Medical students' experiences of online learning during the COVID-19 pandemic: A phenomenological study

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Abstract

Introduction The COVID-19 pandemic forced Philippine medical schools to adapt their curriculum design to fit an online setup. This study aimed to analyze and interpret the lived experiences of medical students who experienced online learning during the COVID-19 pandemic and to explore the adaptations to online learning.

Methods This is an interpretive phenomenological study using purposive sampling. Participants were 1st to 3rd year medical students enrolled for Academic Year 2020-2021. Participants were interviewed online by a psychologist who was not part of the research team using a 13-question guide. The interviews were recorded and transcribed. Interview data were analyzed and interpreted using interpretative phenomenological analysis (IPA).

Results Nine medical students were interviewed. The IPA identified six superordinate themes: 1) positive adaptations through positive reframing; 2) resulting mental health concerns; 3) intrinsic and extrinsic concerns encountered; 4) self-awareness as a first step towards adjustment; 5) dual role of family; and 6) perceptions on systemic response.

Conclusion Online medical education during the pandemic resulted in problems and mental health concerns among participants, and many developed self-awareness and positive adaptations specific to the online setup. Participants' families helped some adjust, while others posed an additional challenge. Both positive and negative perceptions of the systemic response of the school also arose.

Key words: COVID-19, online medical education, phenomenology, coping strategies, mental health, experience of online learning

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COVID-19 was declared as a global pandemic by the World Health Organization (WHO) on March 11, 2020. By March 17, 2020, the Philippines was placed under community quarantine to manage the spread of the disease, along with various preventive measures such as lockdowns and media campaigns.[1] Classes were interrupted late into the second semester of Academic Year (AY) 2019-2020 and medical schools only had several weeks to shift from a classroom setting to an online setup in order for students to finish the semester.[2] With the current quarantine measures to contain the spread of the virus, online

classes are expected to be the new normal in medical education until community quarantines are lifted and resumption of face-to-face classes is deemed safe for students and faculty alike. As a result, medical schools in the Philippines had to adapt their curriculum to an online platform to continue the education of medical students. With the shift to online learning, higher education institutions were given the freedom to implement innovative designs and alternative modes of learning.[3]

In the Philippines, previous studies using quantitative designs have focused specifically on the barriers and challenges faced by medical students in online learning, rather than on eliciting the lived experiences in a phenomenological study.[1,4] The study aimed to analyze and interpret the lived experiences of medical students in a private university who were on an online learning set-up during the COVID-19 pandemic, and explore their adaptations.

Methods

The interpretive phenomenological analysis (IPA), which specifically followed the ideals of Martin Heidegger's hermeneutical phenomenology was used to elicit, interpret, and analyze the participants' lived experiences.[5] This study was approved by the UERM Research Institute for Health Sciences Ethics Review Committee.

Purposive sampling was used to identify qualified participants. Included were first year to third year regular medical students, aged 18 years old and above, enrolled in a private medical school with online classes as the primary method of education delivery for AY 2020-2021. The researchers identified medical students who were qualified based on the inclusion criteria and an invitation to participate in the study was sent via Facebook Messenger. Individuals who gave their informed consent were given the Personal Information Sheet (PIS) via Google Forms. This obtained the participants' demographic information including their gender, age, residence, educational status, email, and contact number. After signing up, the researchers contacted them again via Facebook Messenger for the schedule of the interview.

Individual interviews were conducted via Google Meet. To ensure objectivity, an independently trained moderator who was not part of the research team was tasked to do the interviews, in view of the researchers being medical students in the same institution as the participants. The moderator was a licensed psychologist and psychology professor who taught qualitative research in graduate school to guidance and counseling majors and psychology majors. The research team created an interview guide consisting of 13 open-ended questions which allowed the participants to freely narrate their experiences. This was revised, validated, and was pilot tested with four students. The interviews started with an introduction of the study and the moderator, followed by questions to the participants about their lived experiences of online learning. The interview lasted for 45 to 60 minutes with audio and video recordings. Transcriptions were typed using Microsoft Word during the interview by transcribers and each participant was identified by a code containing P and their order in the interview (e.g., P1). This was to ensure the anonymity and confidentiality of the statements. Each transcription was emailed to the respective participant for them to give comments and corrections. No repeat interviews were done.

IPA was used for the analysis and interpretation of the interviews. At the beginning of the study, the researchers used the method of bracketing by creating a list and description of their own experiences with online learning to prevent interjecting their own lived experiences to those of the participants. After each interview, each researcher made an initial analysis and interpretation of each response and statement of the participants resulting in the formation of initial themes. The interpretations of all researchers were then compared to reconcile any differences if any emerged. The result of the analysis of each participant's interview was emailed to the participants to check the congruence of the researchers' working interpretations with the participants' own interpretations of their statements. After the analysis and interpretation of the statements of each participant, the researchers assessed whether additional interviews were needed to refine existing themes. All interpretations were then organized into subordinate and superordinate themes.

Results

Nine medical students were interviewed. Two of the participants provided minor corrections regarding the interpretations of the researchers. After the analysis of the ninth interview, the researchers were unable to develop new themes or refinements to existing themes, pointing to data saturation. After

the IPA, the investigators were able to develop six superordinate themes that provided an interpretation of the lived experiences of online learning of medical students during the COVID-19 pandemic: 1) positive adaptations through positive reframing; 2) resulting mental health concerns; 3) intrinsic and extrinsic concerns encountered; 4) self-awareness as a first step towards adjustment; 5) dual role of the family; and 6) perceptions on systemic response.

Superordinate Theme 1: Resulting Mental Health Concerns

As lockdown restrictions continued while online classes were being conducted, several mental health concerns arose, including a sense of decreased well-being and feelings of isolation. With an overwhelming workload and no means to destress, participants stated neglect of their physical and mental health, some ending up with anxiety symptoms that prompted consultation.

Subordinate theme 1: Sense of decreased well being

Due to the overwhelming amount of workload with no means to destress themselves, participants expressed feeling a sense of burnout. Most of the time and focus of the participants were channeled towards their lessons and academic work which sometimes resulted in neglecting their physical and mental health. This resulted in increased anxiety symptoms which led some participants to seek professional help. These were expressed in the following statements:

"Now it's easy to get bloated and to gain fat when you are stress eating."

"I am more concerned about my physical health because my headaches won't go away. Okay, I need to do something about it and have myself checked."

Subordinate theme 2: Feelings of isolation

Isolation was a recurring theme among several participants which was discussed heavily during the interviews. Isolation was felt due to less interaction with friends and classmates caused by the restrictions brought about by online classes.

"After class you have no one to talk to. It's difficult to know what's next because in face to face you're with your classmates. It's like you have the same

pacing together. During online, it was also harder to make friends at first."

"Another is, I think is... not seeing my group mates and my friends. Personally, I like studying with other people so now it feels all alone."

Being confined within their homes and the lack of social connection due to difficulties in finding people to relate with regarding the experiences in medical school also deepened the feelings of isolation.

"I had a hard time because I cannot relate to their field, so during dinner they talk about different things because they are in the same field while I have a different one. It was difficult to share the struggle because they did not understand."

"It can be isolating po because they [family] are asleep and you're in your room studying."

Superordinate Theme 2: Intrinsic and Extrinsic Concerns Encountered

Intrinsic and extrinsic concerns were encountered by the participants during online classes. Intrinsic concerns were difficulties relating to personal factors such as time management, regrets over decisions, and concerns about the future. Extrinsic concerns were situations encountered by the participants that caused them difficulties such as adjustments to a new learning setup and limitations of online classes.

Subordinate theme 1: Intrinsic concerns

Time management was considered a problem since the online setup made it difficult to balance work, life, and school. Participants felt like their time was more constricted, hindering them from doing other activities.

"It's been hard obviously, it takes a lot of time and consideration especially for example when we had the comprehensive exams, I had to take a break on literally everything else from my life."

"You're really putting more time [studying], so it feels like sometimes, I am losing time for them [family]."

Other expressed their doubts and regrets regarding their school of choice and their decisions in continuing with online learning as expressed in the following statements:

"I entered [school] because they said it's a student friendly, it's a pro student school. So I had other options but I chose [name of school redacted] mainly because of that and because the school had

a good reputation but then the pandemic started I … I started to doubt it is how it really is."

"I do [have regrets]. Sometimes the thought crosses my mind. 'I should've gone to a different school, I should have waited, I should have just went to States, I should have chosen a different occupation."

Participants noted feeling guilty about relaxing, feeling the need to study more, and feeling like their effort did not match the grade that they got. Participants expressed how they did not feel confident about the skills that they learned and expressed how they felt ill-equipped to practice clinical skills. These were expressed in the following:

"I think if there was something really lacking for me it was really the skills", referring to her skills as a clinical clerk.

"I felt guilty about relaxing before, so I just keep studying but the more I study, the less I learn. Ironic."

"I try to stay up later but when, you know, the results… it doesn't match up with the efforts that you put in, those days tend to get harder."

Subordinate theme 2: Extrinsic concerns

The new learning environment at home was one of the adjustments participants had to make. Participants expressed the burden brought by school policy changes in the online academic setup. They particularly mentioned changes in the grading system. "At first, I wasn't comfortable studying at home. Because before, for me, because home is a rest from weekdays. But now it's already my work so now it's no longer a safe zone from all the stressors, and school."

The participants expressed the limitations and the insufficiency of online learning especially in terms of laboratory works and practicing clinical skills. First year students were not able to experience gross laboratory dissection in anatomy. History taking interviews with actual patients was also limited in online learning.

"I feel that I am lacking experiences when I was in first year because I imagined me and my classmate dissecting or live dissection of cadavers. It's just so fun to experience it I was just in first year, but work around is to have dissection picture instead."

"We had classes like in med when we have to interview patients and a lot of the times, the teacher would say it's a shame because like you would normally have a regular patient in front of you. And I feel that takes away from the learning experiences, especially since the patient now that we're interviewing is the doctor. For me it was rather difficult because I guess for me, especially for me, I came to med school thinking that it will be very hands-on learning."

A distinct extrinsic problem for students who were living in different countries, was the struggle with time zone differences.

"I guess the hardest part about the online learning, because I'm on the other side of the world, and time is different, it makes it hard to get proper sleep. It's hard to fall asleep before the sun comes up."

Superordinate Theme 3: Positive Adaptation through Positive Reframing

Positive adaptation was exemplified through four subordinate themes: 1) self-improvement, 2) seeing the good in online learning, 3) incorporating coping strategies, and 4) motivating factors.

Subordinate theme 1: Self-improvement

Self-improvement helped maximize the online learning experience by replacing old habits that were no longer beneficial. Participants who used to get easily agitated when disturbed became more patient and empathetic as this enabled them to communicate their needs better at home, hence promoting healthier social interactions and relationships. Some became more organized by using calendars and to-do-lists which they didn't do before. Others became more self-disciplined by rearranging their learning environment and keeping clear of any distractions. These were elaborated in the following statements:

"[I] think of a way to not look at my bed constantly and go into my bed. During my first semester I really [try] to keep my camera on even during class. My desk setup is really specific. I try to make sure that it's clear of any distractions."

Self-improvement also involved developing a healthier and positive mindset. For instance, participants who used to dwell on issues and rant about it learned to appreciate how each problem molds them into becoming a better doctor.

"Despite the pressure, I know that I keep getting better, a better student. I'll become a better doctor and a better person in general."

Subordinate theme 2: Seeing the good in online learning

The challenges encountered in online learning stressed the advantages of having certain personal qualities such as being hardworking and organized in completion of tasks. Others appreciated the advantages of having more opportunities to participate in classes and more personal time which can be used to rest, attend webinars, develop new skills and habits, exercise, and do chores. These were elaborated in the following statements:

"I think the positive thing is I'm more hardworking now."

"Being able to attend seminars on FB live, I think that's easier than before"

"Another advantage during the start of the pandemic, my friends and I started to develop this YouTube channel. We created [educational] videos."

"I was able to add more things to my routine, like doing exercise, doing household chores."

Subordinate theme 3: Incorporating coping strategies

Various coping strategies were incorporated by the participants to help adapt with online learning and this included strategic time management by knowing which tasks to prioritize, being consistent with the schedules, and keeping a routine. Coping strategies were also not limited to one's own experiences; one participant mentioned learning from others as well. These strategies were elaborated in the statements:

"I usually wake up very early because I can't sleep late like I can't stay too late like past 12 what not. What I do is, I sleep as early as 8 [PM] then I wake up at 2 [AM]."

Coping with anxiety and stress amidst the workload in online learning included lifestyle modification such as exercising and taking rests. Others started exploring non-academic activities while others started playing online games. Online shopping and connecting with people such as family and friends were also seen as beneficial. These were expressed in the following:

"Sometimes I play games, watch Netflix, hangout with my family, I check up on my friends, how they are."

"I noticed that every exam week, I really spend a lot more."

Subordinate theme 4: Intrinsic and extrinsic motivating factors

Motivating factors led to positive adaptation and fueled the participants' ambition and willingness to continue with online learning. Intrinsic motivating factors were driven by the participants' sense of passion and purpose such as their reason for pursuing medicine and a firm belief that the situation was being controlled by God. On the other hand, extrinsic motivating factors included friends and future patients. For instance, the bond between participants and their friends in medical school has strengthened their resolve to finish the school year despite it being in an online setup. These were elaborated in the following statements:

"I appreciate everyone who keeps on and doesn't give up. They push me to become better too. Seeing them motivates me as well."

"I just go back spiritually for me. If this is where God put me, that means I should go through it with a good attitude."

Superordinate Theme 4: Self-awareness as First Step Towards Adjustment

Among all nine participants, there was an increase in self-awareness, defined as recognition and acknowledgement of one's own strengths, weaknesses, stressors, and stress relievers.

Subordinate theme 1: Acceptance of their own limitations and need for self-care

Majority of the participants cited acceptance of their own limitations and need for self-care as an important realization during online learning.

"[I learned] not to force myself to keep up with others when it comes to academics. Little steps are still steps. Though the destination is far, I have also come far."

"What this setup has taught me was that there's no harm in trying. [What is most] important is to take care of myself."

Subordinate theme 2: Recognition of own strengths

Several participants gained a new recognition of their own strengths. Online learning brought about a

net decline in face-to-face social interaction, and two participants saw this as a boon to introverts.

"Online learning is good in terms of not pressuring myself to interact with other people."

"I'm more of a home buddy, I usually study alone so it wasn't that big of a problem for me."

Meanwhile, one discovered strength in resilience: "I am resilient although I'm struggling. That is the major quality which I think I have."

Subordinate theme 3: Identifying stressors

Four participants were able to identify online learning-related stressors. Some stressors were specific to one participant only. These include school in general, Zoom calls for classes, and being forced to live at home as an eldest child.

"As much as we strive hard for success [in] this profession, we also have a lot of things to worry about."

"Since I'm the oldest, I feel responsible [for taking care of my younger sister]."

Two participants developed a cognizance of the plight of fellow Filipinos, which, when squared with their relative ease in acclimatizing to the pandemic's new normal, served as another stressor.

"With the pandemic, you also feel for the country, you also feel for your friends."

"I'm privileged enough to have a home, to have something to eat every day. My only problem is online classes, but other people's problem is what food they will be able to eat every day."

Superordinate Theme 5: Dual Role of Family During the Pandemic

Family served either as a support system, or became a detriment to well-being during the pandemic.

Subordinate theme 1: Family as support system

The families of the participants showed their support and understanding of the demands of the online learning setup in different ways. One participant stated that his family provided for his physical needs and supplies unprompted. There were also statements wherein the lack of time for family and other matters, emotions, and frustration were understood by their families. Another participant's family helped in making decisions, another showed empathy, and gave emotional support. Under this subordinate theme, participants stated:

"As much as I like, I do want to spend time with them. They understand that this is a priority."

"They say most important is you're doing your best even if you're not feeling okay. The situation nowadays is really hard."

Subordinate theme 2: Family as a detriment to well-being

Four participants stated their families' poor understanding of the demands of medical school. Two stated that the family's concerns became a distraction and family responsibilities added to workload. The following were stated by the participants:

"Coming from a family that is not in a medical field, it's really hard for them to understand also my struggles."

"When somebody has a problem, they just ask me anytime they want. Feels like I don't have my own space to focus on my studies."

Superordinate Theme 6: Perceptions on Systemic Response

Systemic response is the overall response of the school administration with regards to the shift to online learning mainly addressing the students' concerns. Perceptions on systemic response were exemplified through two subordinate themes: 1) perceived positive systemic response and 2) perceived negative systemic response.

Subordinate theme 1: Perceived positive systemic response

Majority of the participants showed appreciation for the efforts made by the school administration to address the issues of online learning. This included empathizing with the school's struggles and appreciating policy improvements. Lecturers and the conduct of their lectures also received positive assessment from the participants as it mirrored the efforts of the lecturers in ensuring quality online education. These were elaborated in the following statements:

"Well, I can understand where the admin is coming from because they still want to provide the best education."

"Putting all the classes in one plenary for lectures so that the schedules aren't as hectic, it really helps."

Subordinate theme 2: Perceived negative systemic response

Perceived negative systemic responses included perceived lack of shared decision making between the school administration and the students which led to policy changes that brought stress to the students. These were elaborated in the following statements:

"Well for one, I think everybody can agree that it is a bit stressful, the cumulative exams that suddenly became 50%."

"They changed the grading system while the school was already ongoing. They already changed the grading system when I was still in 2nd year but it seemed like we can't do anything about it so we just have to adapt."

Others mentioned that there was a perceived apathy of administration and that there was no perceived support from school. They expressed their views as follows:

"I feel like they don't understand the struggles of their students especially they know that there is a pandemic right now and it's hard to adjust. And I don't think the administration understands its students, if they understood, they will not belittle the struggles of the students."

"For example, the main incident that I think about when I told you that they don't understand the struggle or they choose not to understand, I guess. Just like when we were asking for a one-week break. Study break after the typhoon happened where we posted "no students will be left behind" profile picture."

There is a perceived inadequate response of the administration to the mental health concerns of the students including the need for emotional support from the school administration as expressed by these statements:

"I needed professional help. I think my first hope that I will be able to get professional help is from [name of school redacted]. I tried to contact the counseling department, but I messaged them last April then they only replied this August. I don't think the department of [school] is that helpful when the students need it. Like it was a helpline that they just created so that there is a helpline."

"Looking back, I can't really exactly remember what kind of emotional or psychological support they give. Maybe they know as to the weight. The weight that the students are carrying but I guess on the emotional or psychological support side, I still find it insufficient. I really appreciate it when they check up on us like that. Even as simple as asking how we are, at least just to remind ourselves we are just students, we are just people who bear emotional weight."

Discussion

This study identified six superordinate themes: 1) positive adaptations through positive reframing; 2) resulting mental health concerns; 3) intrinsic and extrinsic concerns encountered; 4) self-awareness as a first step towards adjustment; 5) dual role of the family; and 6) perceptions on systemic response. These superordinate themes comprised and captured the lived experiences of online learning of the research participants during the COVID-19 pandemic as shown in Figure 1.
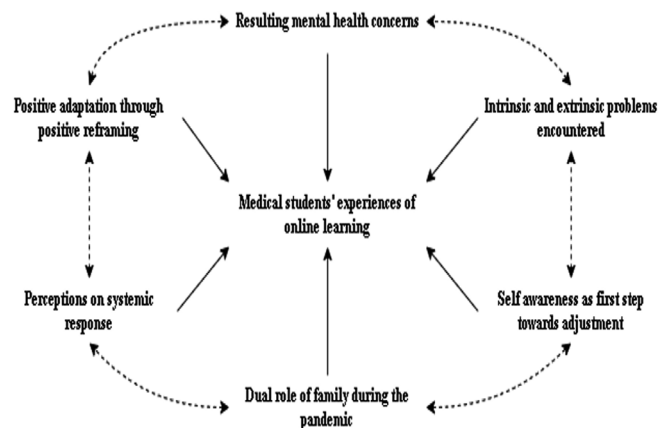

Figure 1. Superordinate themes of medical students' lived experiences of online learning.

Lived Experiences of Online Medical Students

Intrinsic and extrinsic concerns encountered

The online learning setup entailed time management skills. For instance, students were tasked to view pre-recorded lecture videos on their

own preferred time. This posed a challenge to participants who were unable to balance their time for work, studies, families, and themselves. This was similar to the result from a study which discussed that although online classes provided efficiency in time and cost, time management and learn-life balance were identified as negative aspects of online learning.[6] The students felt that online classes took too much of their time and it was difficult to do non-academic activities. This finding supports the claim that online learning requires more time than the traditional method.[6]

Regrets and doubts of entering the school and continuing medicine were experienced as the participants' expectations of the school and the online experience were not met. Certain expectations such that of a healthier environment for learning and the immediate return to the traditional set up were identified. As the participants perceived that they were not able to learn enough in the online learning setup, they felt discontented with their academic performance and developed guilt in wanting to rest.

Aside from intrinsic concerns, extrinsic concerns also emerged as a theme since the sudden shift to online education platforms caused challenges to medical students. One of the prominent challenges that surfaced in one study was attributed to setting a learning environment at home where distractions were present.[7] Structural changes such as making the student's bedroom as his classroom too, contributed to the difficulty.[8] Sufficiency of learning in the online setup was also questioned. In one study, medical students perceived that clinical practice was the inadequate part of online learning because the acquisition of clinical experiences and patient encounters was central in the discipline of medicine.[9] Lack of hospital training due to suspension of face-to-face activities made it impossible for students to have direct interactions with patients that could have enhanced their clinical assessment and physical examination skills.[10]

Dual role of family

The family played a dual role in the online learning setup. The families of the participants showed their support on the demands of the online classes. A study showed that family support positively affected intrinsic motivation which reflected the propensity to learn and assimilate.[11] However, the families also became a detriment to the well-being of the participants. The results of this study are the families' poor understanding of the demands of medical school, and the family responsibilities as an additional workload are similar to the resulting themes of a previous study where the challenges faced by the students were the lack of understanding among family and misunderstandings of the requirements of school, and the family added more stress because additional responsibilities were expected which led to resentment and misunderstanding.[12]

Resulting mental health concerns

Participants experienced a sense of decreased wellbeing, feelings of isolation, and developing negative self-perceptions. This correlated with the findings of various studies on mental health and the impact of the COVID-19 pandemic. Medical students expressed that quarantine caused them to feel emotionally detached from family, fellows, and friends, and decreased their overall work performance and study period.[13] The findings from this study also highly suggested a relationship between prolonged quarantine due to the COVID-19 pandemic and the worsening of mental well-being among students. There was an urgent need to develop strategies to improve and ensure mental health service access, and intentionally reach out to students with special circumstances.[14]

It was found that fear and worry about the student's personal heath and their loved ones was a factor in increased levels of stress, anxiety, and depressive thoughts, which was parallel to the experience of some of this study's participants. The limited mobility of the students due to the restrictions to control the spread of COVID-19, sentiments of feeling trapped, being unable to escape the stressors in their life, and inability to perform usual coping mechanisms were aired. The learning environment was the most significant tribulation that students needed to overcome, including the limitations in learning space and facilities.[7]

Perceptions on systemic response

Perceptions on systemic response emerged as a superordinate theme since each participant shared either positive or negative experiences with regards to the school administration during the online learning setup. The challenges were not limited to

the student body only; that was why acknowledging administration efforts was an important realization. The results showed that the students have learned to empathize with the school's struggles and appreciated the policy improvements. The results showed that the students preferred pre-recorded lectures supplemented with an integration during synchronous classes. These findings were similar to a previous study where all students participating in the survey indicated that the pre-recorded modules and class exercises helped enhance their learning, and that the hybrid course design effectively combined active and passive learning methods.[15] Perceived lack of shared decision making with the school administration also emerged. Policy changes in the grading system brought stress to the students which was supported by a study that showed that the grading system affected the decision of students about how much effort to exert.[16] Feeling emotionally unsupported when attending university was a key predictor of psychological distress and burnout while feeling supported reduced this risk.[17]

Adaptations developed during online learning in the time of COVID-19

Self-awareness as first step for adaptation

An increase in self-awareness among the participants—whether pertaining to their own strengths and limitations, or the aspects of their lives as medical students that act as stressors and stress-relievers—may be seen as a positive step towards adapting to the "new normal" of online medical education. Under the lens of objective self-awareness, a person may "experience either positive or negative affect, depending on whether attention is directed toward a positive or negative discrepancy" between one's expectations and reality.[18] If online medical students selectively focus their attention on the positive aspects of their lives during the pandemic—such as greater control over their schedule and increased time to pursue other interests—then a positive internal outlook may be achieved despite the gloomy external prospects brought about by living through a pandemic.

Positive adaptations through positive reframing

Echoes of self-awareness as the springboard for adjustment were observed. As a result of their awareness of their strengths, limitations, stressors, and

stress-relievers, many of the participants have been able to adopt strategies to cope with the pandemic's numerous challenges. The study identified four different strategies to overcome the new challenges brought by online learning: self-improvement, seeing the good in online learning, incorporating different coping mechanisms, and having various motivational sources.

Self-improvement can be influenced by positive emotions by leading individuals to engage in positive behaviors.[19] This involves developing patience and empathy to better communicate their needs. The learning environment at home turned out to be the greatest challenge in online learning mainly because of the distractions at home (e.g., noise) and limitations in learning spaces beyond their homes.[7] The value placed on good communication within household members suggested its importance in addressing home learning environment concerns.[7] Others used their own individual qualities (e.g., being an introvert) and preferences to further maximize their online learning experiences. This seems to be linked with a previous study saying introvert students were able to be more participative as they were allowed to find their own voice online.[20] Students being in their comfort zones eased their anxieties which further improved their performance.[9] Positive views had a great impact in the adaptations of the participants. Positive thinking in the face of struggles had an effect on their actions towards these challenges. These actions included perseverance through the challenge despite the difficulties faced.[21]

Adjustments to online learning included time management strategies (e.g., sticking to routine, making to-do lists, organizing tasks according to difficulty), seeking advice from peers, and knowing the importance of de-stressing. Planning tasks and seeking emotional support from peers were recognized as active coping strategies.[22] In a local study, students who were more active in combining active coping strategies were more likely to be better adjusted in their academic, social, and mental health.[23] Gaming was a strategy also used to deal with academic stress. This had been explored in one study which showed an increase in gaming activities during times of examination-related stress, and how helpful it was in managing the stress felt.[24]

Motivating factors influenced the decision to continue online education. Students struggled with being less motivated during online learning due

to less collaboration and interaction with teachers and classmates—the lack of which can cause medical students to feel discouraged, lose interest, and abandon their studies as affected by feelings of resignation.[25,26] This study identified two types of motivating factors: the intrinsic and extrinsic. The intrinsic motivating factors were driven by the participants' internal reasons such as their sense of passion and purpose, eagerness for self-improvement, reason for pursuing medicine, and spiritual beliefs. This paralleled previous findings which showed that the motivation of medical students toward the changes and challenges in the time of the COVID-19 pandemic were intrinsically affected by their sense of purpose or duty and altruism.[27] Extrinsic motivating factors were driven by the outcome of the actions of the participants towards their friends and future patients, and how their performance would impact the relationship and management of their future patients. Peers and organizational support contributed to lower dropout rates of adult online learners.[28]

Conclusion

In conclusion, the phenomenon of online medical education during the pandemic resulted in problems and mental health concerns among participants, and many developed self-awareness and positive adaptations specific to the online setup. Participants' families helped some adjust, while living with loved ones posed an additional challenge to others. Both positive and negative perceptions of systemic response of the school administration also arose.

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