

“Impact of the COVID-19 pandemic on medical education and psychology of final year MBBS students in a tertiary care teaching hospital”

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Abstract

1. Background:

Understanding the impact of the COVID-19 pandemic on medical education and the psychology of final year MBBS students is crucial for developing effective strategies to address these challenges. Innovative approaches can empower them to provide quality healthcare in a post-pandemic world.

2. Methods:

A cross-sectional, questionnaire-based survey conducted at tertiary care teaching hospital of South Gujarat. After receiving ethical approval from HREC, the questionnaire was circulated to all the final year students by sharing a link to a google form after explaining them the

purpose of study. The final year MBBS students were requested to complete the questionnaire. Analysis was done using descriptive statistics.

3. Results:

In a survey with 208 students, 65.4% were male, and 34.6% were female. Regarding COVID-19 knowledge, 47.1% got it from WHO, CDC, or official sources, 32.7% from social media, and 13% from local official statements. In terms of classes, 51.4% were dissatisfied with online classes during COVID-19. 80.03% were not suspended from educational programs, and 69.2% spent quality time with family. 31.3% became interested in opting public health as their career after COVID-19. Internet availability was good for 41.8%, and 89.9% used smartphones. Stress reasons included lost confidence in clinical exams, delayed final exams, and fear of infection spread. Activities for mental well-being included music (69.2%) and video chats (59.1%). Most participants were willing to educate patients (63%) and perform low-risk procedures (48.1%).

4. Conclusion:

COVID-19 drastically affected medical education for final-year MBBS students, leading to disruptions in classes, mental well-being, and career plans. Support in online learning, mental health, and resilience is crucial for mitigating adverse effects.

Key words: COVID-19 pandemic, final year MBBS students, medical education, psychology

Type of Article: Original research article

Introduction:

The COVID-19 pandemic has caused a global crisis that has profoundly affected the lives of individuals and communities worldwide. The impact of the pandemic on the general population has been far-reaching, encompassing various aspects of daily life and leaving a lasting imprint on societies.

The pandemic has brought about significant disruptions in multiple domains. Health systems have been strained, economies have faltered, and social dynamics have been reshaped. The primary concern has been the devastating toll on human lives, with millions of individuals falling ill and losing loved ones to the virus. The threat of COVID-19 has not only caused physical health challenges but has also instilled fear, anxiety, and emotional distress in people around the world.¹

The implementation of strict public health measures, such as lockdowns, social distancing, and travel restrictions, has resulted in profound changes to daily routines and social interactions. People have experienced isolation from friends, family, and communities, leading to increased feelings of loneliness and a sense of disconnection. These disruptions have also had economic implications, with businesses closing, job losses, and financial insecurity affecting individuals and households on a global scale. Education systems have faced unprecedented challenges, with school closures and the transition to online learning, which has presented disparities in access and quality of education. The pandemic has had a particularly profound impact on children and young adults, disrupting their educational journeys and potentially exacerbating existing educational inequalities. The pandemic has also magnified existing social and health disparities, with vulnerable populations facing disproportionate burdens. The COVID-19 pandemic has left an indelible mark on various aspects of our lives, and one area profoundly affected is the field of medical education. Final

year MBBS (Bachelor of Medicine, Bachelor of Surgery) students have faced unprecedented challenges and disruptions that have had a significant impact on both their educational journey and their psychological well-being. It gets quiet important to explore the profound consequences of the pandemic on medical education and the psychology of these aspiring doctors.²⁻⁵

The COVID-19 pandemic forced educational institutions worldwide to adapt swiftly to remote learning models to ensure the safety of students and faculty. Final year MBBS students, who were on the cusp of transitioning into the clinical setting, were abruptly thrust into a virtual environment, limiting their hands-on experiences and direct patient interactions.^{6,7} This sudden shift to online learning necessitated adjustments in teaching methods, curriculum modifications, and the adoption of telemedicine platforms for clinical training.⁸ Consequently, the quality and depth of their clinical exposure were compromised and with which they made to do clinical duties in COVID-19 wards and ICUs, leaving these students grappling with a sense of unfulfilled expectations and a potential gap in their practical skills.^{9,10}

Additionally, the COVID-19 pandemic has had a profound psychological impact on individuals. The stress, uncertainty, and prolonged exposure to distressing news and information have taken a toll on mental health and well-being. Increased rates of anxiety, depression, and other mental health disorders have been reported across the general population.

Moreover, the pandemic's psychological toll on final year MBBS students cannot be overlooked. The already demanding and rigorous nature of medical education was compounded by the stress, uncertainty, and fear brought about by the global health crisis. The sudden shift to remote learning, isolation from peers and mentors, and concerns about personal health and the well-being of loved ones added immense emotional burden.¹¹ The constant exposure to the frontline healthcare challenges and the overwhelming patient suffering further contributed to heightened anxiety, compassion fatigue, and burnout among these aspiring doctors.¹²

Understanding the impact of the COVID-19 pandemic on medical education and the psychology of final year MBBS students is crucial for developing effective strategies to address these challenges.¹³ By acknowledging the disruptions faced by these students and providing adequate support, educational institutions and healthcare systems can help mitigate the adverse effects of the pandemic on their training and well-being. Through innovative approaches, resilience-building initiatives, and enhanced mental health support, we can empower these future healthcare professionals to navigate the current crisis and emerge stronger, ensuring the continued provision of quality healthcare in a post-pandemic world.¹⁴

Methods:

It was a cross-sectional, questionnaire-based survey conducted at tertiary care teaching hospital of South Gujarat. After receiving ethical approval from HREC (No. GMCS/STU/ETHICS/Approval/19804/22), the questionnaire was circulated to all the final year students by sharing a link to a google form after explaining them the purpose of study. The students were requested to complete the questionnaire. A total of 208 students took part. After data collection, analysis was done using descriptive statistics and Microsoft excel version 2023.

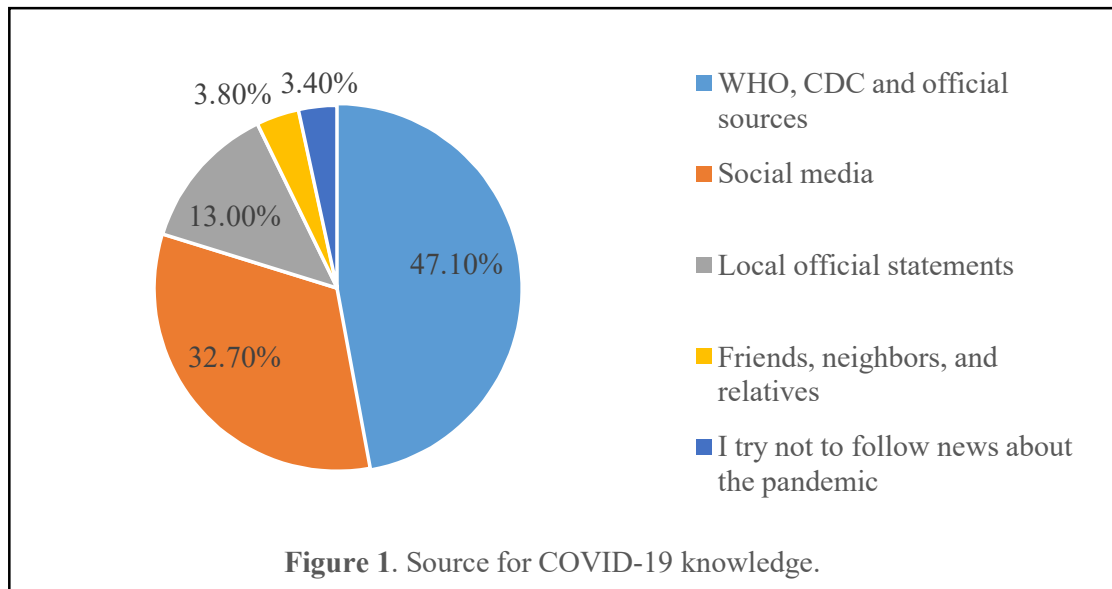
Inclusion criteria: Students willing to participate.

Exclusion criteria: Students not willing to participate.

Results:

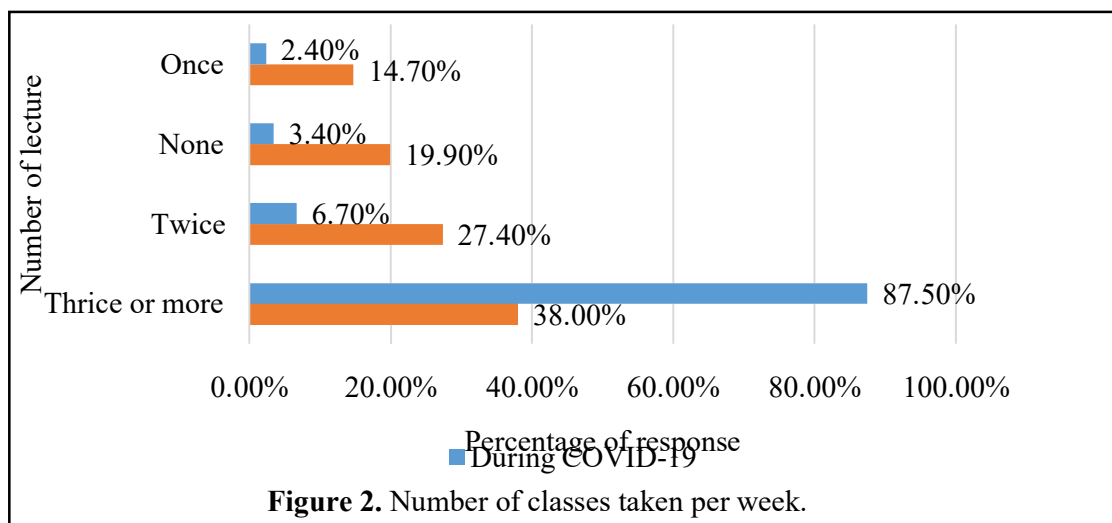
Out of 208 final year MBBS students, 136 (65.4%) were male and 72 (34.6%) were female.

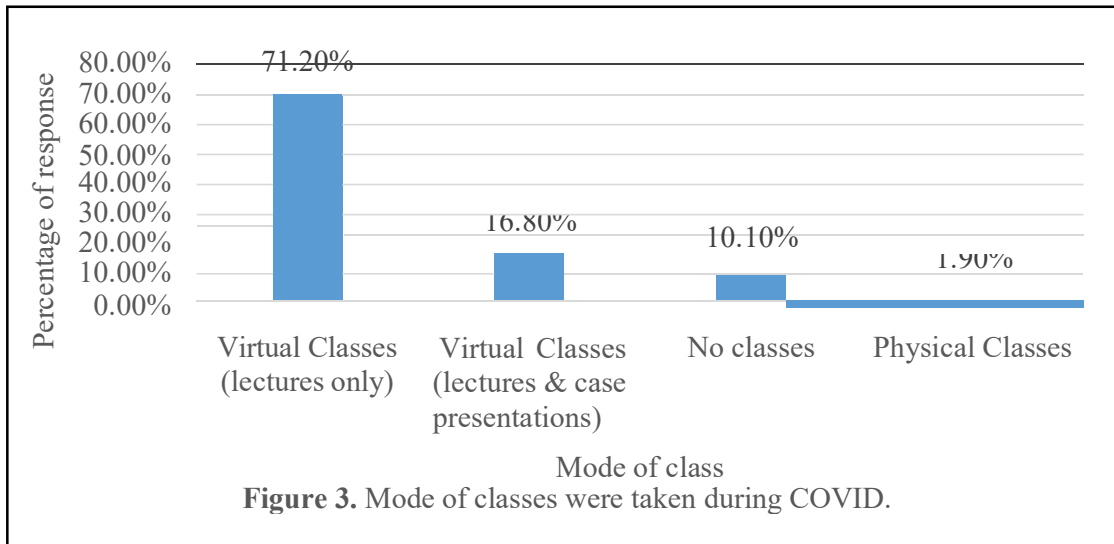
47.1 % of students have got COVID-19 knowledge from WHO, CDC, and official sources, 32.7% of students from social media, 13% of students from local official statements, 3.8% of students from friends, neighbors, and relatives, and 3.4% of students were not trying to follow news about the pandemic (Figure 1).



Impact of COVID-19 pandemic on medical education

There were three or more than three classes taken in 87.5% cases during COVID-19 era as compare to before (38%) as per obtained data (Figure 2). There were more virtual classes (71.2%) as compared to physical classes (1.9%) during COVID-19 era (Figure 3), 51.4% of participants were not satisfied with the online mode of classes taken, 25.5 % were mediocly satisfied, and 23.1% of students were satisfied.

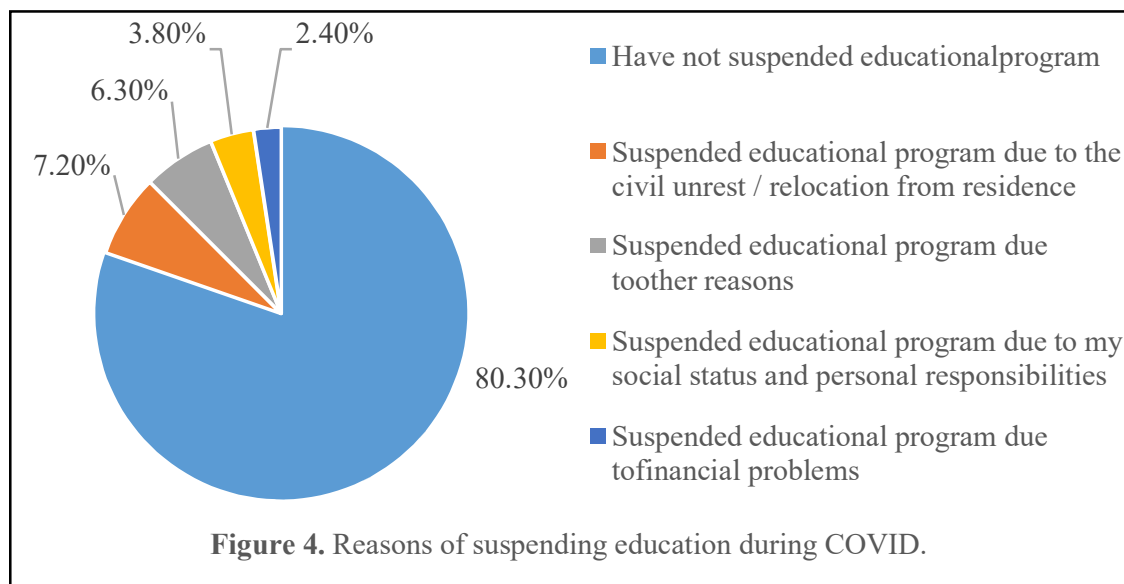




80.03% of participants were not suspended from educational programs, 7.2% of students were suspended from the educational program due to the civil unrest/relocation from residents, 3.8% of students were suspended from educational programs due to their social status and personal responsibilities, 2.4% of students were suspended educational program due to financial problems, and 6.3% of students were suspended educational program due to other reasons (Figure 4).

69.2% of the participants spend quality time with family members and 22.6% were looking after COVID-19 infected family member(s). 52.9% were getting medical education through online platform, 38% were doing exercise and improving physical fitness. 56.3% were playing video games, watching TV, reading non-medical books, 59.1% were resting and relaxing, 12.90% felt unwell and have implemented self-isolation, 14.4% were involved in medical research, and of 2.9% participants medical education program at the institute was not disrupted (offline mode) (Figure 5).

31.3 % of participants became interested in public health / infectious diseases their career plan or future of interest after COVID-19 while 68.8 % of participants were not affected.



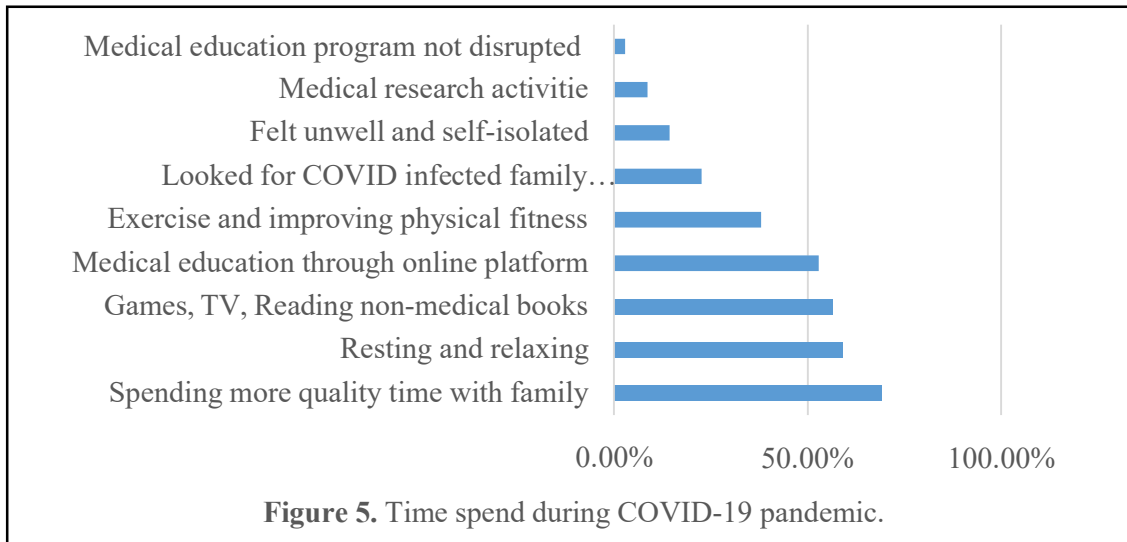


Figure 5. Time spend during COVID-19 pandemic.

Out of the total participants, 41.8% of participants were good, 19.2% were very good, 18.8% were proficient, 16.8% were acceptable, and 3.4% of participants were inadequate in using electronic devices.

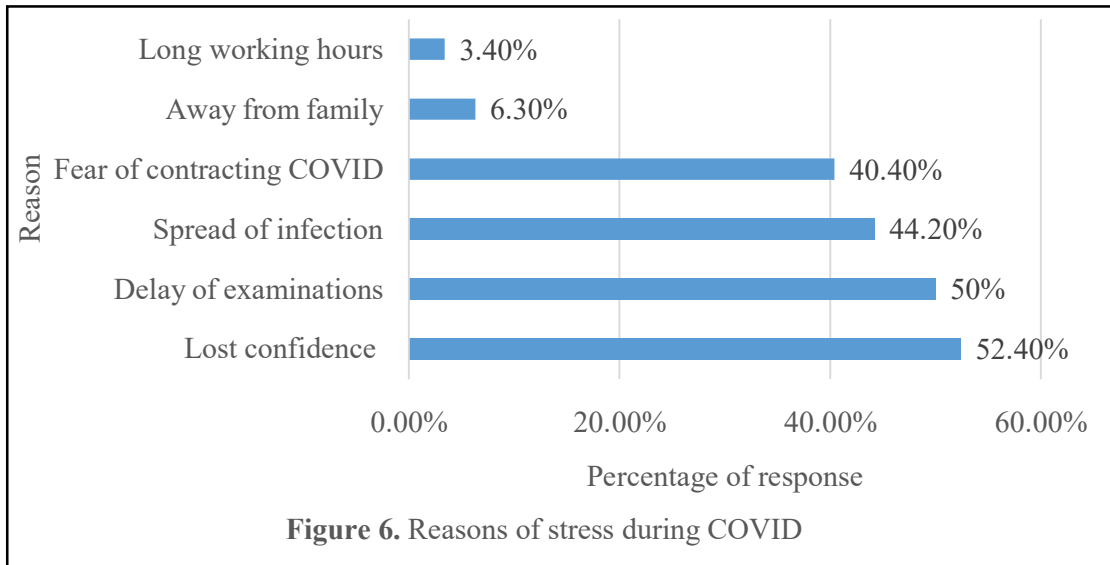
During COVID-19 period quality of internet availability was good to 41.8%, was very good to 30.8%, was acceptable to 21.2% and was bad to 6.3% of total participants.

According to responses, 26.4% of participants were using personal computer/laptop, 49% of participants were using tablet, and 89.9% were using smart phone.

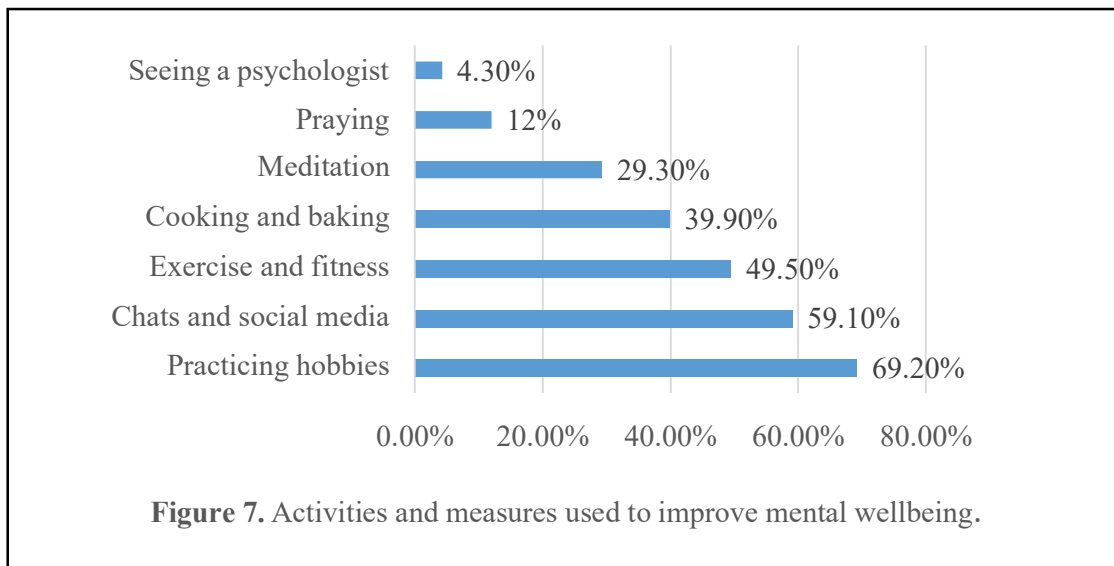
To 51% of participants, courses were provided by private education centers where to 49% total lectures were provided by the Institute. Among 79.8% participants did self-study utilizing various educational sources.

Impact of COVID-19 pandemic on psychology

Participants were felt stressed during COVID-19 because of multiple reasons like, 52.4% of participants were stressed due to lost confidence in clinical examination/history taking due to loss of clinical postings, 50% of them due to delay of final examinations, 44.2% of them due to spread of infection to co-workers, family members, 40.4% were afraid of contracting COVID-19 infection, 6.3% were stressed because of staying away from family, 3.4% were stressed due to long working hours in COVID-19 duty (Figure 6).



During COVID-19, multiple activities and measures were done by the participants to improve their mental well-being. Among those activities, playing and listening to music was highest 69.2%, followed by video chats and social media apps was 59.1%, exercise and fitness was 49.5%, cooking and baking was 39.9%, meditation was 29.3%, praying was 12% and seeing a psychotherapy specialist was 4.3% (Figure 7).



Regarding opting the covid duties, 63% participants were willing to educate the patient, 48.1% to perform low-risk procedures (I.V., suturing), 42.3% to test for COVID-19, 40.9% to screen visitors, 42.3% to examine patients, 38.9% to assist with triage, 37.5% telehealth, 21.2% to perform high-risk procedures (aerosolizing procedures like intubation), 0.5% they would be willing to help in any way & form, 0.5% in a transport system, anything and everything, their parents didn't wanted them to join the army, well medical is most ignored part of military development in current time, 0.5% this way they have had got both, 0.5% data filling.

Discussion:

The COVID-19 pandemic has had a significant impact on medical education and the psychology of final year MBBS students in a tertiary care teaching hospital. The disruptions caused by the pandemic have affected various aspects of their education and well-being. During initial phase of pandemic, social distancing, face mask, hand hygiene was the mainstay of prevention of infection. But along with prevention some pharmacological intervention was also required. Ever since the start of the pandemic, people were discussing when there would be a return to normal.¹⁵⁻¹⁸

Our study found that a substantial proportion of final year MBBS students obtained their COVID-19 knowledge from reliable sources such as the World Health Organization (WHO), Centres for Disease Control and Prevention (CDC), and official sources. This indicates the importance of accessing accurate and trusted information during a global health crisis. However, a significant number of students also relied on social media platforms for information, which may not always provide reliable or evidence-based content. It is crucial for medical students to prioritize scientifically validated sources to ensure they have accurate knowledge about the pandemic.

Current study revealed that the majority of final year MBBS students were dissatisfied with the online mode of classes during the COVID-19 period. This dissatisfaction may stem from various factors, including the limitations of remote learning in providing hands-on clinical experience, reduced interaction with faculty and peers, and challenges in adapting to a virtual learning environment. The clinical skills learning and assessment are very different from the theory world. The hands-on practice and direct patients' interaction have a totally different impact on skills development rather than learning theory online, Peters et al has got result in similar line in their study.^{19,20} These findings highlight the need for effective strategies to improve the online learning experience for medical students, ensuring they receive quality education despite the limitations imposed by the pandemic. On contrary to this, in one of the recent study by Aaraj et al. it has been found that students has got more time as compare to before.²⁰ A parallel trend has been obtained in study done by Gonzalez et al. on the literature reporting students' performance in higher education.²²

Present study showed that a large majority of participants were not suspended from their educational programs during the pandemic. However, a significant number of students experienced program suspensions due to various reasons, such as civil unrest/relocation, social status and personal responsibilities, financial problems, and other factors. These suspensions highlight the challenges faced by final year MBBS students in continuing their education during crises and the need for support systems to ensure equal access to medical education. Birch and Byung et al. found that exam breakdowns had a statistically significant effect on preparedness for both practical and written examinations ($p < 0.005$).^{23,24}

The study found that final year MBBS students engaged in various activities during the pandemic. Spending quality time with family members, engaging in medical education through online platforms, and leisure activities such as playing video games, watching TV, and reading non-medical books were among the most popular activities. These findings suggest that students made efforts to balance their personal well-being, educational pursuits, and leisure activities amidst the challenges of the pandemic.

This study revealed that a significant portion of participants developed an interest in public health/infectious diseases as a result of the COVID-19 pandemic. This suggests that the pandemic has influenced career choices and sparked a greater interest in healthcare-related

fields. However, the majority of participants reported that their career plans or future interests were not affected by the pandemic. These findings highlight the diverse impact of the pandemic on individual career trajectories among final year MBBS students.

Present study indicated that a considerable percentage of participants perceived the quality of internet availability during the COVID-19 period as good or very good. This suggests that a significant number of students had access to reliable internet connections for online learning. Moreover, the widespread use of smartphones for educational needs indicates the importance of mobile technology in facilitating remote learning for medical students. In one of the similar study done by Abdulghani et al. and Giordano et al., many of students perceived severe stress as they did not prefer online learning.^{25,26}

The study revealed several stress factors experienced by final year MBBS students during the pandemic. These included the loss of confidence in clinical examinations/history taking, delays in final examinations, fear of contracting COVID-19, and the spread of infection to co-workers and family members. These stressors, along with other factors such as being away from family and long working hours in COVID-19 duty, highlight the challenges and emotional burden faced by students. It is essential to prioritize mental health support and well-being initiatives for medical students during crises.

Also from this study it was found that final year MBBS students engaged in various activities to improve their mental well-being during the pandemic. Spending quality time with family, engaging in leisure activities, exercising, and practicing meditation were among the commonly adopted measures. These findings underscore the importance of self-care practices and promoting activities that enhance mental well-being among medical students, particularly during challenging times.

An important finding from the study is that a majority of final year MBBS students expressed a willingness to contribute to healthcare in various capacities. During the COVID-19 time, some institutes recruited students for hospital duties as COVID-19 warriors, while others denied any patient interaction. Similar trend has been seen by study done by Kapsia et al. and Kay et al.^{27,28} They were willing to educate patients, perform low-risk procedures, test for COVID-19, screen visitors, examine patients, assist with triage, and engage in telehealth. This highlights the sense of responsibility and commitment among students to support healthcare efforts during crises. Their willingness to contribute demonstrates their dedication to the medical profession and their readiness to serve the community in times of need. However, the training of young medical students can benefit from the considerable resources offered by virtual learning and independent study.²⁹⁻³²

Conclusion:

The COVID-19 pandemic has had a profound impact on medical education and the psychology of final year MBBS students in a tertiary care teaching hospital. The disruptions caused by the pandemic have affected the mode of classes, educational programs, mental well-being, and career plans of these students. By understanding the challenges faced by these students and providing adequate support, educational institutions and healthcare systems can mitigate the adverse effects of the pandemic on their training and well-being. Efforts should be made to improve the online learning experience, provide mental health support, and create resilience-building initiatives to empower these future healthcare professionals.

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