

Face Mask Compliance and Complacency amongst Pakistan's Youth During the Third Wave of COVID-19

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ABSTRACT

Objective: To assess the reasons for compliance with face mask usage amongst Pakistani youth.

Study Design: Internet-based cross-sectional survey.

Place and Duration of Study: Different cities of Pakistan, in April 2021.

Methodology: Persons currently residing in Pakistan aged 18-29 were included in the study. The questionnaire included questions to identify self-perceptions of vulnerability to COVID-19, followed by questions about social situations where respondents wore facemasks.

Results: A large number of (1,034,90%) respondents reported compliance with facemasks. Specifically, 1048(92%), 962(85%), and 850(75%) of respondents wore facemasks in healthcare facilities, marketplaces, or at work or school respectively. Nevertheless, when self-regulating, such as with family or around friends, compliance fell to 200(18%). Compliance turns to complacency when people are expected to self-regulate face mask usage. Females were more compliant than males ($p < 0.001$). A large 779(68%) of compliant youth relied on information from Internet-based resources.

Conclusion: The study correlates the reasons for compliance and complacency. In Pakistan, the most compliant youth get information from the Internet, particularly official websites and social media.

Keywords: COVID-19, Facemasks, Pakistan, Youth.

How to Cite This Article: Kakalia S, Saif S, Butt SZ, Ibrahim M, Siddique M, Malik R. Face Mask Compliance and Complacency Amongst Pakistan's Youth During the Third Wave of COVID-19 *Pak Armed Forces Med J* 2023; 73(2): 591-594. DOI: <https://doi.org/10.51253/pafmj.v73i2.7458>

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INTRODUCTION

Face masks have proven effective in decreasing the spread of COVID-19.¹ Face masks are a primary defence during the COVID-19 pandemic; they are inexpensive, easy to use, and widely available.² Face masks are recommended by organizations such as the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO).^{3,4}

Although a simple intervention, people are often reluctant to wear facemasks.⁵ Studies in Pakistan have reported mask compliance of up to 86% during the initial phases of COVID-19.⁶ Societal pressures and risk perception of the nature of COVID-19 have been demonstrated as impediments to face mask use.⁷

This study analyzed data on face mask usage collected in an online survey of over one thousand respondents during the third wave of COVID-19 in Pakistan, which peaked in April 2021. Although the third wave is now over, the world continues to see cases of COVID-19, adding to the continued relevance of this study. We identify reasons for face mask compliance and complacency, as well as the efficacy of

public messaging for people aged 18-29, an age bracket corresponding with Pakistan's demographic bulge; Pakistan has one of the youngest populations worldwide, with 30% of the country's population ZGfalling in this age group. Two years into the pandemic, there is evidence that young people are unwitting transmitters of COVID-19 to more vulnerable populations, making understanding reasons for facemask compliance or complacency important.^{8,9} We also identify the most effective way to communicate with youth. These findings affect low-cost public health interventions, particularly in developing countries.

METHODOLOGY

The cross-sectional survey carried out as an internet-based survey in Pakistan. Respondents received invitations via social media directing them to an online form hosted by Google Forms in April 2021. The study received ethical approval from the Institutional Review Board of the CMH Lahore Medical College (#.587/ERC/CMH/LMC, April 5, 2021). Using a response rate of 77%,¹⁰ sample size was calculated using the online Raosoft sample size calculator.

Inclusion Criteria: Persons currently residing in Pakistan aged 18-29 were included in the study.

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Received: 01 Oct 2021; revision received: 10 Feb 2022; accepted: 08 Mar 2022

Exclusion Criteria: Pakistanis residing outside the country, and were excluded from the study.

Informed consent was obtained. The questionnaire was circulated through various sources to ensure the sample was randomly obtained and there was no clustering based on city, age, or gender. The privacy of participants was maintained. Questions on the survey were designed to understand reasons for facemask compliance or complacency. Before beginning the survey, the questionnaire was read by two experts in the field who were not associated with the project. It was also initially tested on 10 participants, who were not eventually included in the study. Besides collecting background information (gender, occupation, education), the questionnaire included questions to identify self-perceptions of vulnerability to COVID-19, followed by questions about social situations where respondents wore face masks; here, we used a Likert scale of “1”-“5” (“1”= never wear a face mask; “5”= always wear a face mask). The last set of questions was about where respondents received information from, and what their perceptions were, whether, in their mind, there was something exceptional about Pakistan’s experience with COVID-19.

Data were analyzed using Statistical Package for the social sciences (SPSS) version 23.00 and MS Excel 2016 software. Mean±SD was calculated for continuous variables. Frequency and percentage were calculated for categorical variables. The chi-square test and t-test were used. The *p*-value ≤0.05 was considered significant.

RESULTS

A total of 1,138 respondents completed the survey. Females were more compliant than males, at 707, 62% (*p*<0.001). The sizeable participants (484,43%) did not consider themselves vulnerable to COVID-19. Only 85(8%) had already had COVID-19, 229(20%) believed that Pakistanis had acquired natural immunity to COVID-19, and 448(39%) thought that Pakistan’s death rate had been low and up to 122(11%) reported feeling vulnerable because a family member had recently tested positive for COVID-19, and 119(11%) because they were healthcare workers or students. A large number of participants (1,034, 90%) reported following COVID-19 precautionary measures, which includes facemasks. However, Figure-1 demonstrates different numbers reported by the participants. Compliance in the different social situations was taken as those individuals who self-reported always (“5” on the Likert scale) wearing a facemask in different places of

social interaction. 951(84%) people remove face masks to eat/drink/smoke, 477(42%) participants around people they trust, 325(29%) when at 6 feet from another person, 99(9%) when talking; only 104(9%) never remove their face mask. Figure-2 demonstrates what the more compliant youth trusted as the primary source of information about COVID-19.

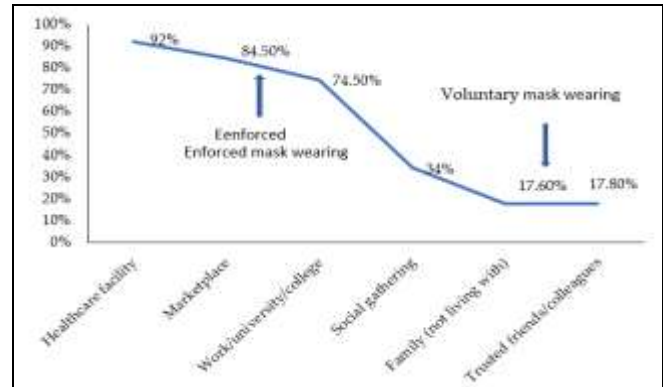


Figure-1: Places where People were wearing Facemasks (n=1,138)

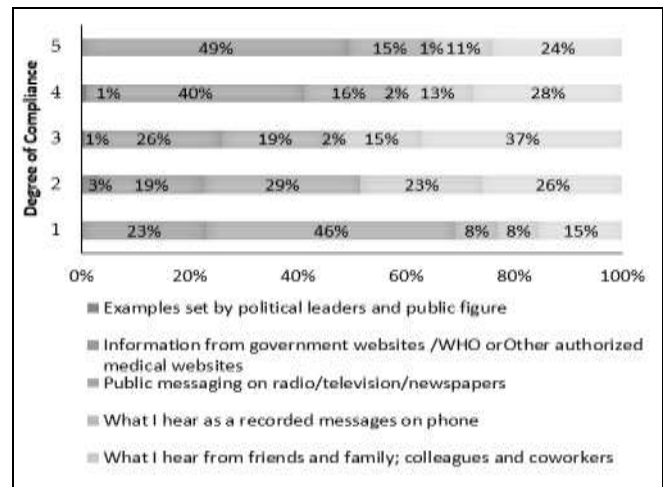


Figure-2: Compliance correlated with where Information is being obtained from. (5 was the category where People were compliant “always” with Facemasks) (n=1,138)

DISCUSSION

Historically, before COVID-19, the SARS epidemic of 2002-2003, followed by the Influenza H1N1 epidemic in East Asia in 2009, had mandated face mask usage.^{11,12} During the SARS outbreak, people were more likely to wear face masks if they considered themselves vulnerable.¹³ During SARS and H1N1, females were more likely to wear face masks. In the People’s Republic of China, where COVID-19 originated in December 2019, compliance was 98%. As COVID-19 spread worldwide, few other countries

could match the compliance levels in the People's Republic of China.¹⁴

Compliance is difficult to measure empirically; studies must rely either on limited observations or self-reporting, where there may be a tendency to exaggerate compliance.^{6,15} Similar to the SARS and H1N1 outbreaks, during COVID-19, it has been demonstrated that females are more compliant.^{15,16} Our data also showed females to be more compliant.

Previous studies have shown that knowing someone with COVID-19, as do higher education levels, leads to increased compliance.¹⁷ Conversely, younger people are less compliant; some believe that the threat of COVID-19 is exaggerated or may resist public health instructions. This much is not new: During the so-called Spanish flu of 1918-1919, face mask covering, which was recommended, was also often resisted.¹⁸ Although not directly related to complacency, in Pakistan, young males are shown to be more likely to visit crowded places.⁶

Many previous studies have outlined the need for face mask compliance and how compliance could be better.^{6,7,19} A study in Pakistan during the second wave of the pandemic demonstrates that knowledge is up to 70-80% about the disease, but only 49% know the severity.⁷ This corroborates our findings of compliance increasing in people who knew someone who had been very ill with COVID-19. In addition, the study adds to the literature by identifying reasons Pakistani youth have for compliance and complacency.

The data highlights the importance of messaging in encouraging compliance. A large number (470, 41%) of study participants got their information from official websites, and 309(27%) from social media. Both of these are internet-based resources. Only some highly compliant groups got their information from public messaging from television, radio, newspapers, and prerecorded telephone messages. Public figures and politicians have also yet to serve as role models. There are comparatively few studies on where people are getting information about COVID-19.

LIMITATIONS OF STUDY

Internet-based forms, despite reaching a large population, do not provide a random sample (additionally, by relatively high literacy levels, the demographic population in this study is receptive to public health messaging). In addition, internet-based surveys tend to be limited to people literate in English and with access to the Internet.

CONCLUSION

The study correlates the reasons for compliance and complacency. In Pakistan, the most compliant youth get

information from the Internet, particularly official websites and social media.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

SK: Conception, interpretation of data, drafting the manuscript, approval of the final version to be published.

SS: Study design, data analysis, drafting the manuscript, critical review, approval of the final version to be published.

SZB & MI: Critical review, approval of the final version to be published.

MS: Data acquisition, interpretation of data, approval of the final version to be published.

RM: Study design, Drafting the manuscript, interpretation of data, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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