

To Assess the Frequency of Face Mask Practices and Attitudes during the Coronavirus Disease (COVID-19) Pandemic—An Online Survey

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ABSTRACT

Objective: COVID-19 is a viral infection that primarily spreads via respiratory droplets. No definitive treatment is accessible at the moment. As the therapy of the infection is still a matter of debate and under consideration. Hence, prevention by means of appropriately use of face mask is the key measure to restrict the spread of infection. Therefore, this survey was designed to assess the practices and attitudes towards the use of face mask to avoid the spread of infection.

Methodology: This was an observational study conducted using a semi-structured questionnaire during the COVID-19 pandemic from June 2020 to December 2020. The questionnaire consisted of two parts: (1) Four questions related to basic demographic characteristics (gender, education, marital status, and occupation), and (2) Seven questions related to knowledge, attitude, and practices regarding the use of face mask to restrict the spread of COVID-19 infection. The information gained from the participants was entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 16. Frequencies, Percentages, and Means of relevant variables were calculated.

Results: A total of 591 participants were registered with a mean age of 31.144 ± 9.02 years, out of which 344 (58.2%) were males and 247 (41.8%) were females. Most participants 467 (79.0%) agreed to wearing a face mask out of home, 492 (83.2%) used surgical masks followed by 58 (9.8%) used N-95 mask. Most participants 270 (45.7%) changed their mask daily. 291 (49.2%) participants assured that mask will protect from getting infection while 256 (43.3%) participants supposed that mask might be protected from getting infection

Conclusion: This study concludes that knowledge, attitude, and practices regarding the use of face masks were found to be satisfactory. Most of the participants believed that use of face mask prevents the spread of Covid -19 pandemic.

Key words: Facemask, Covid -19 pandemic, Prevention, Practices, Attitudes

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INTRODUCTION

Corona virus Disease 2019 (COVID-19) is a disorder of the airways and the lungs that affect human respiratory system, caused by the SARS-CoV-2 virus. According to the World Health Organization (WHO), COVID-19 is a virulent disease [1]. WHO declared that as of 5th March 2021, approximately 116,614,624 cases of COVID-19 had been reported globally (3,971,496 cases reported in Africa). Statistical figures stated that two main sources are responsible for spreading of COVID-19 infection

are respiratory aerosols and come in contact with infected person [2]. The COVID-19 virus mostly spread among population through respiratory aerosols that are produced during sneezing or coughing of an infected person, or by coming in contact with the infected surfaces or things followed by contacting own nose, oral cavity, or eyes. The health care workers (HCWs) are at greater chances of getting severe infection as they persistently have get in touch with diagnosed COVID-19 patients. Most recent facts confirmed that more than hundreds of HCWs who received infection with a great proportion of them became fatal [3].

It is identified that COVID-19 possess an incubation duration of 2 to 14 days in which every affected person either without symptoms or with mild symptoms can spread the infection to the unaffected person [1] and this creates a confront for isolation as early as possible in order to restrain the community transmission [4]. Therefore, in order to reduce the risk of spread, It is mandatory for the public to pursue established infection

control practices [5] that are based on community level for instance quarantine at home, application of alcohol-mixed sanitizer or frequent wash of hands by soap, restricted travelling activities, decontaminated infected surface with the disinfectant and use of non-medical, fabric mask or surgical face mask [6,7]. In the continuing COVID-19 pandemic, suggestions and general practices about use of face mask by the population have differed significantly [8,9]. Internationally and locally, it is recommended for the common people to carry face mask throughout the COVID-19 epidemic [5,10,11]. On the other hand, virulent disease promotes the extensive use of cloth face-masks involving healthy individuals as well [5]. The most important advantage of every person using a face-mask is the reduction in the spread of Corona virus (or Influenza virus) infection that is released through respiratory droplets into the environment by the infected person in that way reducing the transmission of infection [12]. Currently, various types of face masks are accessible such as N95, N99, N100, cloth masks (non-medical) and surgical masks (medical mask) [13].

The corona virus epidemic is hastily emerging. The World Health Organization (WHO) advised to all governments to support the practices of face covering/face mask particularly situations in which social and physical distancing precautions are not possible. Inadequate awareness and inappropriate practices regarding infection control precautionary measures may restrict its efficiency among the population [14,15]. In Pakistan, social distancing measures cannot be properly taken because of its dense population; thus, use of mask is being encouraged in the country [16]. There is lack of public's acquaintance, attitudes, and practices towards the use of face masks in Pakistan. Therefore, this survey was carried out in order to assess the attitude and practices among Pakistani population regarding use of face mask in Covid -19 epidemic.

METHODOLOGY

This was an observation study conducted by using a semi-structured questionnaire during the COVID-19 pandemic from June 2020 to December 2020 by using convenient sampling technique. A total of 591 individuals filled the questionnaire. The questionnaire was developed by the help of Google Forms, consisted of two parts:(a) Four questions related to basic demographic characteristics (sexual category, educational status, marital status, and profession), and (b) Seven questions related to attitude, knowledge, and practices towards the use of a face mask to stop spreading of corona virus infection, and shared with the general population via Face book and Whatsapp Messenger. An online consent for publication of the data was taken from each individual.

The collecting details from the participants were entered and analyzed by using Statistical Package for the Social Sciences (SPSS) version 16. Frequencies, Percentages, and Means of relevant variables were calculated.

RESULTS

A total of 591 participants were selected for the study with a mean age of 31.144 +/- 9.02 years wherein, 344 (58.2%) were males and 247 (41.8%) were females. About 252(42.6%) were postgraduate, 97(16.4%) were undergraduate, 216(36.5%) were graduate, 18 (3.0%) were college students and 8 (1.4%) were school students. 319(54.0%) were married, 267(45.2%) were unmarried, 2(0.3%) were divorced and 3(0.5%) were widow. Concerning employment status, 370(62.6%) were salaried person, 126(21.3%) were students, 36(6.1%) were unemployed person, 18(3.0%) were housewives, 14(2.4%) were doing business, 21(3.6%) were self-employed and only 1(6.0%) was retired, as shown in Table 1.

Most participants 467(79.0%) decided to wear a face mask out of home to secure against COVID-19, 75(12.7%) wears in crowded areas, 29(4.9%) wears sometime while 20(3.4%) used face mask all the time. Most of the participants 492(83.2%) used surgical masks followed by 58(9.8%) used N-95 mask. On evaluating the practices, most of the participants 587(99.3%) used to cover both mouth and nose while 4(0.7%) of participants used to cover mouth only. Most of the participants 207(50.3%) dispose the mask properly at the end of the day whereas 211(35.7%) participants reused for the next day. Most participants 270(45.7%) changed their mask daily, 153(25.9%) changed their mask after 2 days and 128 (21.7%) changed their mask once a week. 385(65.1%) of the participants used to adjust their mask properly holding it from the sides while 121(20.5%) hold it from the front. 291(49.2%) participants assured that mask will protect from getting infection while 256(43.3%) participants supposed that mask might be protected from getting infection and around 44(7.4%) of participants did not believe on protection of mask against COVID-19, as shown in Table 2.

Table 1: Demographic variables of the study participants.

	Variable	n	%
Gender Distribution	Male	344	58.2
	Female	247	41.8
Marital Status	Married	319	54
	Single	267	45.2
	Divorced	2	0.3
	Widow	3	0.5
Employment Status	Salaried	370	62.6
	Students	126	21.3
	Unemployed	36	6.1
	Housewife	18	3
	Business	14	2.4
	Self employed	21	3.6
	Retired	6	1
Education Status	Postgraduate	252	42.6
	Undergraduate	97	16.4
	Graduate	216	36.5
	College	18	3
	School	8	1.4

Table 2: Frequencies of practice and attitude towards the use of face mask to limit the spread of COVID-19.

Questions	Answers	n	%
How often do you use face mask?	Use in crowded areas	75	12.7
	Sometimes	29	4.9
	Out of Home	467	79
	All the Time	20	3.4
Which mask do you use?	Surgical mask	492	83.2
	N95	58	9.8
	Silk Padded Mask	13	2.2
	Cotton mask	28	4.7
How do you wear the mask?	Cover Mouth Only	4	0.7
	Cover Both Mouth and Nose	587	99.3
What do you do with your mask at the end of the day?	Dispose it Properly	297	50.3
	Keep it Safe for the Next Day	211	35.7
	Throw Outside Home	25	4.2
	Wash it and keep it	58	9.8
	Change Daily	270	45.7
For how long do you use the mask?	Change After 2 Days	153	25.9
	Change Once a Week	128	21.7
	Never Change	40	6.8
How do you adjust the mask?	Hold it from the front	121	20.5
	Hold it from above	70	11.8
	Hold it from the sides	385	65.1
	Hold it from below	15	2.5
Do you believe a mask will protect you from getting infected?	Yes	291	49.2
	Maybe	256	43.3
	No	44	7.4

DISCUSSION

Face mask is worn as a shield for protection to decrease the risk of spread of microbes among people and atmosphere hence can restrict the spread of COVID-19 infection. Though, deficient knowledge and substandard infection control practices leads to limit its effectiveness. There has been some contradiction in giving information on face masks [17]. This contradictions due to deficient information on whether using face mask is a useful barrier against spread of disease [18]. The present study assessed the practices and attitude regarding face mask use in order to protect from the Covid-19 pandemic.

There were higher male participants in our study 344(58.2%) compared with female participants 247(41.8%). This result was consistent with another study reported that male respondents were more (86.9%) than female respondents (13%). This verdict can be accredited to the greater number of male enrolment in their institute [9].

Another research regarding facemask use during Covid-19 reported that 49.3% participants realized that mask should not be used every time and 64.1% participants recognized that everyone should not use surgical mask [19]. These results were distressing and may create troubles for leading health workers. In a Poland study, 46.2% participants agreed to wear cloth mask [20]. As cloth masks are cheap, used repeatedly and suitable substitute to medical masks [21]. The US

Centers for Disease Control and Prevention currently suggested to medically fit individual to use a cloth mask in public gatherings [22]. Our study was inconsistent with the above mentioned studies and reported that only 20(3.4%) participants did not use mask all the time and most participants 492(83.2%) were very satisfied and preferred to use surgical mask while cloth mask was not the preferred choice of most of the participants, although they are inexpensive and reusable.

Face masks act as a defensive wall to diminish the possibility of spread of microbes among individuals, frontline workers, and the atmosphere [23]. However, in order to enhance its effectiveness against transmission, it is imperative for the HCWs to know about knowledge of wearing facemask and proper disposal after use. Another research demonstrated that 88.5% respondents supposed that they have knowledge about its proper steps of wearing, but only 35% gained better score by responding technical questions properly. These findings might owing to easiest design that misguided a lot of participants that they had knowledge of its proper handling [9]. On the other hand, in our study, most of the participants were aware about the proper use of face mask by covering both mouth and nose and had a knowledge regarding its disposal after use. Mostly participants changed their face mask daily in order to protect from transmission of Covid-19 pandemic.

Interestingly, mask fabricated by cloth, reuse and prolonged use of a surgical mask, are frequently observed in Pakistan in the epidemic of the COVID-19 pandemic. It is impossible for developing nations to supply usable face masks for unlimited time period. In one of the studies, it was declared that about 88.2% Health Care Workers believed that cloth mask is ineffective as compared to surgical mask and approximately 79.8% thought that used surgical face mask cannot be reutilized. About 75.6% were aware about maximum timings of wearing [9]. Further researches also elaborated similar results showing repeatedly, prolonged use of cloth mask creates ineffectiveness, still HCWs in few settings occasionally enforced to do it owing to insufficiency of these masks [24-26]. As far as our study is concerned, a small number of participants 28(4.7%) used cloth mask owing to know that re-use of cloth mask is ineffective against infection control therefore, mostly participants used surgical mask and disposed it properly after use and changed the mask daily.

In a Saudi Arabian research, 87.2% of participants used facemask in public places [27]. Our study was in agreement with the above cited study and revealed that the majority of our participants 467(79.0%) used to wear masks when out of home, while 75(12.7%) preferred to use them in crowded places only, whereas, 20(3.4%) used the mask all the time both inside and outside the home.

Half of the participants in our study believed that masks will protect them from getting infected while in the US and UK 37.8% and 29.7% respectively believed

that common surgical mask use is highly effective in protection against COVID-19 [28].

In another study performed in China, 58.8% of responders were reusing disposable masks, and more than one-third did not replace masks after using them for 8 hours [29]. In order to increase the effectiveness of mask, nose and mouth both should be covered. In our study, almost all participants used facemask properly and covered both the nose and mouth. However, only 45% of participants changed their masks daily. Most individuals used the face mask again and 6.8% never changed their masks. In limited resources settings like Pakistan and other developing countries, masks may be reused provided they are clean and not soaked. However, it is best to dispose of face masks after a single use.

Therefore, there is a need to educate the masses regarding proper mask disposal, mask adjustment, and the duration of its use. Unless, people believe that masks can protect them from getting the disease.

CONCLUSION

This study concludes that attitude and practices towards face mask use were found satisfactory. Mostly participants believed that use of face mask protects the transmission of Covid-19. However, further studies and public awareness campaigns regarding the proper disposal and mask adjustment are required for better protection against Covid-19 pandemic.

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