






Crisis or Opportunity? A Phenomenological Study of the Impact of COVID-19 Pandemic on Final Year Medical Students

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To cite this article:

Win, M. T., Lim, S. Y., Bhargava, P., Lim, Y. S., Shanmuganathan, P., & Khine, P. P. (2020). Crisis or opportunity? A phenomenological study of the impact of COVID-19 pandemic on final year medical students. *International Journal of Studies in Education and Science (IJSES)*, 1(2), 112-127.

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International Journal of Studies in Education and Science (IJSES) is affiliated with the **International Society for Technology, Education, and Science (ISTES): www.istes.org**

Crisis or Opportunity? A Phenomenological Study of the Impact of COVID-19 Pandemic on Final Year Medical Students

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Abstract

While online learning has enabled access to educational activities during the COVID-19 pandemic, there are likely to be unrecognized challenges prompted by the unique set of circumstances currently faced by medical students in many parts of the world, especially those in the final undergraduate year, when academic pressure is most felt. The study aimed to explore the experiences of final-year medical students during the pandemic and how this has affected their learning and emotional well-being. A hermeneutically-guided phenomenological approach was used. Twenty-two final-year medical students were interviewed. Inductive thematic analysis was performed on the transcribed data. Four main themes emerged, revealing prevalent feelings of anxiety and demotivation. Potentially actionable drivers behind these negative emotional experiences were identified, including worries about deterioration of clinical skills, exam unpreparedness, reduced peer contact, and fear of contagion. Distractions, excessive online time, and lack of meaningful interactions contributed to disengagement with online learning during the pandemic. The main positive aspects reported were that online learning was flexible and timesaving. Educators should re-consider their approach to online teaching during the pandemic by considering the students' emotional state and making appropriate provisions for preserving their well-being.

Keywords: COVID-19 pandemic, Medical education, Online learning, Medical student, Well-being

Introduction

The Coronavirus disease of 2019 (COVID-19) pandemic has caused significant disruption to medical education worldwide. Like many countries, the Malaysian government has enforced lockdown measures to contain the spread of infection, termed locally as a movement control order (MCO), since the pandemic was declared in March 2020. Strict social isolation measures saw the suspension of all physical activities on campus, the removal of medical students from clinical placements in healthcare facilities, and the cancellation of clinical electives, prompting medical schools to rapidly transfer their entire curriculum to online e-learning platforms.

Challenges in online learning have been extensively researched and documented (O'Doherty et al., 2018), however studies conducted before the pandemic do not adequately reflect the current crisis and unprecedented difficulties faced by medical students and educators during this period. Although students at every stage of their undergraduate medical training have been affected by these changes, the repercussions are likely to be felt most severely in final-year students who are expected to complete their undergraduate training in the current year, hence, they are the focus of this study. Loh et al (2006) found significant anxiety among students during the severe acute respiratory distress syndrome (SARS) epidemic in Malaysia in 2003, highlighting the importance of addressing and preparing students for a similar event in the future.

Context: Final-year Curriculum and Assessment

During the final three years of medical undergraduate study, the students undergo clinical placements in local healthcare facilities. The final-year clinical placement (senior clerkship) is crucial for consolidating both theoretical and clinical knowledge, and in providing a solid foundation in preparation for their housemanship (internship). Before they graduate, the students are required to pass a professional examination which comprises of both theory and clinical assessments. Elements of history-taking, physical examination, diagnostic reasoning, formulation of management plans, simulated discussions with patients/family members, and clinical procedural skills are tested in the clinical assessments by means of objective structured clinical examinations (OSCE), clinical long case and clinical short case.

Context: Online Teaching and Learning during the Pandemic

Due to strict government lockdown measures in the last 3 months leading up to this study, all teaching and learning activities in our undergraduate medical program were conducted online. A Moodle-based online learning platform is used as our main e-learning platform whereas live teaching utilized popular videoconferencing platforms such as Zoom (Zoom Video Communications, Inc; San Jose, California, USA), Microsoft Teams (Microsoft Corporation; Redmond, Washington, USA) and Skype (Skype Technologies S.A.R.L.; Palo Alto, California, USA). Online teaching sessions were delivered through case-based discussions, lectures, student-led seminars, simulated patient consultations, and clinical skills demonstrations using a mixture of live streaming, videos and recorded presentations. Self-directed learning was available to students through online quizzes, lecturer-moderated online discussion boards, downloadable digital media content, and the university's library e-resources.

Study Aims

The aim of this study is to understand the experiences, challenges and limitations faced by final year medical students relating to their teaching and learning during this crisis. Based on our objectives, our research questions are as follows: -

- Q1. What are the challenges and limitations faced by final year medical students during the COVID-19 pandemic?

Q2. What are their experiences of online teaching during this pandemic?

Q3. How did they perceive the change to fully online teaching during this pandemic?

Methods

Approach and Rationale

The aim of phenomenological research is to gain new insight about a phenomenon by studying the subjective experience of those who lived it, utilizing rich descriptions (Neubauer, Witkop, & Varpio, 2019). This appropriately addresses our research questions of what the students experienced and how it affected them. To achieve a more robust understanding of the students' perceptions and feelings, a hermeneutically guided approach is appropriate. Hermeneutics underlies a particular approach to phenomenology which extends beyond solely descriptive accounts - where the meaning and context from which this experience arises are elucidated and analyzed to gain a more detailed and nuanced understanding of this lived experience, thus making interpretation its key paradigm (Henriksson, 2012).

While one-on-one interviews are often employed, focus groups have been used and reported in hermeneutic phenomenological studies, either as the main method of data collection (Côté-Arsenault & Morrison-Beedy, 2001; Dunne & Quayle, 2001; Kookan, Haase, & Russell, 2007; Palmer, Larkin, de Visser, & Fadden, 2010; Robley, Farnsworth, Flynn, & Horne, 2004; Roose, Yazdani, & John, 2003) or to complement individual interviews (Carr, 2004; de Visser & Smith, 2007; Flowers, Duncan, & Frankis, 2000). The use of focus groups is an efficient method of collecting diverse narratives (Ng, Baker, Cristancho, Kennedy, & Lingard, 2018) which we felt would better inform us of the extent of the impact of the pandemic on our students. Additionally, we felt that the appreciation of shared experiences between the participants would better encourage and enhance disclosure of personal accounts. The participants in this study are already part of a small, cohesive, pre-existing group with a shared social context, having been together for the past 4.5 years in the same year of study within the same medical course. In such situations, participant interactions are more likely to produce more detailed and extensive accounts and with better recall than one-on-one interviews (Wilkinson, 1998).

Recruitment and Study Population

The research proposal and semi structured questions were reviewed by an expert and approved by the university's Human Ethics Committee. All final-year medical students from our university were invited to participate via phone messaging. Participation was entirely voluntary, and participants were informed that they could withdraw at any time. Implied consent was assumed by the act of agreeing to participate in the study.

Data Collection

To achieve robust triangulation, we divided the participants into three groups of 7 to 8 each (groups A, B and C). Each focus group was facilitated by two interviewers who acted as moderators rather than group leaders to help stimulate exchanges between the students during the interview process. We composed semi-structured

interview questions that reflected our study aims, keeping them open and unambiguous. The following are examples of the questions that were asked: “What were your experiences of online learning during the pandemic?”, “What challenges did you face during online learning?” and, “How do you perceive the effectiveness of online learning?”

We used an online videoconferencing platform (Zoom) for the interviews. Each interview lasted around 45 minutes on average. The recorded interviews were then transcribed for data analysis.

Data Analysis

We referred to the step-by-step approach detailed by Krueger and Casey (2000) to structure our overall analytical process. For the interpretive aspects of transcript analysis, we were guided by the phenomenological principles and methods described by Henriksson (2012) and van Manen (2014, 2016). Data were derived from three main sources within the transcripts – from the whole group, from group interactions and from individual participants. This approach ensured that unique viewpoints were not excluded, that data were not limited to that of group consensus only (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). Interpretive aspects were reviewed by at least two researchers, and their meanings were discussed and re-interpreted where necessary. This was followed by thematic analysis on the annotated transcripts as outlined by Diccico-Bloom and Crabtree (2006). An inductive approach was used to determine the themes. Codes were assigned to all parts of the transcripts by repeated reading for emerging themes, conducted in parallel by the researchers. This was done manually without the use of computer software. The codes were then categorized into their relevant themes, and the process was repeated all over again. Data saturation was achieved when no new themes emerged following repeated analysis. Finally, the themes were cross-checked for consistency and repeatedly discussed until a consensus on the final themes and subthemes was achieved.

Rigor

In their qualitative methodological review, Ng et al. (2018) highlighted the potential effect of hierarchical relationships between the researchers and participants (for example, researchers who are also the participants’ lecturers), which may lead to unreliable or guarded responses, adversely affecting the authenticity of the analysis. The students in our study were reassured of anonymity, that their responses would remain strictly confidential, and that the study outcome would have no bearing on their academic standing.

According to Yanow and Schwartz-Shea (2014), obtaining informant feedback or respondent validation enhances the accuracy, credibility, and transferability of the study, pertinent to its trustworthiness. Before the final report, the transcribed data and draft analysis were read by the students and they confirmed that their words and feelings had been accurately captured and understood. Lincoln and Guba’s (1985) model of the “truth value” in qualitative research underscores the importance of researchers’ ability to interpret the participants’ perspectives clearly and accurately. Feedback from the students confirmed that the interpretations of their perceptions were correct.

Results

Out of the 25 students recruited, a total of 22 students consented to the study, comprising of 9 male and 13 female final-year medical students. Their average age was 24 years. Participant demographics are summarized in Table 1.

Table 1. Participant Demographics

	Number of students	Percentage (%)
Gender		
Male	9	40.91
Female	13	50.09
Ethnicity		
Malay	5	22.73
Chinese	10	45.45
Indian	7	31.82

Four themes and two sub-themes were identified from the three groups, encompassing both positive and negative emotional experiences.

Theme 1: Online Learning and Anxiety

The recurring concerns which emerged from all three groups were worry and anxiety. “Worried” and “scared” were the words most frequently used by the students to describe their feelings. Participants in all three groups collectively described exam anxiety and fear of academic failure due to their perceived incompetency in practical/clinical skills arising from lack of clinical exposure during lockdown. In Group A, participant A1 starts a conversation by identifying this as a disadvantage of online learning:

“One thing is that we lack clinical skills exposure, so this is the down side.” (A1), to which further responses were prompted: *“My only concern is that our clinical exposure is not really adequate for us to go and sit the exam PE II (final professional exam) so scare about that.”* (A4) and *“For me the biggest challenge I guess is trying to keep up with my clinical skills.”* (A7)

Group B participants took an identical view, echoing each other in applying the word ‘worry/worried’ to describe their feelings regarding their own exam unpreparedness.

“I actually more worry about the clinical exposure.” (B1) This was followed by further revelations from other members of the group: *“I think, because this is our final semester, I worry about clinical exposure, especially for the short case.”* (B4), to which another participant agreed: *“Ya, I am worried about how much I can perform in the professional exam.”* (B2)

By using the pronoun ‘we’, participants in group C (C3) signified that they were not alone in their concerns:

“Initially I feel quite worried because this is our final sem (semester) we might lack some practical

experience.” (C3). This was followed up with a personal perspective from C5 and C4: “*We cannot see the patients, we cannot practice history taking and I was worried how it is going to affect professional examination because there will be long case, may be deteriorating our skills.*” (C4) and “*Most worrying thing for me is long case and short case.*” (C5)

After voicing her worries about examinations, C5 was fearful of significant negative consequences were she to make a trivial error during the practical evaluation, demonstrating a heightened level of exam anxiety.

“But for some reason I need constant practice I am scare that if I missed out certain steps and procedure and steps everything will be become very bad.” (C5)

Theme 2: Pandemic Anxiety

The second source of anxiety appears to stem from concerns about infection and the uncertainty of returning to normal. The participants in all three groups expressed worries about getting infected from healthcare facilities and spreading the infection to their family members. This is clearly at odds with their own desire to return to clinical placements and clinical exposure, creating a feeling of internal conflict.

A2’s recent experience of COVID-19-like symptoms had induced strong feelings of anxiety and distress at the thought of having possibly contracted the disease just prior to the lockdown. Fortunately, this was not proven to be the case.

“A week before the lockdown started, I started experiencing similar symptoms, and I was actually terrified. I didn’t tell my parents anything, I was like, I’m just going to the clinic for check-up, I’ll be back soon. But when I was driving there, I was trying so hard not to cry and when they took the blood they were like OK, you can breathe, it’s just bacterial. I was like, ah, OK, that’s fine.” (A2)

Two students in Group B discussed how the risk of infection and fear of infecting their own family members would hamper their encounters with patients. B3 started the conversation with a rhetorical question, asserting his fear of getting infected by a patient.

“How we are going to conduct clinical exam, even we touch the patient can we confirm that even the patient is not infected? Actually, I do not worry much about myself, my worry about my family.” (B3) and, agreeing with B3, “*...another issue is family member, sometimes we have to stay together with family member in same room.*” (B2).

Participants in group C shared identical concerns with the other groups. C1 raised another worry that the ramifications of being exposed to an infected patient would include the risk of being quarantined themselves, possibly preventing them from completing their exams.

“My family has old people and elderly who are at risk, and some have babies, I don’t want to bring back (disease).” (C2) and “*If anything happens then we might get quarantined and that will actually affect our exam as well.*” (C1)

Following some self-reflection, some students were able to reconcile this internal conflict by drawing upon their sense of duty and responsibility to complete their medical education. A5, realizing that the current situation was beyond his control, resigned himself to prospect of getting infected so that he may pass the examination: *“In order to pass the exam, we have no choice right now (but to accept the risk of infection).”* (A5)

Theme 3: Online Learning and Demotivation

Feelings of discouragement and poor motivation were negative emotional experiences were present in all groups, and particularly evident in group A. The word “demotivated”, along with other words that carry negative implications such as “downside”, “can’t sit”, “not effective” appeared in the group discussions. Some rely on the constant presence of peer support for motivation and others have found that having routine and structure to their day helps keep them motivated. Social isolation during the lockdown has disrupted this driving force, making it harder for them to fully engage with online teaching.

Participant A2 from Group A revealed feeling demotivated due to poor self-efficacy, which he ascribed to the lack of extrinsic pressure from not being physically around his peers.

“I need a lot of more motivation that I haven’t been able to give myself because I am not with my batch mates, and nobody is here to pressure me. On the subject of self-learning, I need a lot more motivation.”
(A2)

A3 described in detail the impact of a lack of routine on her motivation. She emphasises the importance of having structure to help her through the day, with simple actions such as getting dressed and driving off to class serving as incentives. With the loss of her normal routine during lockdown, she felt profoundly demotivated, aptly summed up by the phrase ‘never want to get out of my bed again.’

“Actually, we are at home, so we lose the urge and motivation. I would say that this entire (fully) online teaching with the MCO thing has a lot of downsides... sometimes really demotivated because you do not see the workplace at all. For me personally, waking up in the morning, putting on my work clothes and then getting into the car and driving to school or the hospital to start my day...for me personally, is a kind of ‘kick me off’ and makes me motivated throughout out the day. And then I have a specific lunch time or after lunch we have more lessons, see patients... I mean it’s a routine to keep me going. When the MCO started it seemed at first that I got to rest, but after the first week I feel frustrated, and when I am at home in my room all I see is my bed and I just want to never get out of my bed again.” (A3)

Some students felt discouraged by the limitations of online communication. Being used to giving public presentations in person, A6 did not favour giving online presentations and described how communicating ‘face-to-screen’ felt unnatural.

“It’s difficult to concentrate sitting for few hours in the same place and looking at the screen, with no one else... and it’s just like I’m talking myself, especially when you’re doing presentations. Since you’re sharing the slides, you only see the slides, so it’s like we’re talking to ourselves... I don’t like that.” (A6)

Frustration with online communication was also raised in Group B. B7 professed that he found online teaching largely ineffective, in part because he struggled to communicate with his lecturers. This was not related to any network disruptions or technological difficulties, rather it was a preference for in-person communication. However, the use of ‘personally’ implied that he felt this was something unique to his own experience, rather than something that was widely shared by his peers.

“I think, personally, online learning is not effective for me. I will give it around 3 (out of 10). Besides, on the internet I cannot communicate with lecturer (in person).” (B7)

Theme 4: Online Learning and Distraction

Many students reported that distractions at home hindered their concentration and that the internet itself posed a distraction, often leading to disengagement during online learning.

“We know that we can just Google (during online teaching), distraction is internet.” (B1).

For some, being at home made them less inclined to study, put simply by A7: *“I think the only main concern is about studying because I tend to study less at home.” (A7)*

Spending prolonged periods online adversely impacted their attention and engagement. Participants A4 and A2 disclosed how they struggled to concentrate for more than 40 to 45 minutes during online classes, yet they felt obligated to try to finish the class anyway. While A2 did not think that it was particularly helpful for his learning, he felt the need to keep up some semblance of being engaged in class.

“I feel that I can’t really sit in front of the laptop for hours concentrating on online classes. I think my maximum threshold is around 40 minutes to one hour, I mean, sometimes I have to force myself.” (A4)

“Yea, what [A4] said, the time limit if more than 45 minutes or an hour I tend to just mute switch off the video and go for break and come back try to force myself, not really conducive but it is trying for something.” (A2)

Several participants reported that participation in online classes was often challenging as it was easy to remain unnoticed. A3, having disclosed earlier that she struggled with poor motivation, felt that not being in a physical classroom setting made it difficult for her to engage properly with the teaching sessions. She perceived this as one of the many shortcomings of online teaching during lockdown.

“Sometimes it’s really hard to participate at home. You are looking at the screen and pretending you are in classes so I would say that this entire online teaching with the MCO just has a lot of downsides.” (A3)

A5 and A8 further described how this would often lead to multi-tasking (engaging in more than one task simultaneously) and diversion of their attention elsewhere during online classes:

“Because no one is monitoring us, we can just any time use our phones while so easily to deviate.” (A5)

“I just see face-to-face you concentrate more, and you interact during the classes, but in online classes is hard to say because sometimes I (switch) off my video and do something (else).” (A8)

Speaking on behalf of the group, C2 saw an opportunity to offer his own perspective on how to overcome student disengagement. He voiced a preference for the varied use of different teaching tools and creative teaching methods by lecturers.

“When the lecturer is creative, it can be more innovative and interesting learning. In online teaching some practice we can do is on Socrative (online quiz tool), MEQ (matched extended questions), MCQ (multiple choice questions) on Times (Moodle-based online learning platform) I actually quite like it.”
(C2)

Theme 5: Online Learning is Flexible

The majority of participants acknowledged that online learning was flexible and convenient, clearly recognizing its advantages. C1 and C4 indicated that they felt less time-pressured with online learning compared to that of in-class sessions and the ease of access to information via the internet was highly convenient.

“I don’t have to look at the clock and how long the clock and will continue until the class ended, and oh actually already 2 hours or 3 hours passed.” (C1).

“I notice something online learning we are less concern about the time, like when if you do in TCS (campus), we keep looking at the clock worrying about other people wanting to take your class. In online classes we just continue until whenever we like, and we have a lot of questions and lecturer can explain one by one and we actually go to internet and search for management or anything. It is really good. That is what I noticed.” (C4)

The participants relayed how online learning was an efficient use of their time. This was highly prevalent throughout the groups. Having ‘more time’ was highly valued by the participants and ‘saving time’ by avoiding physical travel meant that they were able to accomplish something more useful in the time that they would have otherwise spent travelling to and from classes.

“I do not have to worry about (traffic) jams. Sometimes there are road traffic jams that make me late, for this one I am never late for the class, I like it... also we are in own environment which is where we are most comfortable.” (C4)

“I felt that it is also efficient more because we can study at our own home there is no need to travel.”
(C6)

“We have a lot of time to read at home even online classes we don’t seem to be tired, because we don’t go anywhere, we are attending at home, a lot of time to study.” (C7)

“Online teaching actually effective, we actually saved a lot of time travelling.” (A1)

Discussion

Impact on Learning

One of the biggest challenges for medical educators during the pandemic period is in conducting clinical skills and bedside teaching without direct access to healthcare facilities or skills labs. While the students were generally satisfied with teaching of theoretical knowledge online, they raised significant concerns about their

clinical skills competency due to the lack of 'hands-on' training. Although the use of technology and digital media can significantly enhance the learning experience in clinical skills, it remains largely supplementary to the execution and repeated practice of the skill itself. Recently suggested solutions such as the use of an adapted clinical skills teaching framework (Khan, 2020) and virtual patient simulations (De Ponti et al., 2020; Tabatabai, 2020) during the pandemic may partly fulfill the students' learning needs, however, they do not offer the same value as that of 'hands-on' and traditional bedside teaching (Narayanan & Nair, 2020; Novintan, Mann, & Hazemi-Jebelli, 2020).

Meaningful interactions play a significant role in determining the effectiveness and student satisfaction of online learning (Wu, Tennyson, & Hsia, 2010). Our study has shown that the move away from in-class communication and towards online-only interactions during the pandemic has impacted on their learning in several ways. Despite the variety of online communication channels provided and the synchronous nature of videoconferencing, students in our study reported difficulties engaging fully with online learning. Likewise, studies have shown that students generally preferred group discussions conducted in-class over online methods because of the greater sense of engagement offered by the former (Kemp & Grieve, 2014; Raupach et al., 2009). Methods of collaborative learning in medicine such as case-based learning and problem-based learning rely heavily on student-student interactions and peer teaching, and online modes of communication including videoconferencing may not offer the desired quality or degree of interaction as in-class discussions can.

While students in traditional classrooms are more likely to be 'extrinsically' motivated, the online learner relies more on 'intrinsic' motivation (Wighting, Liu, & Rovai, 2008). Our students' report of reduced motivation due to lack of peer interaction is a direct consequence of social isolation during the lockdown, despite frequent 'face-to-face' online contact sessions with their peers and lecturers. To a large extent, peer interactions foster social connectivity and a sense of community amongst students, where they are more likely to share resources, ask for assistance, and offer help to one another. Social interaction with their peers has been shown to help students engage better with learning and improve their academic performance (Tinto, 1997), forming the basis for peer-assisted learning. The current pandemic provides a timely opportunity for the development of student learning communities that encourage social engagement and communication amongst those who are fully learning online (Croft, Dalton, & Grant, 2010; Sahin & Shelley, 2020).

We identified distraction as a significant cause of disengagement with online learning in our students. Aside from the excessive periods that students were expected to spend online, distractions at home, ease of internet access and the relative anonymity provided by online platforms serve to promote inattention and multi-tasking behaviors during class such as browsing the internet, checking their phones or performing other non-learning activities. Self-regulated learning strategies may be particularly important in online learning environments where distractions are commonplace (Broadbent, 2017). Zimmerman et al. (1992) described this as a trait that dictates the learner's ability to self-motivate by setting goals and committing themselves, displaying a high sense of self-efficacy. In a recent study, Lepp et al. (2019) showed that students are significantly more likely to multi-task during online courses than in traditional face-to-face courses, with predictors being the presence of self-reported internet addiction and multi-tasking tendency. Even students who reported relatively high self-

efficacy appear prone to multi-tasking online (but not in the traditional face-to-face setting), suggesting that specific training in self-regulated learning should attempt to cater more to online educational settings (Lepp et al., 2019).

Impact on Emotional Well-being

This study highlighted a prevalent feeling of anxiety among our students, driven by the disruption to their learning, suspension of clinical placements, feeling of unpreparedness for upcoming exams, feelings of uncertainty about returning to normal, fear of infection and lack of peer interaction. It is well-recognized that medical students are more likely to suffer from depression and anxiety compared to the general population (Quek et al., 2019; Rotenstein et al., 2016), and with the additional stressors stemming from the current pandemic, it is not unexpected that they would face further strain on their emotional well-being. Cognitive psychology studies have shown that stress and anxiety interferes with learning (Lukasik, Waris, Soveri, Lehtonen, & Laine, 2019), further compounding their difficulties. Educators should be aware that some students are more vulnerable to negative emotional experiences than others.

Clinical placements form a core component of the medical undergraduate curriculum and their suspension poses significant disruption to the students' progress. Our students found that their desire to return to clinical placements were in direct conflict with their fear of getting infected or infecting their family members. Such ambivalence has been shown to be associated with underlying depression and anxiety, and contributes to psychological distress (Moberly & Dickson, 2018). A previous survey conducted during the SARS pandemic in Malaysia reported that around 22% of students did not feel comfortable enough to return to hospital despite safety precautions being put in place, and about two-thirds remained anxious about the risk of infection (Loh et al., 2006). A similar pattern result obtained in a recent study (Unger & Meiran, 2020). In planning for resumption of clinical placements, clear mitigation strategies such as performing individual risk assessments, modifications to clinical placements, strict adherence to guidelines or protocols and access to personal protective equipment and vaccines will go a long way in ensuring the students' safety and allaying their anxieties.

A small number of studies have focused on the impact of the COVID-19 pandemic on the mental health of medical students (Lyons, Wilcox, Leung, & Dearsley, 2020; Sartorao Filho et al., 2020; Torun & Torun, 2020), revealing near identical concerns to that of ours. In the study by Lyons et al. (2020), 68% of students reported a worsening of their emotional well-being since the onset of the pandemic, with negative effects felt mostly in terms of stress levels, social connectivity, and academic studies. Sartorao Filho et al. (2020) reported a high prevalence of moderate to severe anxiety (46.2%) and depression (64.4%) amongst medical students during the current pandemic, higher than previously reported pre-pandemic figures. Much like our own students, participants in the aforementioned studies also reported fearing contagion and infection of their loved ones.

Lai et al. (2020) highlighted the impact of the COVID-19 pandemic on healthcare workers, especially those in the frontline, showing that a significant proportion suffered from adverse mental health effects. Final year students who will be graduating in the coming months are likely to face the same challenges when they begin

work as newly qualified doctors. This underscores the importance of providing students with the right practical and psychological support and preparing them for the potentially pervasive effects of the pandemic on their well-being. Relying on routine mentor-mentee monitoring practices may be insufficient during this time, instead the use of more comprehensive student monitoring systems may be required.

Limitations

We acknowledge that our findings are limited to a single center, however our aim in this qualitative study is not to achieve generalizability but to attempt to identify and understand the students' experiences and perceptions during a challenging period of their lives. Nonetheless, we believe that the individual experiences of our students are largely shared by those in a similar predicament around the world.

The use of focus groups in phenomenological studies have been criticized due to the challenges of uncovering idiographic accounts (Love, Vetere, & Davis, 2020). However, phenomenology does not ascribe itself to a single method for data collection and analysis. According to Max van Manen who has written extensively on phenomenology, hermeneutic phenomenology 'does not let itself be deceptively reduced to a methodical schema or an interpretative set of procedures' (van Manen, 2014). Rather, the foundational concepts of this philosophical approach should underpin the study's 'thinking, reading and writing' (Neubauer et al., 2019). Our study aims required both a depth (of understanding) and breadth of the subject matter being investigated, and we felt that we have struck a balance by adapting these methods to best suit our research questions and characteristics of our study population.

The use of online videoconferencing was necessary for this study due to lockdown measures. A major drawback of conducting focus group interviews online is that it is more challenging to capture group dynamics, specifically from body language. Nonetheless, online focus group interviews have been shown to be as effective as face-to-face methods and are able to fulfill the key criteria based on conventional focus group methods (Turney & Pocknee, 2005). Furthermore, conducting the interviews online had the major advantage of allowing students to participate whilst remaining in their own familiar environment, which we felt encouraged spontaneity and reflectivity. Moreover, the process of recording, playback and transcription of digital media is relatively effortless.

Conclusions

Medical education has undergone profound changes in a short space of time because of the COVID-19 pandemic, and we are now seeing its early ramifications on students' learning and emotional well-being. From our thematic analysis, we identified anxiety as the predominant emotion at this time and attributed several important driving factors to this, much of which can be addressed by providing students with the appropriate support. The use of online learning has become more important than ever but is not without its caveats. While disengagement and demotivation are recognizable drawbacks at the best of times, these are further compounded by the adverse effects of the pandemic such as diminished peer interactions and high distractibility outside of

the classroom. This is an opportune moment for educators to fully embrace technological innovations in online learning to help overcome these challenges and maximize the gains.

This study does not aim to provide solutions to the learning and well-being issues faced by the students during the pandemic. Rather, we believe that our findings have surfaced new and meaningful insights that will spur educators to re-evaluate their teaching practices and student mental health support systems while providing the necessary groundwork for future research. With ongoing uncertainties about the prospects of returning to normal in the immediate future, there are likely to be further issues that will require exploration such as the implications of reduced clinical exposure in medical undergraduates and the move to online-based clinical examinations while lockdown measures remain in place.

Practice Points

- Students' anxiety stemmed from deterioration of clinical and practical skills, which they were unable to sustain with a fully online curriculum. This has led to perceived exam unpreparedness.
- Anxiety due to the nature of the pandemic and fear of contagion hampered the students' desire to return to clinical placements.
- Students reported feelings of demotivation and discouragement from reduced peer contact due to social isolation, loss of daily routine, and lack of meaningful interactions online.
- Distractions were commonplace in the online and home environments. Along with excessive periods spent online, this frequently led to disengagement with learning.
- The time-saving aspects of online learning were appreciated most by the students during this period.

References

- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education, 33*, 24-32.
- Carr, S. M. (2004). A framework for understanding clinical reasoning in community nursing. *J Clin Nurs, 13*(7), 850-857. doi:10.1111/j.1365-2702.2004.00959.x
- Côté-Arsenault, D., & Morrison-Beedy, D. (2001). Women's voices reflecting changed expectations for pregnancy after perinatal loss. *J Nurs Scholarsh, 33*(3), 239-244. doi:10.1111/j.1547-5069.2001.00239.x
- Croft, N., Dalton, A., & Grant, M. (2010). Overcoming Isolation in Distance Learning: Building a Learning Community through Time and Space. *Journal for Education in the Built Environment, 5*(1), 27-64.
- De Ponti, R., Marazzato, J., Maresca, A. M., Rovera, F., Carcano, G., & Ferrario, M. M. (2020). Pre-graduation medical training including virtual reality during COVID-19 pandemic: a report on students' perception. *BMC Medical Education, 20*(1), 332. doi:10.1186/s12909-020-02245-8
- de Visser, R. O., & Smith, J. A. (2007). Alcohol consumption and masculine identity among young men. *Psychology & Health, 22*(5), 595-614. doi:10.1080/14768320600941772
- Dicicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Med Educ, 40*(4), 314-321.
- Dunne, E. A., & Quayle, E. (2001). The Impact of Iatrogenically Acquired Hepatitis C Infection on the Well-

- being and Relationships of a Group of Irish Women. *J Health Psychol*, 6(6), 679-692.
- Flowers, P., Duncan, B., & Frankis, J. (2000). Community, responsibility and culpability: HIV risk-management amongst Scottish gay men. *Journal of Community & Applied Social Psychology*, 10(4), 285-300.
- Henriksson, C. (2012). Hermeneutic Phenomenology and Pedagogical Practice. In N. Friesen, C. Henriksson, & T. Saevi (Eds.), *Hermeneutic Phenomenology in Education: Method and Practice* (pp. 119-137). Rotterdam: SensePublishers.
- Kemp, N., & Grieve, R. (2014). Face-to-face or face-to-screen? Undergraduates' opinions and test performance in classroom vs. online learning. *Frontiers in Psychology*, 5(1278). doi:10.3389/fpsyg.2014.01278
- Khan, H. (2020). An adaptation of Peyton's 4-stage approach to deliver clinical skills teaching remotely. *MedEdPublish*, 9(1), 73.
- Kooken, W. C., Haase, J. E., & Russell, K. M. (2007). "I've Been Through Something": Poetic Explorations of African American Women's Cancer Survivorship. *Western Journal of Nursing Research*, 29(7), 896-919.
- Krueger, R. A., & Casey, M. A. (2000). *Focus Groups. A Practical Guide for Applied Research* Thousand Oaks, CA: Sage Publications.
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., . . . Hu, S. (2020). Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*, 3(3), e203976-e203976. doi:10.1001/jamanetworkopen.2020.3976
- Lepp, A., Barkley, J. E., Karpinski, A. C., & Singh, S. (2019). College Students' Multitasking Behavior in Online Versus Face-to-Face Courses. *SAGE Open*, 9(1), 2158244018824505.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Loh, L.-C., Ali, A. M., Ang, T.-H., & Chelliah, A. (2006). Impact of a spreading epidemic on medical students. *The Malaysian journal of medical sciences : MJMS*, 13(2), 30-36. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/22589602>
- Love, B., Vetere, A., & Davis, P. (2020). Should Interpretative Phenomenological Analysis (IPA) be Used With Focus Groups? Navigating the Bumpy Road of "Iterative Loops," Idiographic Journeys, and "Phenomenological Bridges". *International Journal of Qualitative Methods*, 19, 1609406920921600.
- Lukasik, K. M., Waris, O., Soveri, A., Lehtonen, M., & Laine, M. (2019). The Relationship of Anxiety and Stress With Working Memory Performance in a Large Non-depressed Sample. *Frontiers in Psychology*, 10(4). doi:10.3389/fpsyg.2019.00004
- Lyons, Z., Wilcox, H., Leung, L., & Dearsley, O. (2020). COVID-19 and the mental well-being of Australian medical students: impact, concerns and coping strategies used. *Australasian Psychiatry*, 28(6), 649-652.
- Moberly, N. J., & Dickson, J. M. (2018). Goal conflict, ambivalence and psychological distress: Concurrent and longitudinal relationships. *Personality and Individual Differences*, 129, 38-42.
- Narayanan, V., & Nair, B. R. (2020). The value of bedside teaching in undergraduate medical education: a literature review. *MedEdPublish*, 9(1), 149.
- Neubauer, B. E., Witkop, C. T., & Varpio, L. (2019). How phenomenology can help us learn from the experiences of others. *Perspectives on Medical Education*, 8(2), 90-97. doi:10.1007/s40037-019-0509-2
- Ng, S. L., Baker, L., Cristancho, S., Kennedy, T. J., & Lingard, L. (2018). Qualitative Research in Medical Education. In T. Swanwick, K. Forrest, & B. C. O'Brien (Eds.), *Understanding Medical Education* (3 ed., pp. 427-441): © 2019 The Association for the Study of Medical Education (ASME).

- Novintan, S., Mann, S., & Hazemi-Jebelli, Y. (2020). Simulations and Virtual Learning Supporting Clinical Education During the COVID 19 Pandemic [Letter]. *Advances in medical education and practice, 11*, 649-650. doi:10.2147/AMEP.S276699
- O'Doherty, D., Dromey, M., Loughheed, J., Hannigan, A., Last, J., & McGrath, D. (2018). Barriers and solutions to online learning in medical education – an integrative review. *BMC Medical Education, 18*(1), 130.
- Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2009). A Qualitative Framework for Collecting and Analyzing Data in Focus Group Research. *International Journal of Qualitative Methods, 8*(3), 1-21. doi:10.1177/160940690900800301
- Palmer, M., Larkin, M., de Visser, R., & Fadden, G. (2010). Developing an Interpretative Phenomenological Approach to Focus Group Data. *Qualitative Research in Psychology, 7*(2), 99-121.
- Quek, T. T.-C., Tam, W. W.-S., Tran, B. X., Zhang, M., Zhang, Z., Ho, C. S.-H., & Ho, R. C.-M. (2019). The Global Prevalence of Anxiety Among Medical Students: A Meta-Analysis. *International journal of environmental research and public health, 16*(15), 2735. doi:10.3390/ijerph16152735
- Raupach, T., Muenscher, C., Anders, S., Steinbach, R., Pukrop, T., Hege, I., & Tullius, M. (2009). Web-based collaborative training of clinical reasoning: A randomized trial. *Medical Teacher, 31*(9), e431-e437.
- Robley, L. R., Farnsworth, B. J., Flynn, J. B., & Horne, C. D. (2004). This new house: building knowledge through online learning. *Journal of professional nursing : official journal of the American Association of Colleges of Nursing, 20*(5), 333-343. doi:10.1016/j.profnurs.2004.07.012
- Roose, G. A., Yazdani, A. F., & John, A. M. (2003). A focus group investigation into young children's understanding of mental health and their views on appropriate services for their age group. *Child Care Health Dev, 29*(6), 545-550. doi:10.1046/j.1365-2214.2003.00374.x
- Rotenstein, L. S., Ramos, M. A., Torre, M., Segal, J. B., Peluso, M. J., Guille, C., . . . Mata, D. A. (2016). Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students: A Systematic Review and Meta-Analysis. *Jama, 316*(21), 2214-2236. doi:10.1001/jama.2016.17324
- Sahin, I., & Shelley, M. (Eds.). (2020). *Educational Practices during the COVID-19 Viral Outbreak: International Perspectives*. ISTES Organization.
- Sartorao Filho, C. I., Rodrigues, W. C. d. L. V., Beauchamp de Castro, R., Marcal, A. A., Pavelqueires, S., Takano, L., . . . Sartorao Neto, C. I. (2020). Impact of COVID-19 Pandemic on Mental Health of Medical Students: A Cross-sectional Study Using GAD-7 and PHQ-9 Questionnaires. *medRxiv*, 1-20.
- Tabatabai, S. (2020). Simulations and Virtual Learning Supporting Clinical Education During the COVID 19 Pandemic. *Advances in medical education and practice, 11*, 513-516. doi:10.2147/AMEP.S257750
- Tinto, V. (1997). Classrooms as Communities. *The Journal of Higher Education, 68*(6), 599-623.
- Torun, F., & Torun, S. D. (2020). The psychological impact of the COVID-19 pandemic on medical students in Turkey. *Pakistan journal of medical sciences, 36*(6), 1355-1359. doi:10.12669/pjms.36.6.2985
- Turney, L., & Pocknee, C. (2005). Virtual Focus Groups: New Frontiers in Research. *International Journal of Qualitative Methods, 4*(2), 32-43. doi:10.1177/160940690500400203
- Unger, S., & Meiran, W. R. (2020). Student attitudes towards online education during the COVID-19 viral outbreak of 2020: Distance learning in a time of social distance. *International Journal of Technology in Education and Science (IJTES), 4*(4), 256-266.
- van Manen, M. (2014). *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research*

and Writing. Walnut Creek, CA: Left Coast Press.

- Van Manen, M. (2016). *Researching lived experience: Human science for an action sensitive pedagogy* (2 ed.). Abingdon, Oxford: Routledge.
- Wighting, M. J., Liu, J., & Rovai, A. P. (2008). Distinguishing Sense of Community and Motivation Characteristics between Online and Traditional College Students. *The Quarterly Review of Distance Education*, 9, 285-295.
- Wilkinson, S. (1998). Focus group methodology: a review. *International Journal of Social Research Methodology*, 1(3), 181-203. doi:10.1080/13645579.1998.10846874
- Wu, J.-H., Tennyson, R. D., & Hsia, T.-L. (2010). A study of student satisfaction in a blended e-learning system environment. *Computers & Education*, 55(1), 155-164.
- Yanow, D., & Schwartz-Shea, P. (2014). *Interpretation and Method*. New York: Routledge.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-Motivation for Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting. *American Educational Research Journal*, 29(3), 663-676. doi:10.3102/00028312029003663


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