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AWARENESS REGARDING COVID-19 PANDEMIC AMONG FIRST YEAR MBBS STUDENTS IN A TERTIARY CARE TEACHING HOSPITAL IN NAVI MUMBAI.

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Abstract
Background: COVID-19 emerged as a global public health emergency in early 2020, leading to significant morbidity, mortality, and social disruption. Medical students, being future healthcare professionals, play a vital role in disseminating accurate information and practicing preventive measures. This study aimed to assess the awareness and perception regarding COVID-19 and its vaccination among first-year MBBS students during the early phase of vaccine rollout in India.
Methodology: A cross-sectional, questionnaire-based study was conducted in January 2021 among first-year MBBS students at a tertiary care teaching hospital in Navi Mumbai. A semi-structured Google Form was used to collect data on awareness about COVID-19 transmission, preventive practices and vaccines. Descriptive statistics were used for analysis.
Results: A total of 208 students participated (69.2% females, 30.8% males). Nearly all respondents (99.5%) were aware of COVID-19 and its preventive measures. About 95.2% correctly identified Covaxin and Covishield as vaccines approved in India, and 83.2% expressed willingness to take the vaccine. Most students adhered to hand hygiene, mask use, and physical distancing.
Conclusion: The study revealed high awareness and positive attitudes toward COVID-19 prevention and vaccination among medical students. Continuous education and reinforcement of infection control measures are recommended to enhance preparedness for future pandemics.
Keywords: COVID-19, awareness, medical students, vaccine perception, prevention

Introduction

The coronavirus disease 2019 (COVID-19) pandemic, caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged in Wuhan, China in December 2019 and rapidly evolved into a global health emergency. The World Health Organization (WHO) declared COVID-19, a pandemic on 11 March 2020, marking an unprecedented global crisis that affected all sectors of society (1). India reported its first confirmed case on 30 January 2020 in Kerala, and since then, the country has experienced significant morbidity, mortality, and socio-economic disruption (2).

To mitigate transmission, the Government of India implemented nationwide public health measures including lockdowns, social distancing, mask usage, and hand hygiene promotion. Despite these interventions, widespread misinformation and varying degrees of public awareness influenced adherence to preventive practices (3). In such a scenario, medical students represent a crucial link between scientific understanding and community health education. Their awareness and perceptions regarding COVID-19 are vital for effective dissemination of accurate information and for preparing a competent future health workforce.

By January 2021, India had initiated its national COVID-19 vaccination programme, one of the world's largest immunization efforts. Two vaccines were granted emergency use authorization by the Drugs Controller General of India (DCGI) — Covishield (Oxford–AstraZeneca vaccine manufactured by Serum Institute of India) and Covaxin (an inactivated whole-virion vaccine developed by Bharat Biotech in collaboration with the Indian Council of Medical Research) (4,5). The vaccination drive began on 16 January 2021, prioritizing health-care workers and frontline personnel. This development marked a critical transition in India's pandemic response, creating a need to assess awareness regarding vaccines, preventive measures, and disease understanding among future medical professionals.

First-year MBBS students, although in the foundational phase of their medical education, are introduced to basic concepts of infectious disease epidemiology and community health. Assessing their awareness at this juncture provides insight into the effectiveness of institutional health education and their preparedness to contribute to pandemic control efforts.

Hence, the present study was conducted to assess the awareness regarding the COVID-19 pandemic among first-year MBBS students in a tertiary care teaching hospital in Navi Mumbai during January 2021, a period marked by the introduction of COVID-19 vaccines in India.

Objectives

1. To assess the awareness regarding COVID-19 transmission, prevention, and vaccination among first-year MBBS students.
2. To determine the perception and willingness toward COVID-19 vaccination among the participants.

Methodology

Study design and population: A cross-sectional study was conducted in January 2021 among first-year MBBS students of a tertiary care teaching hospital in Navi Mumbai, Maharashtra, India, during January 2021**.** The study was undertaken during the post–first wave phase of the COVID-19 pandemic, coinciding with the initiation of India's national vaccination drive.

Data collection: A semi-structured questionnaire was designed using Google Forms and distributed online to all students to ensure safety, accessibility, and ease of participation during the pandemic. The questionnaire comprised sections on socio-demographic details, knowledge about COVID-19, preventive measures and vaccine-related awareness. Participants were briefed about the study purpose, confidentiality, and voluntary nature of participation before accessing the form. Submission of the form was considered as implied consent.

Inclusion criteria: All consenting first-year MBBS students who responded within the study period were included.

Data analysis: Responses were compiled in Microsoft Excel and analyzed using descriptive statistics such as frequencies and percentages. Results were presented in tables and figures.

Ethical considerations: Participation was voluntary, anonymity was maintained and institutional ethical committee waiver was obtained prior to the study.

Results

A total of 208 students participated in the study. Among them, 144 (69.2%) were females and 64 (30.8%) were males. The majority were residents of Maharashtra followed by other Indian states such as Haryana and Madhya Pradesh. Almost all respondents (99.5%) had heard about COVID-19, while 6.3% had suffered from the infection themselves. About 26.4% had at least one family member affected by COVID-19.

Regarding awareness about vaccines, 95.2% of students correctly identified Covaxin and Covishield as the vaccines available in India at the time of the study. Only a few mentioned Pfizer (4.3%) or Moderna (0.5%), which were not approved in India then. A large majority were aware that the recommended route of administration was intramuscular and that the site of administration was the deltoid region. About 85.6% correctly identified 0.5 mL as the recommended dose, and most students (>80%) recognized that the storage temperature should be maintained between +2°C and +8°C.

When asked about preventive practices, 66.8% of students reported that they always maintained a minimum physical distance of 3 feet outside home, while 33.2% did so sometimes. The majority reported using either cloth masks or N-95 masks and most practiced hand hygiene and respiratory etiquette.

A large proportion (83.2%) agreed that the nationwide lockdown had helped reduce the spread of the pandemic, while 13.5% were uncertain, and 3.3% disagreed. Encouragingly, 83.2% of respondents expressed their willingness to take the COVID-19 vaccine if offered at that time.

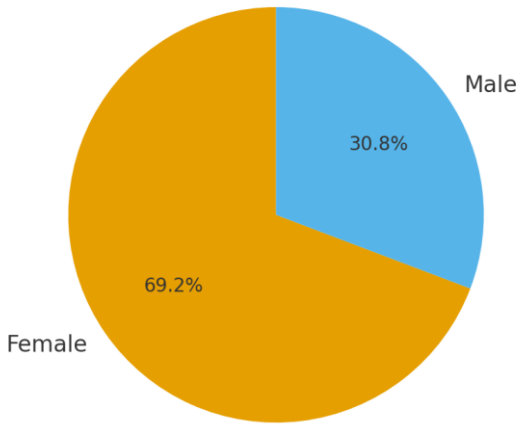
Table 1. Demographic Characteristics of Participants (n=208)

Variable	Frequency
Total participants	208
Females	144
Males	64
Mean Age (approx.)	18

Table 2. Awareness and Vaccine-related Responses among Students

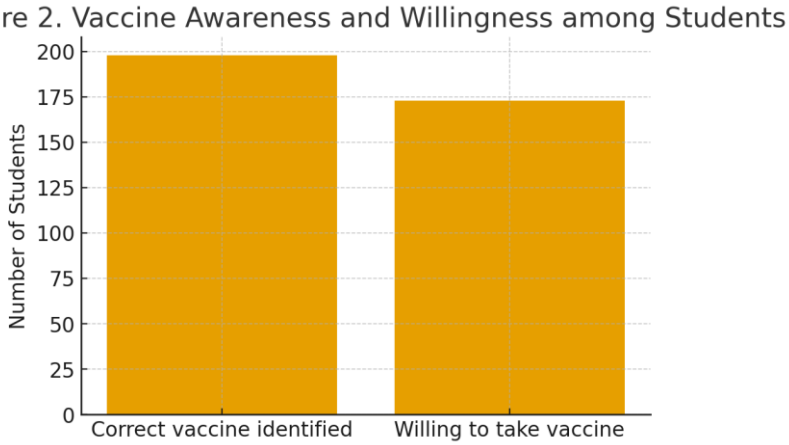
Parameter	Yes (n, %)
Heard about COVID-19	207 (99.5%)
Suffered from COVID-19	13 (6.2%)
Family member affected	55 (26.4%)
Identified Covishield & Covaxin correctly	198 (95.2%)
Willing to take vaccine	173 (83.2%)
Agreed lockdown helped prevent spread	173 (83.2%)

Figure 1. Gender Distribution of Participants



Shows that 69.2% of participants were females and 30.8% were males.

Figure 2. Vaccine Awareness and Willingness among Students



Displays that 198 students (95.2%) correctly identified Covishield and Covaxin as the approved vaccines in India, and 173 (83.2%) were willing to take the vaccine.

Discussion

The present study assessed awareness regarding the COVID-19 pandemic among first-year MBBS students during January 2021, coinciding with India's national vaccination rollout. The results indicate high awareness and positive attitudes toward preventive practices and vaccination. Almost all students were aware of COVID-19 and its transmission routes, consistent with similar studies conducted among medical students in India and abroad (6–8). Awareness of Covishield and Covaxin as the approved vaccines was high (95.2%). These findings are consistent with results reported by Kumar et al. among Indian medical students during the same period. (9). The willingness to receive the vaccine (83.2%) reflects a favorable perception comparable to early national reports (10). Preventive practices such as mask use, hand hygiene, and physical distancing were widely followed, similar to findings in China and Pakistan (3,7).

These results suggest that even at the beginning of their medical education, students were well informed and proactive regarding public health measures. This reflects the effectiveness of institutional orientation and widespread media communication during the pandemic.

Conclusion

The study demonstrated high levels of awareness and positive attitudes regarding COVID-19 and vaccination among first-year MBBS students. Students displayed sound knowledge about the vaccines approved in India—Covishield and Covaxin—and showed strong adherence to preventive behaviors. Ongoing educational interventions focusing on evolving evidence, vaccination updates, and outbreak preparedness are recommended to further strengthen knowledge and practices among medical undergraduates, ensuring their readiness for future pandemics.

Limitations

The study was limited by its cross-sectional design and reliance on self-reported responses through an online questionnaire, which may introduce recall or response bias. The sample was limited to a single institution, and the results may not be generalizable to all medical students in India.

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