



THE AFFECT OF COVID PANDEMIC ON ACADEMICS OF MEDICAL UNDERGRADUATES

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ABSTRACT

The COVID-19 pandemic has had a profound impact on various sectors, with education being one of the most affected. This study examine the effects of the pandemic on education of medical graduates, focusing on the challenges faced in adapting to online learning, changes in clinical exposure, and alterations in assessment methods. Medical education, traditionally reliant on in-person teaching, clinical rotations and hands on experiences, faced significant disruption is due to lockdown and social distancing measures. This research investigates how medical students adapted to virtual classrooms, the efficacy of digital learning tools, and the impact of reduced patient interaction and clinical competence. Furthermore it explores the mental and emotional toll on students, including increased stress and anxiety related to academic performance and the uncertainties of future careers. The study also highlights the resilience and innovation within the medical education, community with institutions, swiftly transitioning to hybrid models and developing alternative methods for skill assessment. Overall, the COVID-19 pandemic has reshaped medical education, posing both challenges and opportunities for future reforms and the integration of technology in training.

KEYWORDS :

INTRODUCTION:

COVID-19 pandemic, a global threat originated from Wuhan, China in December 2019.

Due to its alarming spread and highly infectious nature and rising death toll,

WHO declared it as a pandemic on 11th March 2020. Due to the dearth of specific treatment / vaccine pronouncement of lockdown happened across the globe including India.

UNESCO approximated about 107 countries which closed their educational institutions leading to deferral of campus teaching in medical institutions.

Competency based education initiating elective postings were at stake.

Surgeries, conferences and outpatient appointments seized.

Medical education is an exceptional blend of practical training and theoretical knowledge which is undeniable.

But to this unalienable concept, online teaching platforms became a solitary alternative method for relying education.

This transformation of face to face teaching to online environment during covid period, took revolutionary turn in the world of teaching, communication and learning.

Many challenges but navigated by medical students.

Some analysts have predicted that COVID-19 had positive impact leading to expanded acceptance of virtual education.

Switching To The Virtual Education During Emergency Acted As A Revamp Button To The Ailing Traditional Education System But At What Cost???

A medical student experiences increased levels of stress disturbing physical and mental health.

Objective of the study is to evaluate the effect of education and psychological behaviour on medical students (clinical rotations, impact on the technology used for online classes

,willingness of students to participate clinically , effect of quality of life, loneliness ,sleep and depressive symptoms)

METHODOLOGY:

A cross sectional study was conducted among 100 medical undergraduates in Konaseema Institute of medical sciences, Amalapuram. This study was collected through Google forms by using a pre-designed semi structured questionnaire. SPSS software version 2020 was used for statistical analysis.

METHODOLOGY

Study Design: Cross sectional study

Study Population: MBBS undergraduates of third and fourth year and interns of KIMS, Amalapuram.

Study Period: November 2024 to March 2025.

Sample Techniques: Convenient sampling

Inclusion Criteria: Undergraduates, who experienced Covid pandemic in medical College period

Exclusion Criteria: Medical undergraduates, who had not experienced Covid pandemic in their undergraduate period

Data Collection: Data collection was done using pre-tested and pre-structured questionnaire, Google forms were sent to all medical students and asked to be filled

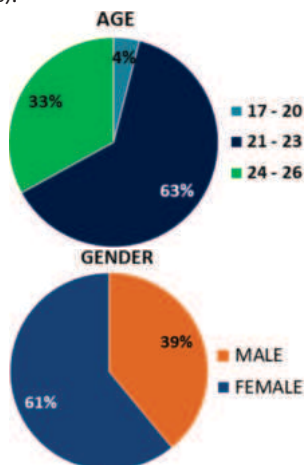
Data Analysis And Interpretation: Data was entered using Microsoft Excel 2016 spread sheet summarization and analysis of data was carried out by using IBM SPSS software version 20.

RESULTS

The questionnaire was administered to 100 subjects from undergraduates of third and fourth years and interns who experienced COVID pandemic in medical college period to obtain maximum benefit from the study.

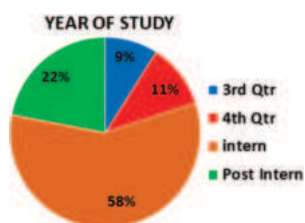
In the above analysis,related to Ages, a total of 100 subjects were taken as sample size, out of which (17-20) age group constituted of 4 members (4%). (21-23) Age group constituted

of 63 members (63%) and (24-26) age group constitutes 33 members (33%).



In The above analysis, related to the gender analysis, 100 subjects taken into consideration, 39 members (39%) constitutes of males and 61 members (61%) constitutes of females.

Thus Females undergraduates are mostly affected during pandemic period.

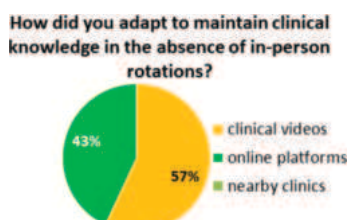


In the above analysis, related to the year of study of undergraduate subjects, 9 members (9%) are from MBBS 3rd year, 11 members (11%) are from MBBS 4th year, whereas MBBS Interns constitutes of 58 members (58%) and Post Internship students constitutes of 22 members (22%).

The most affected individuals are of the Internship batch.



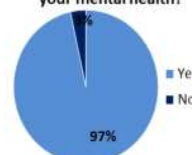
In The above analysis, related to the Challenges faced during taking online classes, out of 100 subjects, 36 members (36%) voted for the most ranked challenge i.e., Network problems. The second ranked challenge faced by the subjects is Decreased effectiveness in online classes which constitutes of 23 members (23%). 22 members (22%) constituted to the Decreased interest in virtual classes whereas the least challenge faced by the subjects was Unavailability of mobile devices which constituted to 19 members (19%). The most common problem faced by the subjects was Poor Network problems.



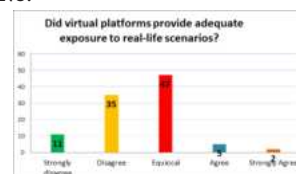
In the above analysis, related to the adaptations taken by subjects to maintain clinical knowledge in absence of in

person rotations, 57 members (57%) adapted watching clinical videos, whereas 43 members (43%) adapted other online platforms for knowledge gaining. But none others chose nearby clinics.

Does isolation and increased stress affect your mental health?



In the above analysis, related to Mental health affected by the Isolation and increased stress during pandemic, out of 100 subjects, 97 members (97%) voted for Yes and 3 members (3%) voted for No.

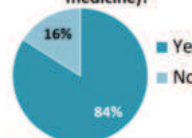


In the above analysis, depicting whether Virtual platforms provide adequate exposure to real life scenarios, out of 100 subjects, 47 members (47%) opted for equivocal option, whereas 35 members (35%) opted Disagree. Out of 100 subjects, 11 members (11%) opted for strongly disagreement; whereas 5 members (5%) opted for Agree option and 2 members out of 100 subjects (2%) opted for strongly agree option.

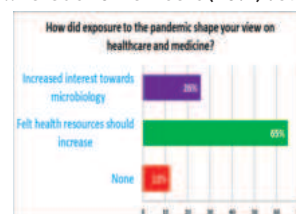


In the above analysis, depicting whether the subjects were able to develop essential communication skills through telemedicine, out of 100 subjects, 45 members (45%) opted for equivocal option, whereas 39 members (39%) opted Disagree. Out of 100 subjects, 10 members (10%) opted for strongly disagreement; whereas 4 members (4%) opted for Agree option and 2 members out of 100 subjects (2%) opted for strongly agree option.

Did the pandemic alter your interest in certain specialties (e.g., Emergency medicine)?

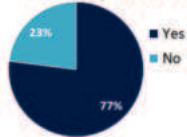


In the Analysis, related to Pandemic altering their interest in certain specialties, out of 100 members, 84 members (84%) voted for YES, whereas 16 members (16%) voted for NO.



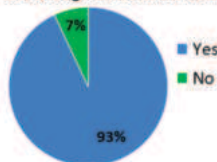
In Above analysis, depicting how the exposure to pandemic shape the undergraduate's view on healthcare and medicine, 65 members out of 100 subjects that is (65%) Felt that health resources should increase whereas 26 members out of 100 subjects felt increased interests towards microbiology and 12 members out of 100 subjects (12%) opted Neither of the options.

Did faculty members support your academic and emotional needs?



In the above analysis, related to whether the subjects got supported by their faculty members in view of their academic and emotional needs, 77 members (77%) voted for YES . Whereas 23 members (23%) voted for NO.

Did the pandemic lead to gaps in your knowledge and clinical skills?



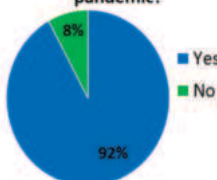
In the above analysis, related to whether pandemic led to gaps in the subject's knowledge and clinical skills, out of 100 subjects, 93 members (93%) voted for YES whereas 7 members (7%) voted for NO.

Do you find any positive perceptions of online classes?



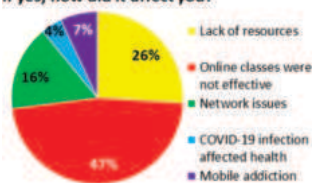
In the above analysis, related to having Positive perceptions towards online classes, out of 100 subjects, 76 members (76%) voted for YES whereas 24 members (24%) voted for NO.

Did your preparation alter due to the pandemic?



In Above analysis, related to Alterations in preparation due to pandemic, out of 100 subjects, 92 members (92%) voted for YES whereas 8 members out of 100 members (8%) voted for NO.

If yes, how did it affect you?



In the above analysis, regarding how the pandemic affected the undergraduates, 100 subjects 47 members (47%) voted for Ineffectiveness of online classes where has 26 members out of 100 subjects (26%) voted for Lack of resources. 16 members out of 100 subjects, (16%) voted for network issues

Whereas 4 members out of 100 subjects got affected by COVID-19 infection.

DISCUSSION:

The COVID-19 pandemic had a profound impact on the academic journey of medical undergraduates, affecting various aspects of their education and future careers. Here are some key areas of its influence:

1. Disruption of Traditional Learning Methods

Shift to Online Learning: Medical schools, like most

educational institutions, had to quickly adapt to online learning, which led to a dramatic shift away from traditional in-person lectures, practical sessions, and clinical rotations. Although online platforms facilitated the continuation of theoretical learning, hands-on training and clinical exposure, which are vital for medical education, were severely limited. Challenges in Practical Training: Medical education relies heavily on practical skills, from dissection in anatomy labs to patient interaction in clinical settings. With lockdowns and restrictions, students missed out on crucial hands-on experiences. Virtual simulations, though helpful, could not fully replicate the real-world scenarios necessary for developing clinical skills.

2. Delayed or Altered Clinical Rotations

Clinical rotations were significantly delayed or altered during the pandemic, as hospitals focused on dealing with the surge in COVID-19 cases. Many medical students were unable to directly engage with patients or participate in real-time clinical experiences, which affected their learning and development as future healthcare providers. Some medical schools adapted by offering virtual case studies or telemedicine training, but these could not replace the depth and breadth of experience gained from patient interactions.

3. Mental Health and Well-being

The pandemic's uncertainty and stress negatively impacted students' mental health, with many experiencing increased anxiety, depression, and burnout. The sudden transition to online learning and the challenges of managing their studies in isolation exacerbated these issues. For medical students, this was particularly concerning, as stress and mental health struggles can affect their academic performance and their ability to empathize with patients in the future.

4. Delayed Graduations and Licensing

Many medical students faced delays in completing their coursework or internships, which in turn delayed their graduation dates. Some licensing exams and certifications were also postponed or modified, leading to uncertainty about when they would officially enter the medical workforce.

5. Impact on Research and Innovations

Many medical students engage in research projects during their academic careers. With the pandemic disrupting laboratory work and limiting opportunities for field studies, many students had to put their research plans on hold. This resulted in a reduction in opportunities for academic publication, research experience, and innovation, which could have otherwise contributed to their professional development.

6. Long-term Educational Reforms

The pandemic exposed several gaps in medical education, particularly the lack of preparedness for widespread digital education. In response, many institutions are now integrating more technology into their curriculum. Medical schools are likely to embrace hybrid learning models, combining online resources with in-person clinical experiences to offer more flexibility and efficiency in the future.

7. Adaptation and Resilience

Despite the challenges, many medical students demonstrated resilience and adaptability. Virtual learning platforms and simulation-based learning became integral tools, and students developed new ways of interacting with faculty and peers. The pandemic highlighted the importance of flexibility and adaptability in medical education, skills that are also critical in a rapidly evolving healthcare environment.

8. Impact on Global Health Awareness

On a more positive note, the COVID-19 pandemic heightened

awareness among medical students about global health challenges, public health policy, and the importance of epidemiology. It has reinforced the need for medical professionals to be well-versed in pandemic preparedness, infectious disease management, and health system resilience.

CONCLUSION

The COVID-19 pandemic had significant impacts on the academic experiences of medical undergraduates, creating challenges related to learning, clinical exposure, mental health, and research. However, it also led to innovations in medical education, with many institutions embracing digital tools and more flexible teaching methods. The future of medical education may be shaped by these lessons, ensuring that the next generation of healthcare professionals is better prepared for future global health challenges.

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