

Short Communication

Impact of COVID-19 on Learning Behavior of Undergraduate Medical Students during Ophthalmology Module; Lessons Learnt

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Abstract

This qualitative study was carried out at Batterjee Medical College, Jeddah; KSA to explore the impact of COVID-19 and its related lockdown on the learning of undergraduate medical students from December 2019 till July 2020. This qualitative exploratory study, utilizing online focus group discussions to explore the psychological impact of COVID-19 on student's learning at the Ophthalmology Department of Batterjee Medical College, Jeddah; KSA. Ethical approval was taken from the college and a purposive convenient sampling technique was used to collect data. Data was transcribed and analyzed by using thematic analysis. The study identified the multifold impact of COVID-19 on student's learning faced by the 4th year undergraduate medical students during an Ophthalmology module. Social isolation and the shift to an online mode of teaching and learning were the main challenges that affected student's learning in many ways. Four major effects of COVID-19 explored in the study were; psychological effects, the impact of social disconnect with peers and patients, impact on learning behavior changes and moment of myself. Results can be used by the medical educators to understand student's minds and needs to enhance their academic participation, learning and performance, especially in the current circumstances of the COVID-19 pandemic.

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Introduction

The world, these days, is facing one of the biggest public health crises globally due to COVID-19. The infectivity and fatality of the disease have had a significant socio-economic, political, and psychological impact on human life. Millions of people have been quarantined at their homes due to the global lockdown to implement social distancing measures to avoid infec-

tivity and control the spread of the virus.¹ This social isolation has been compounded by panic, stress, and anxiety and has been crucially affecting the human mind. The health system including medical students is under great amounts of stress.

Where this social isolation has led to many psychological illnesses due to loneliness in the general public and it has had psychological effects on learning of the medical students as well.² These daily life restrictions in terms of social isolation and quarantine have led to many behavioral changes especially learning behavior among medical students globally.³ For the safety of the students, these lockdowns have changed the teaching and learning



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mode from direct, face-to-face, on-campus studies to online sessions. This transition to online teaching and learning is altogether a new mode of communication for learning needs time to adjust to, both by the faculty and the students, to be of maximum utility in the current scenario.

Online learning has its benefits and challenges⁴ but its cautious use in medical schools can help in effective teaching and learning during difficult situations e.g. non-availability of patients, rare disease cases etc. It can help medical students to keep updated and familiar with the range of variety.

The limitations caused by COVID-19 and related lockdowns, however, can have a pleasurable outcome if certain challenges, related to online teaching and learning, are overcome. This study has explored the impact of COVID-19 on undergraduate medical student's learning.

Methods

A qualitative exploratory study was carried out over about six months (December 2019 to July 2020). Ethical approval was granted by Ethical Review Committee. 4th year medical students of Batterjee Medical College (BMC) attending the Ophthalmology module were selected by purposive convenient sampling.

As the study was in the midst of COVID-19, two online focused group discussions were arranged by the first (SN) and third author (AR) to collect data about the impact of COVID-19 on the learning of undergraduate medical students. Eleven students participated in each FGD and were selected based on their academic grades and willingness to participate in a way that both groups of FGD include a mix of students (high achievers, average students, and low achievers) to gain a thick descriptive of fourth-year medical students. Questions were asked about their experience and challenges of learning through the COVID-19 related lockdown. Open-ended questions were asked from the participants and the FGDs were conducted up to the level of data saturation. The proceedings of the discussions were audio recorded by the third author AR. The FG participants were informed about their voluntary participation and informed written consent was also taken. Data collected from the FGDs were recorded and transcribed for analysis.

The data collection tool used in the study was Focused Group Discussion (FGD). The purpose of using FGD as a data tool was to yield the best information through mutual interaction of the participants who were known and cooperative with each other. During these sessions, all participants were encouraged to take part to provide their perspective. FGD items were developed while considering AMEE guide 87. A thorough literature review was done to explore and align the impact of COVID-19 and the learning behavior of undergraduate medical students with preexisting research. A brief online FGD of 20 minutes was conducted with six 4th year medical students to explore their perspective on the impact of COVID-19 on their learning and to contextualize and develop FGD items. Expert validation of the content was done by four faculty members from the basic and clinical science departments. The response received was discussed to finalize the items.

The audio-recorded data from FGDs were transcribed by the first author SN. Thematic analysis was carried out to find out the patterns within the data and to generate themes. Initial familiarization with data was done and code identification was done by an open coding process. The second cycle of coding was run to further narrow down the codes. Finally, by merging the open and axial codes, sub-categories (subthemes) were made and arranged under a central theme. The initial data analysis draft was shared with the fourth author (DR) to review. After initial review, an online discussion was carried out between authors 1, 2, 3, and 4 to develop a consensus over the final analysis.

Results

The objective of the study was to explore the impact of COVID-19 and its related lockdown on undergraduate medical student's learning during an Ophthalmology module.

In the current situation of COVID-19 pandemic-related lockdowns, teaching and learning have become a great challenge in medical education. For the safety of the students; on-campus teaching, social interactions, and contact with the patients in clinics have been revolutionized. Although all taken precautions of social distancing lockdowns and online teaching are for the safety and protection of the students but going along with this is very hard for them.

Our study has explored the multifold impact of COVID-19 on student's learning faced by the 4th year undergraduate medical students during an Ophthalmology module and discussed and shared their views in online focus group discussions. Social isolation and online mode of teaching and learning were the main challenges that affected student's learning in many ways, as given below in Table 1. Four main themes were identified with further related subthemes.

Discussion

The study showed a strong psychological impact of COVID-19 on student's learning behavior. Students explained how these lockdowns have created an enormous amount of psychological stress, uncertainty and anxiety in their personalities. The uncertainty about their future and learning is disturbing their personality. They talked about the direct effects of the lockdown on their personality which were indirectly affecting their learning. Poor motivation to learn and pushing back study time were the new behaviors developed

during this period.

Hence as the students mentioned, the unique situation the students find themselves entrapped in has been detrimental to their social life and communication with other peers and friends. This lack of social communication and isolation due to COVID-19 has waned their motivation and their overall interest in their studies and have found it quite arduous to stay on task and focused on the required projects. Social disconnect from peers and patients created due to lockdown and online learning has also created dissatisfaction and poor motivation to learn among the students. Many of them found it a non-professional environment for learning or found difficulty in separating their personal and professional life.

Many participants of our study mentioned the psychological effects of this social isolation on their learning.⁵ Behavioral changes, in terms of poor motivation for learning, lethargy, denial, and delaying study time, affected their studies. Lack of motivation was the main concern by many of them as it has led them to a sedentary

Table 1: Impact of COVID-19 on learning

Theme	Subtheme	Related quotes
Psychological impact on learning	<ul style="list-style-type: none"> ➤ Behavior ➤ Personality ➤ Lifestyle 	<p>“For me, my motivation is dwindling a bit compared to before the lockdown which is making me bit lethargic.”</p> <p>“It just the idea that you are "locked down" is stressful.”</p>
Impact of social disconnect	<ul style="list-style-type: none"> ➤ Peers ➤ Patients 	<p>“I found poor motivation to start work and learn coz of no direct contact with the teacher.”</p>
Impact on learning behavior	Unprofessional attitude	<p>“Once I am done from the lecture I feel I have lot of time to study instead of wasting time in commuting from college to home. for me I like online study, it actually spares lot of our time.”</p>
Moment of myself		<p>“I feel I am in continuous stress because I did not know that where I am in comparison to my class fellows. I feel like I am cutoff from rest of the world.”</p> <p>“Confusion and loss of everything in terms of social life, friends, college life, poor motivation to get up early, poor motivation to make myself ready, loss of energy or motivation to study.”</p> <p>“My sleep time has increased because I do not have anything else to do.”</p> <p>“I do not feel myself in a professional environment that why get distracted most of the time.”</p> <p>“I have environment related concerns coz the whole online environment is not very motivating to learn. I do not feel it a professional environment.”</p> <p>“Once I am done from the lecture I feel I have lot of time to study instead of wasting time in commuting from college to home. for me I like online study, it actually spares lot of our time”.</p>

lifestyle and poor learning attitude.⁶ Most of them found out that they have developed the habit of delaying their studies due to a false impression of having gained extra time.⁷ I. Lee and his colleagues have also discussed the lack of motivation among students due to the sudden shift in teaching and learning strategies during the COVID-19 pandemic.^{8,9} Constant feeling of being isolated and socially disconnected from friends has also led them to stress, irritability, and depression.¹⁰ Many students in this competitive field found themselves under increased stress for being clueless about their learning in comparison to their peers, from whom they were socially disconnected for a certain period.¹¹ They thought they were completely cut off from the rest of the world. Azad Ali and Davis Smith have found that social isolation is a major cause for student drop out from their academics. Lack of direct contact with peers leads to poor motivation and anxiety for learning among students. Students discussed that phone calls cannot replace the emotions, facial expression, and body language that was present during direct contact.^{12,13}

S. Mukhtar mentioned these behavioral modifications in recent COVID-19 related lockdowns globally. Mental health issues especially stress, anxiety, altered sleep behavior, fear of the unknown and depression are emerging consequences of social isolation. Uncertainty about the future is another byproduct of this isolation and is adversely affecting students' motivation to learn.¹⁴

Some other studies also showed personality changes due to social disconnect.¹⁵ Social isolation can lead to depression among students which becomes a big obstacle to gaining academic success as stated by Shing Yu Jolene Lim. Along with poor academic performance, an important facet of their education, the university learning experience, is also lost in such students.¹⁶

Vivian Isaac and Sabrina Winona stated in their study that medical students need constant social interaction with their peers and patients to learn. They emphasized that peer support has a worthwhile impact on motivating the learning behavior of medical students. At the same time, patient interaction in the clinical environment increases the interest of students in their learning, which is affected by social isolation. Social isolation creates a sense of not belonging to the community and influences the student's emotions such that it has a negative impact on future interest and motivation in learning.¹⁷

In focused group discussions, students also expressed their concerns and enmity about the social disconnect from the patient on their learning behavior. One of them expressed the impact of this isolation on their learning as:

“Confusion and loss of everything in terms of social life, friends, college life, patient interaction, poor motivation to get up early, poor motivation to make myself ready, loss of energy or motivation to study.”

J. Walton and Y. Steinert have also stressed on the role of patient interaction and in-patient rounds in a student's motivation for learning. For clinical specialties, like Ophthalmology, these in-patient rounds and patient care activities are the major educational activities promoting them to become self-sufficient lifelong learners.¹⁸ T. Vijn, C. Fluit, J. Kremer et al. also revealed that these social interactions between peers and patient is an important source of collaborative team-based learning and contribute well to the quality of medical education.¹⁹ This learning attitude and professional development are also badly affected by the current situation of lockdown related social isolation.

The study also found a positive perspective of this lockdown on learning as well. They found that the lockdown has provided students the benefit of taking out some time for themselves from their hectic schedule of studies. The time to commute between home and college was now also spared, to be used for their own self or extra studies. Some of them used it to enjoy leisure reading of nonacademic content and some of them used it to relax and self-grooming. M. Pereira and M. Barbosa have also discussed the positive impact of relaxing time in between study hours on undergraduate medical students' mental health. They found out that lack of time for self, excessive learning content, and expectation of family keep undergraduate medical students an enormous amount of stress which adversely affect their academic productivity and mental health.²⁰ Due to these concerns and considerations, this lockdown and social isolation could be a sigh of relief for many overburdened and stressed undergraduate medical students.

Limited time during Ophthalmology module was the main limitation felt to see the further impact of COVID-19 on academic performance.

Conclusion

The COVID-19 pandemic has resulted in a shift in both social and academic circumstances for medical students. The overall uncertainty resulting from this crisis has had a negative effect on the psyche of students resulting in a lesser motivation to learn new material. The medical academic community must be cautious of this change in mindset while coming up with effective strategies to impart knowledge through these unprecedented times. The disconnect felt by students in initiating and maintaining contact with the faculty must also be bridged by the academic community to allow for increased understanding of students in such unprecedented times.

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