

Knowledge and Self-Reported Practice of Face Masks Among College Students to Prevent COVID -19

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Abstract

Introduction: One of the crucial non-pharmacological interventions to control the spread of COVID-19 is mask usage. Younger adults were found to be the slowest to embrace the use of facemask in the prevention of COVID-19 than older people (CDC 2020). Young people's decisions to forego social health measures, affect not only just their peers but also the older ones in their family and community Hence, the present study was aimed to assess the knowledge and self-reported practice of using face masks among college students to prevent COVID-19.

Methodology: A descriptive study using snowball sampling technique on 1000 college students of Kerala through online platform. A self-developed questionnaire with 20 questions to assess the knowledge on COVID- 19 and usage of masks and a Likert scale with 36 questions with a maximum score of 180 to assess the practice were used.

Results: Most of the subjects (80%) were between 18 to 21 years and were females (77.1%). The subjects were mostly professional students (77.4%) belonging to rural area (71.4%). The knowledge level on COVID 19 and usage of face masks was found to be mostly good to very good {Good in 65% (650), Very Good in 18.2% (182)}. The reported practice ranged from very good 52.5 % (525) to good 47.5%(475)in most of the sample. A statistically significant association was found between the knowledge and practice with the selected socio-demographic variables.

Conclusion: The good knowledge and practice on use of the face masks to prevent COVID 19 may be because most of the subjects were professional students although the questionnaire was open to all. It may also indicate that young people also are committed to protect their family and society through their public health behaviour.

Keywords: Knowledge, self-reported practice, face masks, COVID-19

Introduction

The COVID-19 pandemic started in Wuhan, China in December 2019, involved almost every country in the world causing mostly mild upper respiratory tract symptoms and in a minority of cases lower respiratory tract infections. The World Health Organization (WHO) declared COVID as a public health emergency of international concern on January 30, 2020 and called for collaborative efforts of all countries to prevent the rapid spread of COVID-19[1]. Primary preventive measures included regular hand washing, social distancing, respiratory hygiene and face mask. Various mitigation measures have been implemented by the CDC to fight the COVID-19 pandemic, including social distancing, quarantine, isolation, stay-at-home orders, and face covering in public. Perhaps one of the most striking lifestyle changes resulting from the COVID-19 pandemic was the mandatory use of face masks in public places. Wearing a mask, especially when in close proximity to others, is imperative to slowing the spread of COVID-19.

Many people who had COVID-19 did not show symptoms but could still spread the virus through droplets when speaking, sneezing and coughing. The WHO and the U.S. Centres for Disease Control and Prevention (CDC) included face masks in their recommendations for slowing the spread of the virus. It included surgical masks, cloth face masks and N95 masks. Initially, there was a lot of confusion among the people especially among the healthy adolescents and adults on the type of mask they need to wear and whether it was needed for them.

Surgical mask also called a medical mask, is a loose-fitting disposable mask that protects the wearers nose and mouth from contact with droplets, splashes and sprays that may contain germs. A surgical mask also filters out large particles in the air. Surgical masks may protect others by reducing exposure to the saliva and respiratory secretions of the mask wearer. N95 masks offer more protection than a surgical mask does because it can filter out both large and small particles when the wearer inhales as the name indicates, the mask is designed to block 95% of very small particles. A cloth mask is intended to trap droplets that are released when the wearer talks, coughs or sneezes. Asking everyone to wear cloth mask could help reduce the spread of the virus by people who had COVID 19. Within wider environment where the virus is spreading, masks should be worn by the general public in settings where it is not possible to maintain at least one meter from others.

In India, the first case of COVID-19 appeared at Kerala's Thrissur district on 30th January 2020[2]. There was a rise in the anxiety and panic attack among the common people with increase in cases. Early measures were taken by the Government of Kerala like social distancing, wearing face mask and enhancement of awareness among the public.

Mask usage is considered one of the vital non-pharmacological interventions to control the spread of COVID-19[3]. Wearing a mask is not a restriction of our freedom. Rather, it helps us to regain freedom by reducing virus transmission in a community and making every interaction safer. Freedom for people to go to work, attend school, interact with others, and most importantly freedom from illness and fear.

A cross-sectional study conducted by T. Tadasse et al to determine the health worker's knowledge, attitude, and practice of proper face mask utilization and associated factors at police health faculties in Ethiopia from June to July 2020 suggested that the level of knowledge and attitude towards face mask

utilization was relatively low, and the face mask utilization itself was quite low in comparison with some studies[4].

In a knowledge, attitude and practice (KAP) study conducted towards face mask use among residents of Greater Chennai Corporation, India among 430 subjects 86.7% felt that wearing a mask helped in reducing the spread of coronavirus and the knowledge differed (p -value < 0.05) between the slum (81.4%) and non-slum (92.3%). Nearly half (46.5%) of the participants did not like being forced to wear the mask[5].

Survey data released from the Centers for Disease Control and Prevention (CDC, 2020) showed that older adults are more likely to take multiple prevention methods because “they might be more concerned about COVID-19, based on their higher risk for severe illness compared with that of younger adults.” Younger adults, on the other hand, were the slowest to embrace the behaviours. Young people’s risk tolerance for COVID-19, and their decisions to forego social health measures, affect not just their peers but also their older and more vulnerable neighbours. The CDC concludes that if younger groups implement public health behaviours more widely, they could “protect persons of all ages by preventing the spread of SARS-CoV-2”[6]. Hence the investigators felt the need to assess the knowledge and self-reported practice of using face masks among college students to prevent COVID-19.

Methodology

A quantitative, non-experimental, descriptive survey via online platform (Google forms) was conducted using snowball sampling technique. The sample size was calculated as 1000.

Data collection Instruments

Tool 1: Self-developed questionnaire on socio demographic data. It included seven items as age, gender, course of study, district, email id, residential area, living with family income, source of previous knowledge regarding face mask.

Tool 2: Self-developed questionnaire to assess the knowledge of college students on face masks. The knowledge questionnaire consisted a total of 20 questions including knowledge about COVID- 19, purpose of face masks, types and materials of face masks, limitations and side effects of face masks and disposal of face masks. The maximum score for the knowledge questionnaire was 20, with each correct answer carrying one mark. The scores for the level of knowledge were categorised as; Poor: 0-5; Average: 6-10; Good: 11-15; Very good: 16- 20.

Tool 3: A five-point Likert scale to identify the self-reported practice of college students on usage of masks. It had 36 questions categorized under six headings as general practices, activities on using face mask, technique of using face mask, misconceptions on using face mask, disposal of the face mask, barriers on using face mask were used. The maximum score for the practice scale was 180.

Procedure for data collection

The data collection was done through online platform via Google form using Snow ball sampling technique. The sample was limited to the age group of 18 to 25 years. Both professional and non-professional college students in Kerala were included. Although the data collection was started in January

2022 using the Google form only 625 subjects responded. Thereafter, the responses were very low. It took seven more months to get the data from 1000 subjects.

Ethical consideration

Ethical approval from the Research committee of Amrita College of Nursing ,Institutional Review Board and informed consent was obtained from the subjects before commencement of the study.

Results

Table1: Sample Characteristics

n=1000		
Demographic Variable	Frequency	Percentage
Age		
• 18-19	343	34.3
• 20-21	457	45.7
• 22-23	157	15.7
• 24-25	43	4.3
Gender		
• Male	228	22.8
• Female	771	77.1
• Unspecified	1	0.1
Course of study		
• Professional course	774	77.4
• Art and Science	8	0.8
• Technical courses	146	14.6
• Others	72	7.2
Residential area		
• Rural	715	71.5
• Urban	285	28.5
Lives with		
• Elderly above 60 years	320	32
• Children under 5 years	20	2
• Both	132	13.2
• None	528	52.8
Family income per month		
• < 10,000	162	16.2
• 10,001 – 25,000	344	34.4
• 25,001 – 40,000	222	22.2
• > 40,000	272	27.2
Previous knowledge		
• Yes	903	90.3
• No	97	9.7

Source of previous knowledge		
• Mass Media	646	64.6
• Health care professionals	250	25
• Others	104	10.4

Table 1 illustrates that most of the subjects 800(80%) were between 18 to 21 years and were females 771 (77.1%). Majority were professional students 774 (77.4%) belonging to rural area 714 (71.4%). For majority. 646 (64.6%), mass media was the source of information about COVID -19.

Figure 1: Distribution of the sample based on their knowledge on the usage of face masks

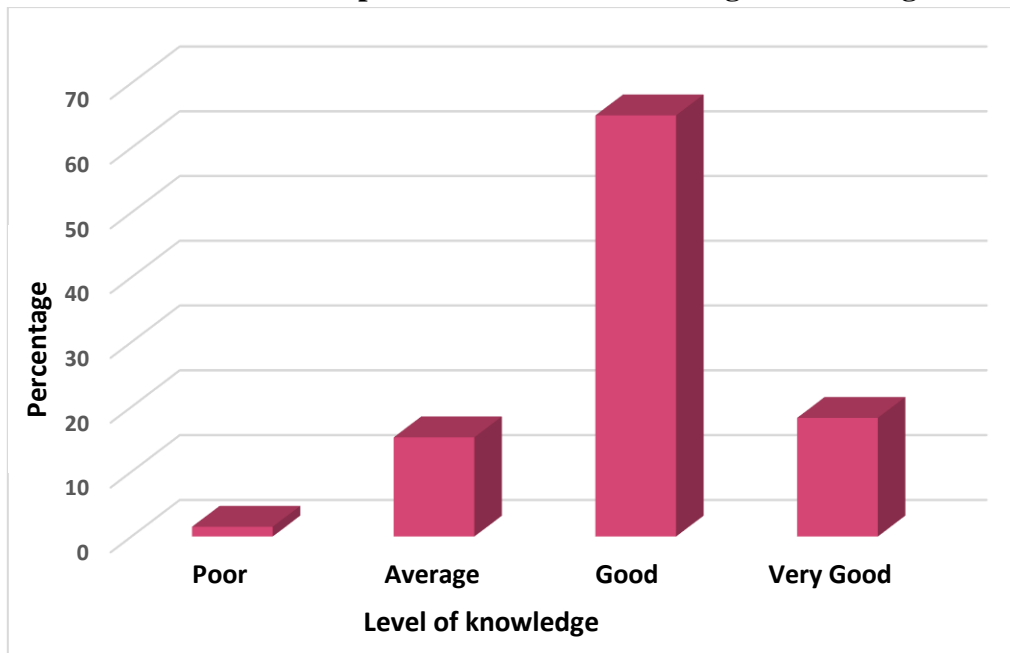
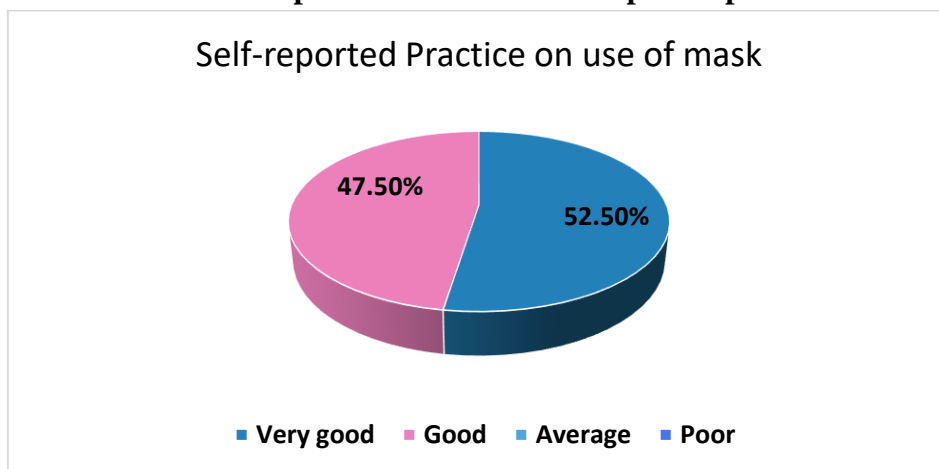


Figure 2: Distribution of the sample based on their self reported practice on using face masks



All the subjects studied had good to very good practice on using face masks during COVID -19

Discussion

The present study was conducted on college students in Kerala. Most of the subjects (80%) were between 18 to 21 years and were females (77.1%). The subjects were mostly professional students (77.4%) belonging to rural area (71.4%). The main source of information on face masks for the subjects was mass media, i.e. 646 (64.6%). Most of the sample 832 (83.2%) was found to have knowledge ranging from *good to very good* on the usage of face masks. Similar good knowledge was observed in a study conducted by Hasan Hayder et al in UAE (2020) among 1,012 university students in which the overall knowledge score on use of face mask was 72.4%. The finding that social media was the main source of information (85.2%) for the UAE students also sounds similar. This similarity may be due to the fact that social media was the main communication platform for people irrespective of the place during the pandemic [7]. The findings of the present study that all the subjects (100%) had *good to very good* practice on using face masks are comparable to the observations in a cross-sectional study conducted in Vietnam by Cong Doung Minh et al., among 1025 university students on face mask during the COVID-19 pandemic. Most of the Vietnamese students (94.93%) had good practice scores along with good knowledge scores (75.61%) and a very high attitude score (98.24%) [8]. In contrast, a study conducted in Chennai among community showed irrespective of the good knowledge of the subjects on the benefits of masks, the attitudes and practice were not satisfactory [9]. Yet another KAP study of face mask utilization and associated factors in the COVID-19 pandemic among Wachemo University Students, Southern Ethiopia by Yilma Markos Larebo (2021) showed that the overall knowledge of the students was low (29.2%), but the attitudes and practices were high (88.1% and 89.5%), respectively [10]. The present study revealed that all the demographic variables of the subjects, such as age, gender, course of study, and source of previous knowledge, had statistically significant associations with their knowledge of using face masks, with the exception of residential areas. (p-value 0.001). However, only gender (p < 0.05) had a significant association with the reported practice of using face masks (p-value 0.05) while in contrast, a study in the United States by Haischer MH et al. revealed that gender, age, and location significantly impacted the odds of an individual being observed to wear a mask (p < 0.001) [11].

Recommendations

1. A comparative study may be conducted on KAP regarding and use of masks in preventing COVID - 19 between college students of Arts and Science college and professional college.
2. A comparative study may be conducted on KAP regarding and use of masks in preventing COVID -19 between young adults and adults in a community.

Limitations

Most of the subjects were professional students although the questionnaire was open to all college students.

Conclusion

The good knowledge and practice on use of the face masks to prevent COVID 19 may indicate that young people also are committed to protect their family and society through their public health behaviour.

Conflict of Interest

The authors do not have any conflict of interest.

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