(International Print/Online Journal)

SJIF IMPACT FACTOR: 5.565
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 4, Issue 6, Page No: 221-228
November-December2021

IJMSCR

Knowledge, Awareness& Perception Of People Using Facemask In The Community For Preventing The Spread Of COVID -19 In Maharashtra, State Of India: A Cross-Sectional Study

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Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract

Background:

The world is battling with the unprecedented pandemic crisis since the end of 2019. This outbreak has led all the countries to come up with universal healthcare guidelines under the strategy of World Health Organization (WHO). The guideline includes social distancing, use of face mask to stop the spread of COVID-19 virus, and frequent use of sanitizers. The purpose of this study was to evaluate the knowledge, awareness, attitudes and perception of using facemask in Indian population living in State of Maharashtra.

Methods:

A cross-sectional online survey using a 16-item questionnaire was structured by the authors to conduct this study. The survey was conducted in the age group of 18 and above by an online Google platform. We received 782 responses from all over the state. Within 3 months Results: Most of the respondents were from urban areas. The significant results of our study was that 92.8% of respondents wear mask regularly while going out, 28.6% of respondents experienced some kind of difficulty while wearing mask, and 60.1% of respondents believed that wearing masks shall prevent the spread of COVID-19 in the community.

Conclusions:

The current study revealed that the common public has adequate knowledge and perception about the use of face mask to prevent the spread of COVID-19. Despite of adequate knowledge and perception, there is lack of proper awareness about appropriate use and disposal of face masks among the respondents.

Keywords: COVID-19, pandemic protocols, face mask, awareness, disposal

Introduction

Corona virus Disease 2019 (COVID-19) is a caused by the SARS-CoV-2virus affecting the respiratory system and on March 11, 2020, the World Health Organization (WHO) declared COVID-19. A global pandemic Warning signals were sent across the globe as public-health emergency of international concern to combat and contain the spread the COVID-19[1].According to the WHO, as of 5th March 2021, a

total of 116,614,624 cases ofCOVID-19 had been confirmed worldwide (3,971,496 confirmed in Africa). The state of Maharashtra is worst affected by COVID-19 pandemic with highest number of infection rate and mortality rate. The scientific studies suggest that, COVID-19 transmits in the community via two main routes – respiratory droplets and direct contact[2]. The novel Corona virus has incubation period of 2 to 14 days during which all infected persons irrespective of symptoms whether symptomatic or asymptomatic, transmit the disease to a non-infected person[1]. This poses a great challenge and this leads to community transmission at very faster pace[3]. In order to prevent the transmission of COVID-19, many countries enforced stringent measures in the community like complete lockdown and issuing guidelines. The Government of India issued COVID Appropriate Behavior (CAB) guidelines to all its states and union territories. The CAB includes strict enforcement of wearing face mask, hand hygiene by use of alcohol-based hand sanitizers or hand washing with soap and social[4],[5]. The COVID-19 being a life-threatening disease in the community, the common public is expected to follow infection control practices and CAB according to their country guidelines[6]. In this on-going COVID-19 pandemic with different strains, guidelines, recommendations and practices regarding the face mask used by common public have varied greatly according to their convenience[7],[8]. The main advantage of wearing face-mask is to reduce the amount of Corona virus being released into the environmental surroundings through droplets from coughing or sneezing[6]. Also, the face mask works by providing a physical barrier between the mouth and nose of the wearer and potential contaminants in the surrounding environment[9]. There are different types of face masks used by common public which include disposable surgical masks, cloth masks, N95, N100, and N99[10]. The appropriate use of these face-masks is particularly important especially during this pandemic time, when its use is becoming highly prevalent among the common public. A recent study conducted in US provides strong evidence that states which mandated face masks saw a decline in COVID-19 infection rate when compared to other states[7]. The WHO has clearly mentioned that incorrect use and inappropriate disposal of used face-masks can increase the rate of COVID-19 transmission. Many recent studies on using face mask in this COVID-19 pandemic reported nonlinear relationships between the knowledge and practice of using face masks to prevent the spread of COVID-19 among different categories of participants[8],[10].

The union government of India and State government of Maharashtra have led down strict CAB policies and protocols like No Mask, No Entry to be observed by the public to contain the spread of COVID-19 in the communities. Though the use of face mask is one of the public-health measures to prevent the pandemic spread, there are no published studies to evaluate the knowledge, attitude, and awareness about the use of face mask in the Indian state of Maharashtra with highest number of COVID-19 positivity rates. Therefore, the aim of the study was to evaluate the knowledge, attitudes, and practices on proper use of face masks to limit the spread of COVID-19 in Indian state of Maharashtra.

METHODOLOGY

This cross-sectional, non-interventional, observational self-administrative Questionnaire based study was conducted from March 2021 to May 2021. via an online platform across different Regions in India. Survey was administered on the overall population employing a validated questionnaire to assess the knowledge, attitudes, and practices on proper use of face masks to limit the spread of COVID-19 in state of Maharashtra. This study was approved by the Institutional Ethical Committee; Data was collected through a Google Form and telephonic interviews. Participants were informed regarding the study objectives, duration of participation, declaration of confidentiality and voluntary participation before the administration of questionnaire. This web link was sent by investigators to their personal and social contacts via email or what's App messenger. In cases where participants had limited technical knowledge and/or limited literacy level, investigators conducted the telephonic interview and filled the Google form on their behalf.

Participants representing different socio-demographic variables such as age, gender, socio-economic status and locality were recruited. The investigators used personal and social contacts for recruitment of the participants from the above-mentioned state via purposive sampling techniques. 792 responses

Volume 4, Issue 6; November-December 2021; Page No 221-228

completed the desired questionnaire in an appropriate manner. However, certain responses were excluded due to invalid entries and duplication of data. The final data comprised of 780 participants across Maharashtra state.

A 16-item self-administrative questionnaire developed in this study was used to obtain data. The information related to Socio-demographic profile such as age, gender, locality and socioeconomic status was obtained. The study participants were offered the questionnaire in two languages: English and Hindi. The Questionnaire comprises items assessing knowledge, attitudes, and practices on proper use of face masks to limit the spread of COVID-19. Questions were based on proper use of mask, methods how to dispose mask, wearing of mask, reuse of mask or any other complication faced while wearing mask. The responses were marked on 2- point, 3-point and 5-point Liker Scales. Data collected was analyzed using the Statistical Package for Social Sciences (SPSS) (version 22). The data was summarized using mean, frequency and percentages. The results were presented in tables and pie charts.

RESULT:

A total of 780 participants were participated in the study. Distribution of basic character were show in below table:

VARIABLES	N (%)
Age in years	
18-40	561 (71%)
30-60	219 (28%)
Gender	
Male	281 (36%)
Female	499 (63%)
Occupations	
Students	662 (84%)
Housewife	15 (1%)
Employee	124 (15%)
Locality	
Urban	660 (84%)
Semi-urban	145 (18%)
Rural	119 (15%)

Volume 4, Issue 6; November-December 2021; Page No 221-228

According to our study about regular use of face mask, 77.28% population preferred to use face mask regularly while going out, 15.40% population had used mask sometime while going out & 7.32% of population did not prefer to use mask while receding in community. (Figure 2).

We observed that amongst all who participated in this study, 77.28% people prefer to use "Re-usable" face mask and 22.72% people were using disposable face masks (figure 3). When asked about the type of Re-usable mask 43.92% population reported about N-95 mask, about 48.14% people were in favor of Cotton mask, 2.44% were using scarf and rest 5.41% populations said about other type of masks. (Figure 6).

About the disposal & washing of masks, we observed that 58.02% people disposed their mask on same day but 41.98% people were re-using the disposable mask for 2-3 days (figure 4).

About 74.97% people were disposing the mask in dustbin, 8.09% people were burning it with garbage and 14.38% were using other method of disposal but almost about 2.57% people were throwing away the mask in the environment (figure 5).

Those who were using re-usable masks, 53.40% people were used to wash it every day, 27.23% were washing it once in every 2 days, 12.55% people were washing it once in 4 days. & 7.32% population used to wash the mask once in a week (figure 7).

About cleaning of mask 48.91% people used to wash it with the use of disinfectant like Dettol /savlon, 25.29%were washing with the detergent, 13.48% people used to wash it with the use of soap, 8.22% people were cleaning it with sanitizer and rest 4.11% people were washing it with plain water (figure 10).

Of working population, 72.66% population answered that their work place was insisting them to keep wearing the face mask at work places & 13.61% population said that their work places sometimes insisted them to wear the face mask. But 5.78% people said that they had no compulsion of using face mask at their work (figure 16).

About the duration of use of face mask, 51.86% population were using face mask for 4-8 hrs. 22.46% people were using it for more than 8 hours; rest 25.67% population was using it for less than 4 hours (figure 8).

We also observed that, 28.63% people had always faced difficulties during face mask use & 36.59% people sometimes felt difficulty using facemask, while 34.79% had no difficulty (figure 11).

When we noted the difficulties faced by people, 18.74% population had suffocation, 12.45% people got ear pain, 10.40% people suffered from fogging of glass, 3.34% got headache, 2.31% had allergic nose & 16.05% had to face all the above mention difficulties where as 27.73% people had no such difficulties (figure 12).

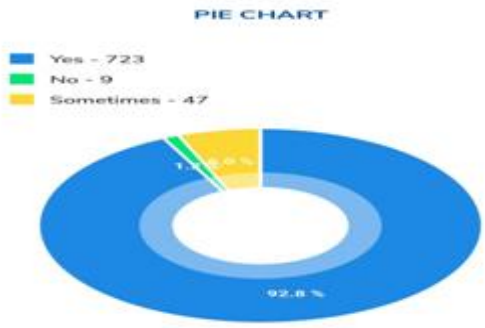
About 12.84% people were having pre-allergic conditions prior to the COVID-19 Pandemic, among which 10.40% people said their allergic conditions subsided or reduced after use of face mask while 20.41% people sometimes felt reduction in allergic conditions (figure 15).

From all the survey 60.08% population believed that using face mask will definitely prevent the spread of COVID-19 & 9.37 % population did not agree with this whereas 30.55% people said it may prevent but they were not so sure about that (figure 13).

Volume 4, Issue 6; November-December 2021; Page No 221-228

6. Did you test positive for COVID-19 in past?

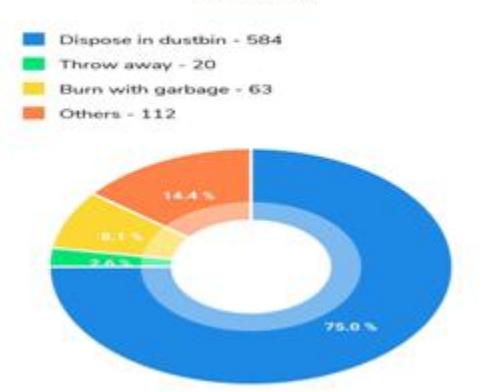
7. Do you wear face mask regularly while going outside the house?



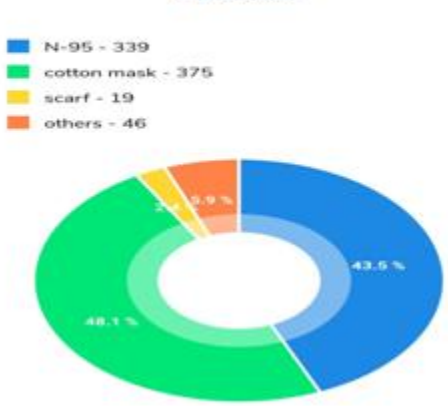
8. If yes, what type of mask do you wear?

9. If you are using disposable face mask, do you dispose it on the same day (or) use it for 2-3 days?

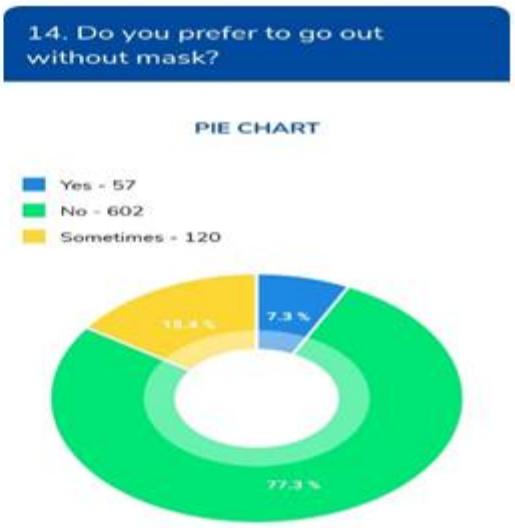
10. How do you dispose your used mask?

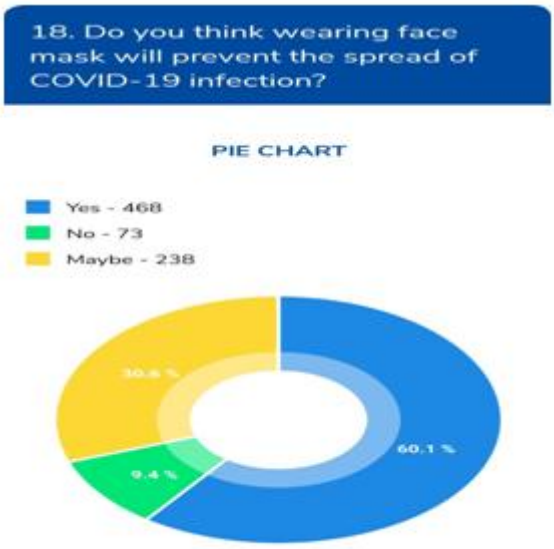


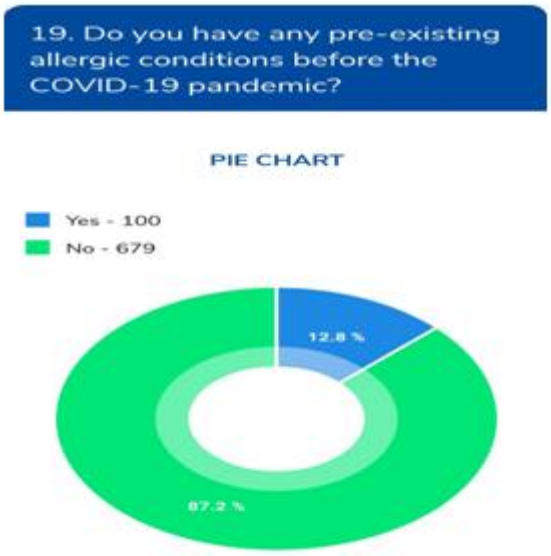
11. What type of re-usable mask do you use?



Volume 4, Issue 6; November-December 2021; Page No 221-228







DISCUSSION

COVID-19 is a relatively new virus that has devastating effects within the short time since it was first detected in December 2019. To date, there has been limited published data on population knowledge, attitudes and of facemask toward COVID-19, specifically in Maharashtra. The Novelty of this disease, along with its uncertainties, makes it critical for health authorities to plan appropriate strategies to prepare and manage the public. It is therefore of utmost importance that the knowledge, attitudes, practices and perception of using facemask in people living in Maharashtra state to control the spread of COVID-19.

Face mask reduces the spread of infection through nasal and oral routes and controls the spread of COVID-19 by reducing the number of infected saliva and respiratory droplets free into the air from people with subclinical or gentle COVID-19 symptoms[11,12].

Masks are an effective barrier to microorganisms and thus can limit the spread of COVID-19. However, effectiveness can be limited if there is lack of knowledge and practices. There has been some inconsistency in providing information on masks. The inconsistency stems from a lack of consensus on

Volume 4, Issue 6; November-December 2021; Page No 221-228

whether wearing face mask is an effective physical intervention against disease transmission. In these times misconceptions need to be dispelled[13],[14].

In this study, we found about 77.28% of the population prefer the use of face mask while going out, 7.32% people prefer to go out without mask and about 15.40% of the population use mask sometimes while going out. This indicates that majority of the population is having positive attitude towards using face mask. Despite this, we also felt the need to find out about the proper disposal of the masks as mentioned in the result above.

In a previous study by Cheng et.al; to determine the role of community-wide wearing of face mask for control of corona virus disease 2019(COVID-19) epidemic due to SARS-CO-V-2, concluded that community-wide mask wearing may contribute to the control of COVID-19 by reducing the amount of emission of saliva and respiratory droplets from individuals with subclinical or mild COVID-19.

About 77.3% of the population use reusable mask whereas 22.7% of the population use disposable mask. As mentioned in the result above, we have included various other segments in our study such as type of mask used, disposal of mask, difficulties while wearing mask, washing of mask and preference of using mask. Besides the positive effects of use of face mask i.e., to lower the transmission of infection, we also found some adverse effects which people (about 28.6% of population) experienced while prolonged use of the face mask such as breathlessness (5%), headache (8.3%), suffocation (18.7%), allergic nose (2.3%), ear pain (12.5%) and fogging of glass (10.4%).

Through this survey, we found that applicable use and disposal of mask is important to make sure effectiveness and so as to avoid increase in transmission of the corona virus. Spread of applicable information regarding use and disposal of facial mask among the community is important throughout this critical state of affairs of COVID-19 pandemic.

We conjointly found that poor apply of mask use was considerably related to male gender and living in rural area in our study participants. Our results are in accordance with the findings of a study conducted in alternative countries such as China, Asian countries, and Bangladesh[15],[16],[17].

It is documented that a well-washed cloth mask will be as safe as a medical mask[18],[19]. A previous review published in literature, included 67 randomized controlled trials and Observational studies, indicated that surgical masks and N95 respirators were supportive measures offering the most consistent protection[20].

Srikakulam F H et.al; in their previous study named, use of face mask to limit the spread of the COVID-19 among western Ugandans: knowledge, attitude and practices, concluded that despite satisfactory knowledge, good attitude and practices, there is still much more to be done in terms of knowledge, attitude and practices among participants.

Admittedly, COVID-19 has been a teething public health problem around the world. Scientists are working diligently to explore different vaccines and treatment options. Social scientists, especially those in public health and health communication, are working to identify the levels of knowledge, attitudes and practices on COVID-19 among the public as to design Cost-effective public health campaigns and education programmers. The current survey, in fact, exposes the need for more comprehensive education programmers with focus on consistency of information from the government and related authorities.

LIMITATIONS:

Sampling for the study was conducted via a convenience sample through the networks of the researchers and disseminated through different social media platforms (WhatsApp, Facebook, Twitter etc.). As a result, there is a possibility of bias as underprivileged populations may not have been able to participate in the study. The study was conducted among the people from Maharashtra state only. The people were from a mix of different occupational backgrounds. Also, the sample size of this survey was small when compared to the number of people using the face mask.

CONCLUSION:

Most of the population who participated in this study had satisfactory knowledge, positive attitude & awareness towards use of face mask to limit the spread of COVID – 19 in the community. In this survey study, some amount of people find discomfort of using prolong mask such as breathlessness,

Volume 4, Issue 6; November-December 2021; Page No 221-228

headache, suffocation due to reduced blood O_2 saturation level, ear pain etc. So for any type of mask appropriate use & disposal are essential to ensure that they are effective & to avoid any increase in transmission. Proper disposal of mask can help to prevent the environmental degradation. In preparation for future pandemics, it is imperative to identify solutions to manage these adverse effects.

REFERENCE

1. WHO declares COVID-19 a pandemic. Cucinotta D, Vanelli M. 1, Italy :s.n., 2020, Acta Biomedica, Vol. 91, pp. 157-60.

2. The epidemiology and pathogenesis of coronavirus disease (COVID-19) oubreak .Hussin A. Rothan, Siddappa N. Byrareddy. 109, March 2020, Journal of Auto Immunity, p. 102433.

3. Minimising intra-hospital transmission of COVID-19: the role of social distancing. Wee LE, Conceicao EP, Sim XYJ, Aung MK, Tan KY, Wong HM. 105, 2020, The Journal of Hospital Infection, pp. 113-115.

4. Ministry of Home Affairs, Government of India.Revised Guidelines for effective control of COVID-19. 2021.

5. Organization, World Health.Coronavirus Disease (Covid-19) Outbreak: Rights, Roles and Responsibilities of Health Workers, Including Key Considerations for Occupational Safety. WHO.s.l. : World Health Organization , 2019. pp. 1-3.

6. Covid-19: should the public wear face masks? Javid B, Weekes MP, Matheson NJ. 8242, 2020, The British Medical Journal, Vol. 369.

7. Rational use of face masks in the COVID-19 pandemic. Feng S, Shen C, Xia N, Song W, Fan M, Cowling BJ. 5, 2020, Lancet Respiratory Medicine , Vol. 8, pp. 434-6.

8. Knowledge, Attitude, and Practices of Healthcare Workers Regarding the Use of Face Mask to Limit the Spread of the New Coronavirus Disease (COVID-19). Jagdesh Kumar, Muhammad SoughatKatto, Adeel A. Siddiqui, BadaruddinSahito, Muhammad Jamil, Nusrat Rasheed, Maratib Ali. 4, 2020, Cureus, Vol. 12.

9. Use of face masks in a primary care outpatient setting in Hong Kong: knowledge, attitudes and practices. HSW, Ho. 2012, Public Health, Vol. 126, pp. 1001-1006.

10. Practice and technique of using face mask amongst adults in the community: A cross-sectional descriptive study. Lee LYK, Lam EPW, Chan CK, Chan SY, Chiu MK, Chong WH et.al. 1, 2020, BMC Public Health, Vol. 20, pp. 1-11.

11.Cheng VC, Wong SC, Chuang VW, et al. The role of community-wide wearing of face mask for controlof coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2. J Infect. 2020.doi: 10.1016/j.jinf.2020.04.024.

12.New Coronavirus (SARS-CoV-2) and the Safety Margins of Plasma Protein Therapies. PlasmaProtein Therapeutics Association. (2020). https://www.pptaglobal.org/media-and-information/ppta

13. Laestadius, L, Wang, Y, Ben Taleb, Z, Kalan, ME, Cho, Y, Manganello, J. Online National Health Agency mask guidance for the public in light of COVID-19: content analysis. JMIR Public Health Surveill. 2020;6: e19501. doi:10.2196/19501

14.The Lancet Infectious Diseases. The COVID-19 in phonemic. Lancet Infect Dis. 2020; 875. Doi: 10.1016/S1473-3099(20)30565-X

15. Peng, Y., et al. (2020). A cross-sectional survey of knowledge, attitude and practice associated with COVID-19 among under-graduate students in China. BMC Public Health, 20(1), 1292

16. Ferdous, M. Z., et al. (2020). Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. PLoS ONE, 15(10), e0239254.

17. Al-Hanawi, M. K., et al. (2020). Knowledge, attitude and practice toward COVID-19 among the public in the kingdom of Saudi Arabia: A cross-sectional study. Frontiers in Public Health, 8, 217–217.

18. MacIntyre, R. (2020). Cloth masks should be washed appropriately everyday. Retrieved March 5, 2021 from https://blogs.bmj.com/bmj/2020/09/29/raina-macintyre-cloth-masks-should-be-.comropriately-everyday.

19. MacIntyre, C. R., et al. (2020). Contamination and washing of cloth masks and risk of infection among hospital health workers in Vietnam: A post hoc analysis of a randomised controlled trial. British Medical Journal Open, 10(9), e042045

20. Jefferson T, Del Mar CB, Dooley L. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst Rev. 2011; CD006207.

Volume 4, Issue 6; November-December 2021; Page No 221-228