Assessment of compliance and adherence to wearing masks and perceived severity and susceptibility of acquiring COVID-19 in patients reporting to an ophthalmology casualty in India: A cross-sectional study

Dear Editor,

The COVID-19 pandemic is at its peak in the country with India being the second highest infected country in the world.\(^1\) The mode transmission of this disease is still a debate and as the second wave hits the country the situation appears grimmer than ever. Amidst the current scenario, use of face masks has been of paramount importance to prevent disease transmission (by disrupting the forward momentum of droplets expelled from a cough or sneeze).\(^2,3\) Information regarding its importance is being broadcasted every day to flatten the curve. Despite this, the authors noticed that not all patients seeking healthcare during the lockdown were following the government advisory on wearing face masks. We thereby studied adherence to, compliance patterns of, using masks, perceived susceptibility, and severity of COVID-19 transmission among patients presenting to the tertiary care hospital. The study had a questionnaire based cross-sectional design with a total of 100 participants. Inclusion criteria encompassed all patients who had presented to the ophthalmology casualty from 23-05-2020 to 29-05-2020. The data was analyzed and the following results were obtained.

The study recruited 61 males and 39 females. The mean age of the study population was 32.1 years. Assessment of the education status revealed that 34 had never studied in school, while the rest were either 12th pass, graduates, or postgraduates. Demographics revealed that 44% of the patients were from the red zone, 26% from the orange zone, and 30% from the green zone. On evaluating the causes of presentation to the casualty, only 66% had obvious emergent reasons. Thirty-seven of the patients who presented either had diabetes mellitus, hypertension, and/or other comorbidities [Fig. 1].

In our study, 86 patients (85% of males and 87% of females) were wearing masks at the time of presentation. Majority of people had bought them from shop, while a fifth had either received them from the hospital or were hand made. In total, 38% were wearing cotton masks, 33% were wearing surgical masks, 21% were wearing N95 masks (89% graduates), and 8% were wearing handmade masks (57% had never attended school) [Fig. 2]. Forty-three percent of those wearing masks believed that the mask can be touched anywhere (13 had never attended school), while a quarter believed that the mask could be touched only using the threads (17 were graduates) [Table 1]. Among those using N95, 56% believed that these masks are reusable (cf 96% with surgical, 94% with cotton, 100% with hand mask) and 67% believed that they cannot be cleaned with water (cf 32, 9, and 0%, respectively, for surgical, cotton, and handmade). Fifty-six percent of N95 users did complain of difficulty in speaking (cf 21, 30, and 14%, respectively, for surgical, cotton and handmade) and...
Table 1: Properties of different types of masks

|                             | N95     | Surgical mask | Cotton mask | Unconventional mask |
|-----------------------------|---------|---------------|-------------|---------------------|
| Effectiveness against virus particles | 95%     | 97-80%        | 70%         | 70%                 |
| Use                         | Multiple-use (3 times) | Single-use | Multiple-use | Multiple-use        |
| Cleaning Contact after wearing | Only threads | Only threads | Only threads | Only threads |
|                             | Not to be washed | Cannot be reused | Can be washed | Can be washed and reused |

28% had difficulty in inhalation (cf 21, 21, and 14%, respectively, for surgical, cotton, and handmade) [Fig. 3].

Almost half of those who were not wearing masks lacked enough money to buy them, one-fourth were not comfortable wearing them, and remaining either forgot to wear a mask in panic or removed the mask before reaching the hospital [Fig. 4]. Half of those who were not wearing masks believed that COVID-19 was not fatal and 43% believed that they cannot develop COVID-19 infection. Eight patients were not practicing hand hygiene routinely, while the rest claimed to practice it regularly.

Christy et al. recently published a questionnaire-based study conducted at five tertiary eye care hospitals in South India assessing the KAP pattern toward COVID-19. Their sample population included 6119 participants, 16% of whom were illiterate while the rest had either received school level education or were graduates. They concluded that the mean score for the practice pattern for government-issued guidelines was 86%, similar to our study. In their study, only 35% patients were aware of the COVID-19 transmission, which was significantly low when compared to 70% in ours.

Tackling a deadly pandemic like COVID-19 is a difficult scenario. A lack of any cost-effective, satisfactory, prophylactic vaccine against the disease limits the management options to social distancing, regular and thorough hand hygiene, and to wearing masks.

In the present study, the authors found that the significant number of the patients presenting to the emergency were using cotton masks. N95 and surgical face masks have showed many advantages over medical masks, however, with insufficient evidence. Our study also showed that there was a gross deficiency of knowledge among those who were using masks including that of the proper technique of handling and norms of using, which itself is almost as dangerous as not using any mask.

Although less than a quarter, a significant proportion of the patients were not wearing masks at presentation, the most common cause being unaffordability. A lack of compliance also stems from the disregard of the need of the mask as almost half of these patients neither believed that they could get the infection, nor accepted the fact that it is fatal. Almost a half of these individuals also had comorbidities and/or belonged to red zone, pointing to an even grimmer scenario, indicating that they neither seem to realize the gravity of the pandemic, and consequently, nor the need for its solutions.

We recommend that policy makers should address equity implications for the masses given the financial limitations to acquire face masks and other protective equipment. Public health guides and personnel should reinforce the emphatic need for all individuals to wear masks and proper techniques of handling and using these masks in order to halt the spread of this deadly disease.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

Aishtwarya Rathod1,2, Sujeeth Modaboyina1,2, Sahil Agrawal1,2, Gunjan Saluja1,2, Namrata Sharma1,2, Deepsekhar Das1,2
1Dr. Rajendra Prasad Centre for Ophthalmic Sciences, 2All India Institute of Medical Sciences, New Delhi, India
Correspondence to: Dr. Deepsekhar Das, Ocuclony and Orbital Tumor Services, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi - 110 029, India. E-mail: doc.deep.das@gmail.com

References
1. Available from: https://www.worldometers.info/coronavirus/. [Last accessed on 2021 Apr 16].
2. Lim S, Yoon HI, Song K-H, Kim ES, Kim HB. FIDSA Face masks and containment of coronavirus disease 2019 (COVID-19): Experience from South Korea. J Hosp Infect 2020;106:206-7.
3. Bartoszko JJ, Farooqi MAM, Alhazzani W, Loeb M. Medical masks vs N95 respirators for preventing COVID-19 in healthcare workers: A systematic review and meta-analysis of randomized trials. Influenza Other Respir Viruses 2020;14:365-73.
4. Christy JS, Kaur K, Gurnani B, Hess OM, Narendran K, Venugopal A, et al. Knowledge, attitude and practise toward COVID-19 among patients presenting to five tertiary eye care hospitals in South India - A multicentre questionnaire-based survey. Indian J Ophthalmol 2020;68:2385-90.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online
Quick Response Code:  
Website: www.ijo.in
DOI: 10.4103/ijo.IJO_2931_20

Cite this article as: Rathod A, Modaboyina S, Agrawal S, Saluja G, Sharma N, Das D. Assessment of compliance and adherence to wearing masks and perceived severity and susceptibility of acquiring COVID-19 in patients reporting to an ophthalmology casualty in India: A cross-sectional study. Indian J Ophthalmol 2021;69:1631-2.  
© 2021 Indian Journal of Ophthalmology | Published by Wolters Kluwer - Medknow