South African communities. *Influenza Other Respir Viruses* 2016;10:421-8.
5. Raude J, Setbon M. Lay perceptions of the pandemic influenza threat. *Eur J Epidemiol* 2009;24:339-42.
6. Howard MC. Gender, face mask perceptions, and face mask wearing: Are men being dangerous during the COVID-19 pandemic? *Pers Individ Dif* 2021;170:110417.
7. Matusiak Ł, Szepietowska M, Krajewski PK, Białynicki-Birula R, Szepietowski JC. The use of face masks during the COVID-19 pandemic in Poland: A survey study of 2315 young adults. *Dermatol Ther* 2020;33:e13909.
8. Tan M, Wang Y, Luo L, Hu J. How the public used face masks in China during the coronavirus disease pandemic: A survey study. *Int J Nurs Stud* 2021;115:103853.



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