Dental Students' Perspectives and Learning Experiences during the Covid-19 Outbreak: A Qualitative Study

Wen Wu Tan, BDS, MScDPH*, Galvin Sim Siang Lin, DDS, MScD, MMedEd, Ph.D.**

**Department of Dental Public Health, Faculty of Dentistry, AIMST University, 08100, Bedong, Kedah, Malaysia, **Department of Dental Materials, Faculty of Dentistry, AIMST University, 08100, Bedong, Kedah, Malaysia.*

ABSTRACT

Objective: The present study aimed to explore the perspectives and learning experiences of undergraduate dental students during the Covid-19 pandemic using a qualitative approach.

Materials and Methods: The current study used a qualitative focus group approach based on the Consolidated Criteria for Reporting Qualitative Research checklist. Three focus groups were carried out using a piloted interview topic guide. A convenient sampling was adopted to include undergraduate year 3 to year 5 dental students who had attended regular face-to-face session before the pandemic. Each session consisted of 6 to 8 participants who were randomly assigned, and the sessions lasted for about 30 to 45 minutes. The interviews were recorded and transcribed verbatim. Content analysis using a inductive approach was employed to the focus group data. All the final codes were refined and agreed by all members of the research team.

Results: Four main themes with their respective subthemes were identified through the coding process, namely change in study life balance, online learning, interpersonal relationship, and concern for future.

Conclusion: Dental students faced numerous challenges during the Covid-19 pandemic, both mentally and academically. Academicians must reconsider and re-evaluate the curriculum, including the mode of delivery, as total eradication of the virus is not likely to be possible in the foreseeable future.

Keywords: Coronavirus; Covid-19; health profession; focus groups; undergraduate (Siriraj Med J 2023; 75: 592-598)

INTRODUCTION

On 11th March 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (Covid-19), or known as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a pandemic considering the infection's level of transmission and severity.[1] Since then, COVID-19 has caused millions of fatalities worldwide, challenged the government with a historically difficult issue in the face of intense social, economic, and budgetary demands, with a profound impact on every aspect of human existence.[2] As a consequence of the virus's rapid transmission, most countries have imposed stringent measurements and required the public to wear a mask and maintain a safe distance physically.[3,4] Furthermore, countries across the globe enacted nationwide lockdowns in an effort to restrict the infection from spreading.[5,6] As a result of the pandemic, educational institutions were compelled to shut down, prompting academics to devise alternative methods to continue their teaching and learning sessions.[7]

Dental schools were no exception to this interruption as dentistry is among the courses deemed as high risk

Corresponding author: Wen Wu Tan
E-mail: tan_wen@aimst.edu.my
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ORCID ID:http://orcid.org/0000-0002-6260-7348
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of infection due to the nature of clinical training and the close proximity to patients' oral cavities during dental treatment.[2,8] The three primary components of dental education are lecture or problem-based learning (PBL), simulation or laboratory practical, and clinical training, which is the most crucial component in the dental curricula.[9] Ever since the COVID-19 outbreak, most of these dental educational activities were moved from face-to-face instruction to online or e-learning via digital platforms. Such an action was required to protect the health and wellness of employees, students, and patients and to maintain the educational system. E-learning is defined as a system of learning that uses electronic media, typically over the internet.[10] It is worth noting that the incorporation of information technology in the educational system has completely transformed the way individuals learn.

Over the years, e-learning has been demonstrated to possess remarkable success in teaching and learning for medically related disciplines, including dentistry.[11,12] Nonetheless, e-learning was one of the instructional methods used by dental schools in Malaysia even before the Covid-19 outbreak. It started to gain popularity and replaced all other teaching and learning methods during the Covid-19 pandemic. Undoubtedly, the unusual COVID-19 pandemic expedited the shift to online education, but it was still unclear whether academic staff and students were prepared for these changes. Nevertheless, study exploring the learning perceptions of dental students in Malaysia during the Covid-19 pandemic is still scarce in the literature. To address this gap, the current study aimed to explore the perspectives and learning experiences of undergraduate dental students during the Covid-19 pandemic using a qualitative approach.

MATERIALS AND METHODS

Study design

The current study used a qualitative focus group methodology according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.[13] Ethical approval was obtained from the AIMST University Human & Animal Ethics Committee (Ref No: AUHEC/FOD/2022/18). Three focus groups were carried out using a piloted interview topic guide.

Participants recruitment

A convenient sampling was adopted in the current study of which undergraduate year 3 to year 5 dental students were emailed with the participant's information sheets to invite them to take part in the study. The reason for choosing year 3 to year 5 students was that they had previously attended a regular face-to-face session before the COVID-19 outbreak. The participants' information sheets outlined that the participation was voluntarily, the focus group would be video-recorded, and the participants were free to withdraw from the study at any point of time before the data was published.

Data collection

A topic guide was developed and underpinned by research evidence on the learning experiences of students during the Covid-19 pandemic.[14-16] The content of the topic guide was further validated by two experts in dental education. All respondents gave written consent prior to the focus group session, and they were given the opportunity to discuss any doubts they encountered with the researchers. Between June and July 2022, three focus group discussions took place using Zoom Video Communication Software. Each session consisted of 6 to 8 participants who were randomly assigned, and the sessions lasted for about 30 to 45 minutes.

Two facilitators were present in each session, with WWT facilitated the conversation and GSSL contributed ideas. The two facilitators were known by the student participants as faculty members, but they were not actively engaged in their academic learning. During the focus group discussions, only the facilitators and participants were present with no other third parties. Data collection was halted after all investigators agreed that no new themes emerged.

Data analysis

Data obtained from all three focus groups were transcribed verbatim. Participants were given the chance to cross-check the findings and make comments following transcription. Content analysis using a inductive approach was employed to the focus group data. New codes were added in an inductive manner of which two investigators (WWT and GSSL) coded the data independently. Any disagreement in the codes was resolved through discussion among all investigators. All the final codes were refined and agreed by all members of the research team.

RESULTS

A total of 65 invitations were distributed, but only 20 students agreed to participate in the focus group discussions. Four major themes with their respective subthemes were identified: *Changes in study-life balance, Online learning, Interpersonal relationship, and Concern for future*. These themes were illustrated in Fig 1.

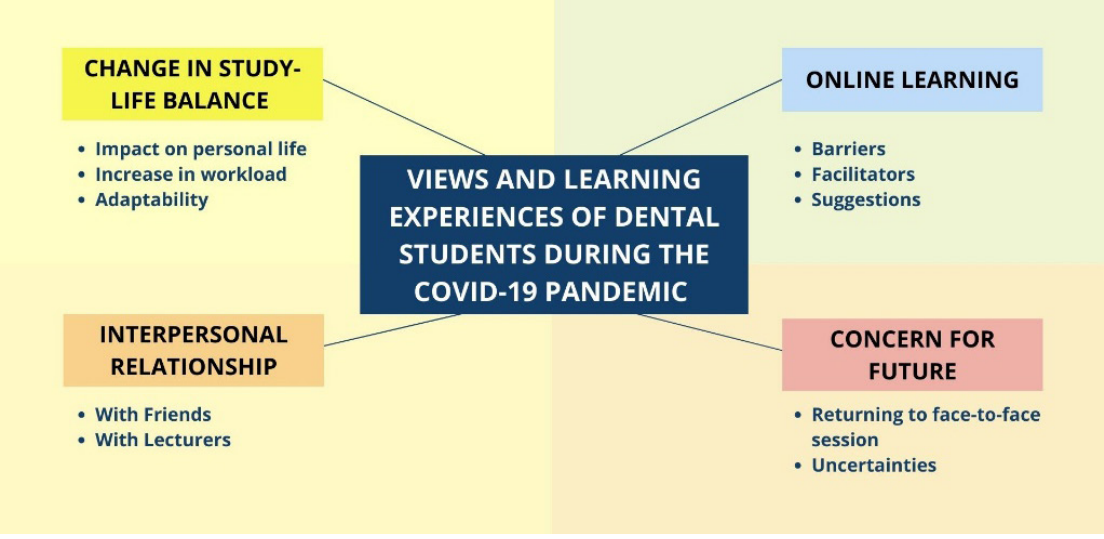


Fig 1. Four major themes on views and learning experiences of dental students during the COVID-19

Theme 1: Change in study-life balance

Subtheme 1: Impact on personal life

Most participants experienced deterioration in mental health during the Covid-19 pandemic. They were not allowed to go out for sports, nor were they allowed to meet up with their friends.

F2P1: *"You can't do sports, you can't go out visiting, you can't go out to eat proper food in dinner...nothing, you're just stuck at home..."*

F3P3: *"…I would say it was severely declining (mental health), especially when it started, because I'm an extrovert. And uhm… I need human interaction… I need my people."*

F3P9: *"I did feel lonely, sometimes I did feel depressed a bit."*

Their daily routine was only to attend online classes. The students were stressful, less motivated and some of them felt overwhelmed by the situation.

F3P4: *"All my roommates went back home and only me and one of my housemates were here. And it was really depressing because the only thing you've got is to attend the classes, go to the cafe eat, come back."*

F3P2: *"…for me, it was less motivating because I was not focusing at all during class…"*

F3P8: *"I had a very hard time coping to the point where I was sent into counseling... We had like, a lot to catch up on and it was just overwhelming."*

On the contrary, some participants coped exceptionally well during the Covid-19 pandemic. They enjoyed the extra time that they had with family at home.

F2P4:" I'm enjoying the life… we have extra time staying in our hostel or in our house."

F2P4: *"I found myself quite enjoyable at that time because I think I have a lot of family bonding time."*

Subtheme 2: Increase in workload

The participants also experienced an increase in academic workload as they had to attend multiple online classes per day.

F3P4: *"We have to sit in front of the laptop for almost like five to six hours because we have four to five classes per day."*

F2P1: *"I feel online classes are very draggy, probably because of the lack of human interaction probably because lecturers probably don't know if we understand or not."*

It was also highlighted that the organization of the schedule was messy due to the uneven distribution of classes and frequent rescheduling of classes.

F1P2: *"The distribution of the lecture is bad as well..."*

F2P1: *"...rescheduling happens a lot, so we don't get to plan our week according to how we want."*

Subtheme 3: Adaptability

Most participants had a hard time to adapt to the COVID-19 situation.

F2P1: *"I was very used to physical learning process so when it came to online it was hard for me to adapt."*

F2P3: *"…I find myself really hard to set a schedule to make myself study during COVID..."*

As time goes by, the participants were able to adapt better, and they managed to find a way to cope with the situation.

F2P3: *"...I sort of found a solution gradually as time goes on."*

Theme 2: Online learning

Subtheme 1: Barriers

One of the biggest barriers faced by the participants during online learning was difficulty to focus. Since the classes were all conducted online, they got distracted easily by their surroundings and other online web pages.

F2P1: *"… you kind of lose the focus you had during that class, and you get distracted and yeah and sometimes certain students' mic are on, and the sessions just get repeatedly distracted."*

F3P3: *"since we're using a device, it's quite easy to get distracted, because we have multiple tabs on..."*

F3P7: *"…there are other distractions because I have like three devices, three devices on the table."*

Screen time fatigue was also cited as a big challenge as they had to sit in front of the computer screen for long hours.

F1P2: *"My eyes are quite sensitive to blue light. Even if I turn on the blue light filter, it's quite taxing on my eyes after prolonged staring on screen."*

F3P7: *"It's a long time, long time in front of screen."*

Poor connectivity and technical issues also acted as a barrier to online classes resulting in the postponement of classes.

F3P2: *"They need to upgrade their Wi-Fi system, because of poor connections, the student cannot have the lecture, and they have to postpone the lecture to a later date."*

F2P3: *"Sometimes lecturers didn't know how to use the Zoom, and then all the technical errors, and... by the time 20, 30 minutes have gone, we've lost our interest."*

Subtheme 2: Facilitators

When it comes to the facilitators of online learning, the participants liked the extra time and comfort that they had, when they attended online classes at home.

F3P7: *"…you can just wake up late and just go for online class."*

F2P3: *"I have time to actually look into more material and resources because I have the excess time."*

F3P5: *"I guess it's the comfort also. For me being at home..."*

The recordings for online classes were also very useful for them as they could rewatch them anytime they wanted.

F2P5: *"One of the best things for online lectures. There is a recorded video so we can watch it again."*

F3P4: *"We got the recordings, and you can replay how many times you want."*

Subtheme 3: Suggestions

In terms of suggestions to improve online learning, the participants hoped that the university would improve on the connectivity issue to ensure uninterrupted online learning experiences.

F3P8: *"I feel like the connectivity issues in our school needs rectification."*

F3P4: *"I would suggest improving the quality of Wi-Fi."*

Apart from that, most participants hoped that the lecturers would do more demonstration for online practical sessions to enhance their understanding of the subject matter.

F3P2: *"I hope that lecturers can demonstrate… maybe like, do something on a model and then show us on how the procedure really goes."*

F3P4: *"I will recommend the lecturers to do a video demonstration..."*

Theme 3: Interpersonal relationship

Subtheme 1: With Friends

The participants missed the human interaction, and some felt anxious to meet their friends.

F2P1: *"… I felt anxious meeting my friends."*

F3P9: *"I think because of the pandemic, we lost that human interaction, that connection is really important."*

Subtheme 2: With Lecturers

The participants claimed that they did not know a lot of the lecturers as they moved on to new academic year and a lack of understanding between lecturers and students also arose.

F2P1: *"…we did not know who they (lecturers) are and our only interactions with them was through online classes."*

F3P6: *"…lack of understanding between…maybe between us and the lecturers..."*

However, some lecturers did show empathy and care towards the students who stayed at the campus during the lockdown period.

F3P9: *"Few of the lecturers reached out to us and asked how we are doing..."*

Theme 4: Concern for future

Subtheme 1: Returning to face-to-face session

Some participants expressed their concern about returning to face-to-face sessions due to the fear of being infected with the virus.

F2P5: *"But still the Covid is around so gathering in a classroom, in a compacted area can increase the risk of getting infected with Covid."*

While others were grateful when the university gradually reopened and allowed students to come back in batches.

F3P9: *"When they (schools) allow us to come back batch by batch. I was so happy and was so grateful."*

Subtheme 3: Uncertainties

Participants faced a lot of uncertainties about their future. Many feared that they would not be able to graduate on time, due to the missed clinical sessions and poor patient flow.

F2P1: *"…You don't know how long it's going to prolong. How many clinical sessions you're missing."*

F2P2: *"The fear of will I graduate? When will I graduate? Because the patient flow was terrible…I get stressed."*

F3P9: *"How am I going to finish quota… there was a dreadful period."*

DISCUSSION

The aim of the present study was to explore the perspectives and learning experiences of undergraduate dental students during the Covid-19 pandemic using a qualitative focus group approach. Focus group discussions were used in the current study to address the research gaps since employing focus group study can provide information about participants' attitudes, feelings, beliefs, motivations, and experiences in a situation where these aspects are conditional and diverse.[17] Therefore, focus group discussions' participatory and discursive nature appeared to best represent these characteristics.

Undeniably, the sudden strike of the Covid-19 pandemic has impacted the normal delivery of classes, affecting the learning process of millions of students worldwide. One of the major challenges faced by the participants was the change in study-life balance, where many of them experienced a negative impact on their personal lives. Indeed, a series of movement control orders were implemented by the Malaysian government to restrict the movement of the citizen during the pandemic,[18] and students were confined to their houses or hostels. They were forbidden from attending the schools for extracurricular and academic activities as well as restricted from socializing with their friends in campus. Thus, a high possibility that they might experience depression, loss of motivation, and a sense of general overwhelm. Furthermore, the present findings are in accordance with previous research showing that students generally experienced a deterioration in their mental health throughout the pandemic period.[19-21]

Most of the students in the current study also highlighted the increase in academic workload during the COVID-19 pandemic due to the increased number of online lectures every day. Since no physical practical and clinical sessions were allowed, only lecture classes could be scheduled for the students to occupy their academic calendar. Several universities even converted practical sessions to online delivery mode during the Covid-19 pandemic.[22,23] However, due to the nature of dental profession that relies heavily on clinical competence and practical abilities, such a strategy to shift face-to-face practical session to online mode may not be feasible for dental students.[6,9]

Furthermore, the present findings are in accordance with previous research showing that students generally experienced a deterioration in their mental health throughout the pandemic period. When universities reopen, they must develop a comprehensive plan to address their students' potential mental health needs. A previous study has found that the Covid-19 pandemic has alarming implications for individual mental health and social functioning, increasing the risk of developing mood and anxiety disorders as well as elevated hyperarousal symptoms.[24]

The present results showed that students faced numerous barriers during online learning such as difficulty to focus, screen time fatigue, technical error, and connectivity issues. These barriers were similar to other studies conducted worldwide.[21,25,26] It should be highlighted that the pre-requisite for online classes is a good internet connection. However, many students residing in rural areas of the country could face challenges in obtaining internet coverage and stable connection.[27]

However, due to the nature of dental profession that relies heavily on clinical competence and practical abilities, such a strategy to shift face-to-face practical session to online mode may not be feasible for dental students. This is evident in another study conducted in Malaysia where only 49.7% of the students were satisfied with the clinical knowledge delivered through online classes.[28] Moreover, another possible explanation could be students and lecturers were not equipped with the necessary skills and equipment for online lectures which resulted in frequent technical errors. A previous study found that technological barrier was cited as the top three barriers faced by students in virtual learning during the Covid-19 pandemic.[29] Participants also advocated adding additional video demonstration to compensate for the practical sessions that were missed, which is consistent with a previous study that suggested to reduce the academic load and adding more clinical videos to case-based learning sessions in improving the overall learning experience.[21]

Additionally, the present study found that students missed the human interaction during online learning, which is congruent with a previous study.[21] Some of them were also anxious to meet their friends due to the prolonged online learning. Furthermore, it has been reported that

the limited interactions between students and teachers during online learning in the midst of the pandemic may have contributed to the difficulty students experienced in communicating with their teachers and the possibility of misunderstandings emanating.[26] Nonetheless, it can still be argued that after dental students gradually resume back to physical classes during the endemic phase in the near future, their communication skills might improve and that their anxieties about communicating with friends or even lecturers and patients might be reduced.

All participants reported varying degrees of concerns for their future such as completing their clinical requirements, graduating on time, and returning for face-to-face session, as the virus is still around. Kharma *et al.*[30] discovered that 85% of dental students felt stressed and anxious to return to dental school for training during the Covid-19 pandemic. Similarly, another study conducted among Malaysian dental students showed that only 32.6% of students were ready to attend the faculty classes after school reopen.[28] Dental students are now faced with additional stress due to the fear of being contacted with the disease upon returning to school and resumption of clinical training.[28] Thus, dental schools need to adopt strict safety guidelines to safeguard the health and wellbeing of students and staff during this crucial moment.[31]

Several limitations were noted in the present study. First, the findings from the current qualitative research do not demonstrate a causal relationship and should not be generalized to the wider population due to a small sample size. Instead, the present study aimed to understand and explore in depth on the perspectives and learning experiences of dental students during the Covid-19 pandemic. Second, as the study was only carried out after the Malaysian government declared Covid-19 an endemic, it is crucial to consider how well the participants were able to recall their learning experiences during the pandemic phase.

Thus, dental schools need to adopt strict safety guidelines to safeguard the health and wellbeing of students and staff during this crucial moment. For instance, dental schools may refer to the guidelines for dental education during the COVID-19 pandemic published by the Association for Dental Education, Asia Pacific (ADEAP), after thorough evaluation of the condition in the Asia Pacific region.[31] To generalize the findings to all dental students in Malaysia, future research should employ a quantitative method and involve dental students from various dental schools across the country. Nevertheless, the present findings add more data to the literature in improving the understanding of how dental students perceived their learning experiences during the Covid-19 pandemic.

CONCLUSION

Within the limitation of the present study, dental students faced numerous challenges during the Covid-19 pandemic, both mentally and academically. Although online teaching and learning served as the only medium for knowledge transfer during this period, it still could not completely replace the conventional method as dentistry relies heavily on practical skills and clinical competencies. Nevertheless, the abrupt closure of universities worldwide owing to the Covid-19 pandemic provides an opportunity for cultural revolution in the education sector. Academicians must reconsider and re-evaluate the curriculum, including the mode of delivery, while bearing in mind the inequalities students may confront in accessing resources, since total eradication of the virus is not likely to be possible in the foreseeable future.

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Conflict of interest

The authors declare no conflict of interest.

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