

Attitude and Practice Towards Face Mask Usage and Vaccination - A Study at a Tertiary Teaching Hospital- in post-COVID Times

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ABSTRACT

Background: The usage of face mask in appropriate manner and COVID vaccination were two important measures along with others to fight against COVID 19 pandemic. The people had different belief regarding effectiveness of COVID vaccination and showed mixed attitude towards this vaccination. There was limited data about face mask usage by general population and attitude towards COVID vaccination in West Bengal during post COVID times. The present study was planned to collect these data from general population in a tertiary care teaching hospital.

Material and Methods: After obtaining ethical approval, the present study was conducted on general population attending the hospital OPD (Out Patient Department). 151 participants were selected based on OPD registration sequence during May-July, 2023. The researcher observed if the participant were wearing face mask and if it was worn appropriately as per recommendation by WHO. A face-to-face interview was conducted with a pre-structured and pre-validated questionnaire. All the data were analysed by Microsoft excel and STRATA 12 software.

Result: 88% people were seen to wear face masks following instructions of mandatory use of face mask at the OPD. 65.56% people satisfactorily used the face mask. 84.76 % people fully completed COVID vaccination and 67% people believed that COVID vaccination was effective.

Conclusion: Present study documented people attending this tertiary care health set up at West Bengal were continuing the COVID appropriate face mask usage at OPD as per instruction during post COVID times and majority of them had good vaccination coverage.

Key words: Face mask, behaviour, vaccination, perception

INTRODUCTION

Appropriate facemask usage prevents the exposure of unwashed hands with mouth, nose, and face, reducing the chances of infection. ^[1,2] Vaccination had a substantial impact as it reduced the attack rate, severity of infection, ICU hospitalizations and death during COVID-19 infections. ^[3,4] Face

masks are more or less affordable means to form a barrier from irritants and contagious diseases like airborne infections, hence, protecting from respiratory illnesses. ^[5] Proper facemask usage and vaccination have demonstrated a pivotal and crucial role in decreasing incidence of infection, severity of infection, complications, hospital admission

rates, morbidity and mortality of severe viral infection which was evident during COVID 19 pandemic. The proportion of people wearing masks and complying to vaccination protocols during and after a pandemic reflects the positive health care attitude of the society. [6]

Thus, a proper assessment of attitude and practice towards face mask usage and vaccination, particularly in post pandemic era, is necessary to identify the lacunae regarding acceptance and implementation of the measures. Very limited literature is available regarding the correct face mask usage by general population in post COVID times.

The present study was planned to assess the positive health behaviour in form of using face mask and intake of appropriate vaccination among the socio-demographically and culturally diverse general population attending the OPD facility in a tertiary care set up. It aimed to find out if people are continuing the usage of face mask in Post COVID era while attending the health care facility and if they took appropriate vaccination as per WHO recommendation.

MATERIALS AND METHODS

It was an observational and cross-sectional study conducted at the OPD at a tertiary care teaching hospital at the Eastern part of India during May- July, 2023. The estimated sample size was 140. [formula: $n = Z^2_{\alpha/2} P(1-P)/I^2$, good practices regarding COVID-19 appropriate mask-related activities as $P=30.2\%$, [7] absolute allowable error(1) as 8

percent, non-response rate as 10%, the sample size calculated is 140]. Based on OPD registration, every seventh person was included and approached for the study during 9-10 am from Monday to Friday every week during the study period. Individuals aged 18 years and above without any serious medical illness, mental disorder or communication issues attending the hospital OPD were included in this study. Data was collected by face-to-face interview by administering a pre-designed, pre-tested, structured questionnaire after obtaining proper consent. Each patient was categorized on the basis of wearing or not wearing mask. At the OPD, there were placards showing instructions about mandatory use of face mask at multiple places. The patients wearing face mask were observed and were given appropriate score according to the 7-point observation checklist prepared based on WHO guidelines (Table 1). [7,8] The score 5 or higher was regarded as satisfactory practice in present study, however, 7 out of 7 should be the ideal target. All the data were analysed in Microsoft excel and STRATA 12 software.

RESULT

The mask wore by the study-population was observed by the investigator if it were worn appropriately or not and based on the observation points mentioned in Table 1, a score was assigned to the individuals in a 0-7 scale. The obtained score by the participants based on appropriateness of face mask usage ranged from 3-6. Ninety-nine (65.56%) people scored 5 points or higher out of 7 points (71.4% or higher).

Table 1: The 7 points observation- checklist for effective wearing of the face mask

| Observation points | Score |
|--|--------------|
| 1.Mask is not visibly wet, dirty / contaminated | 1 |
| 2.Mask has not any tear/ hole | 1 |
| 3. Direction of mask (position of metal strip/location of coloured side etc) correct | 1 |
| 4. Cover mouth, chin, nose adequately | 1 |
| 5. Perfectly fitting, not loose | 1 |
| 6. Patient did not touch facemask | 1 |
| 7. Patient did not remove or put down mask | 1 |
| Total score | 7 |

The study population consisted of total 151 participants. The age range was 18-88 years. The mean age was 47 years. The majority (66%) were aged 40 years or more. Majority of the population were male (71.3%). People from urban and rural areas participated in the study. Regarding religion, Hindu was the majority. People from various educational

background were found- primary school to post-doctoral level, people having the high school education were the majority (50.7%). Occupation was diverse among the study population; the unskilled workers were the highest in number. 70.7% people were married, rest were unmarried or widowed. (Table 2)

Table 2: Showing demographic distribution of the population

| | Variables | Description of the variable | Number (percentage) |
|---|-------------------|------------------------------------|----------------------------|
| 1 | Age | < 40 | 51 (33.774%) |
| | | >40 | 100 (66.225%) |
| 2 | Gender | Male | 108 (71.52%) |
| | | Female | 43 (28.47%) |
| 3 | Area of residence | Urban | 68 (45.03%) |
| | | Rural | 83 (54.96%) |
| 4 | Religion | Hindu | 118 (78.14%) |
| | | Muslim | 33 (21.85%) |
| 5 | Literacy | < 5 yr of school | 20 (13.245%) |
| | | 5-12 yr of school | 77 (50.993%) |
| | | Bachelor | 47 (31.125%) |
| | | Masters | 06 (3.973%) |
| | | Doctoral/ equivalent | 01 (0.662%) |
| 6 | Occupation | Unemployed | 44 (29.139%) |
| | | Unskilled worker | 46 (30.463%) |
| | | Skilled worker | 29 (19.205%) |
| | | Salaried job | 15 (9.933%) |
| | | Own Business | 16 (10.596%) |
| | | Professional | 01 (0.662%) |
| 7 | Marital status | Married | 107 (70.86%) |
| | | Unmarried | 35 (23.17%) |
| | | Widowed | 09 (5.96%) |

It was observed that majority of the population (88.07%) wore face mask while attending the OPD. The commonest mask used by the people was the blue coloured surgical mask. The usage of various types of

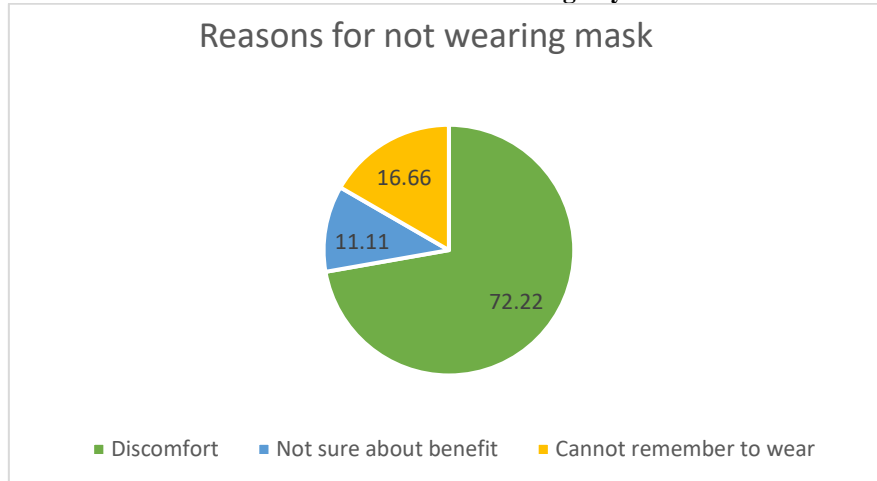
face mask is shown in Table 3. No positive correlation could be established between appropriate face mask usage and educational status.

Table 3: Attitude towards usage of face mask

| MASK USAGE PATTERN | NUMBER AND PERCENTAGE |
|---------------------------|------------------------------|
| NO MASK | 18 (11.92%) |
| WEARING FACE MASK | 133 (88.07%) |
| N-95 | 11 (8.27%) |
| Surgical Mask | 87 (65.41%) |
| 3 layered Fabric mask | 35 (26.31%) |
| Others | 0 (0.00%) |

The people, who did not use a mask, were asked if there was any reason for not wearing a mask- few reasons were found including discomfort being the commonest (Table 4).

Table 4: Various reasons of not using any face mask



The people were inquired for any chronic illness and history of COVID infection if any. HTN was the predominant illness,

followed by DM. 20.52% people admitted that they suffered from COVID infection. (Table 5)

Table 5: Showing history of chronic illness and COVID vaccination

| CONDITION | DESCRIPTION | PERCENTAGE |
|-----------------------------------|------------------------|--------------|
| CHRONIC ILLNESS | HTN | 73 (48.344%) |
| | DM | 66 (43.708%) |
| | Asthma | 46 (30.463%) |
| | COPD | 12 (7.947%) |
| | Ischemic Heart Disease | 10 (6.622%) |
| | None | 33 (21.854%) |
| HISTORY OF COVID INFECTION | Yes | 31 (20.52%) |
| | No | 120 (79.47%) |

To access their attitude towards vaccination, both the history of primary vaccination and COVID vaccination was enquired. 92%

people completed the primary vaccination and 84.76% people fully completed COVID vaccination. (Table 6)

Table 6: Status of vaccination

| CONDITION | STATUS | PERCENTAGE |
|--------------------------------------|----------------------|--------------|
| STATUS OF PRIMARY VACCINATION | Complete | 139 (92.05%) |
| | Incomplete | 11 (7.28%) |
| | Not sure | 01 (0.66%) |
| STATUS OF COVID VACCINATION | Fully vaccinated | 128 (84.76%) |
| | Partially vaccinated | 19 (12.58%) |
| | Not vaccinated | 04 (2.64%) |

Majority obtained COVID vaccination by Covishield vaccine (78.4%), whereas 20.9% received Covaxin. Very few were not sure about the type of vaccine they received. Regarding the effectiveness of the COVID 19 vaccine, 67.1 % people believed that the vaccination was effective and 28.9% had doubt about its effectiveness. Very few

believed natural immunity was preferable than vaccination.

DISCUSSION

The present study found that 88% people were wearing face mask. 65.56% people had a satisfactory score based on appropriate usage of mask. It indicates the satisfactory usage of face mask at OPD premises was

continued even after the COVID 19 pandemic. 20.52% people had COVID infection and 84.76% had completed the recommended COVID vaccination schedule. In present study the, mandatory facemask wearing instruction displayed at OPD maintained good mask wearing rate among the general population during post COVID time at this institute. Still, there was scope to improve the mask usage to 100% accuracy for maximum benefit by strict instruction and motivation.

During the pandemic some studies from other low and middle-income countries, reported high awareness about mask use. [9] A survey of 1,114 participants in Uganda reported knowledge of protection against COVID-19 by face masks as 86.4%. [9] Another survey in Nepal showed that out of 381 individuals, 95.5 percent reported adequate knowledge of face mask use. [10] In present study, satisfactory wearing of face mask was noticed among study population, however, there was scope of further improvement. In a previous study during early COVID 19 pandemics in West Bengal, 30.2% people wore the mask appropriately, washed or disposed the mask properly, [7] however, in present study the care or disposal of mask was not enquired. Regarding type of mask used, a study from India in 2022 showed surgical mask (75.60%) was popular in the disposable type while stitched cloth mask (64.90%) was the popular choice in the reusable type. [11] The results of our study in post-covid era shows surgical mask being the most preferred one (65.41%) followed by the three-layered face mask being the second favourite (26.31%). This is consistent with the previous studies and also reflects high awareness of facemask usage was being continued at least while attending hospital. Studies done previously shows physical discomfort being the commonest cause of not wearing masks (30.6%). [12] Our study is also consistent with this fact.

According to a study in 2022, done across 23 countries, the willingness to accept vaccination was about 79.1% among the general population. [13] The present study

showed even higher rate of acceptance of vaccination - 92% people completing the primary vaccination and 84.76% people fully completing the scheduled COVID vaccination. Present study showed 67.1 % of the population believed COVID 19 vaccination was effective- reflecting high willingness towards vaccination. In contrary to the present study, a study at Tamil Nadu conducted during 2020-21 among COVID-19 unvaccinated population, revealed that people had mixed attitude towards vaccination and many people believed natural immunity was superior than vaccination- indicating high vaccine hesitancy. [14]

Though the present study was the first of its kind conducted during Post COVID times, but its main limitation was limited sample size and hospital OPD set up. So, the generalization of the present study result to the general population may be limited.

CONCLUSION

Present study documented the general people attending this tertiary care health set up at West Bengal were continuing the COVID appropriate mask usage while attending the OPD during post COVID era as per instruction of this set up and majority of them had good vaccination coverage. It was possible as COVID pandemic set a trend of mandatory use of face mask across the countries which had become a 'new normal' especially when instructions were posted. Majority of the population used COVID vaccination which was an effective measure to prevent the progression of SARS COV 2 into severe COVID 19 infections instead of some side effects. Again, the majority of people perceived that vaccination against COVID 19 was effective. This revalidates that the effort of government and healthcare professionals had been successful to build a positive attitude among the general people. This practice of wearing masks to be promoted by posting clear instructions about its mandatory usage and to be continued at all health care set ups to reduce transmission of airborne infections. Proper planning and

implementation of policies at grassroots level and promotion of safe health practices by making it mandatory might help to prevent outbreaks of infectious diseases in future.

Declaration by Authors

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