

Original Article

Academics' and students' educational experiences at the school of dentistry and oral health, during the COVID-19 pandemic

Riyashna Shynal Chand¹, Kartika Kajal² , Masoud Mohammadnezhad³

¹Bachelor of Dental Surgery, General Dentist, Ministry of Health, Fiji, ²Assistant Lecturer, School of Dentistry and Oral Health College of Medicine, Nursing & Health Sciences, Fiji National University, Suva, Fiji, ³Associate Professor, Faculty of Health, Education and Life Sciences, Birmingham City University, Birmingham, United Kingdom



***Corresponding author:**

Riyashna Shynal Chand,
Bachelor of Dental Surgery,
General Dentist, Ministry of
Health, Fiji.

riyashnachand31@gmail.com

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ABSTRACT

Objectives: The COVID-19 pandemic disrupted dental education globally, particularly in settings reliant on face-to-face clinical training. However, limited evidence exists from small island developing states such as Fiji. This study aimed to evaluate and compare the educational, clinical, research and psychosocial experiences of academics and students at the School of Dentistry and Oral Health (SDOH), Fiji.

Material and Methods: A cross-sectional descriptive study was conducted among dental academics ($n = 19$) and undergraduate students ($n = 98$) at SDOH, Fiji National University. Eligible participants included dental academics employed during the pandemic period (2020–2021) and undergraduate students enrolled in the Bachelor of Oral Health or Bachelor of Dental Surgery programmes between 2018 and 2021. Participants of all genders and ethnic backgrounds who met the inclusion criteria and provided informed consent were included. Newly enrolled students in 2022 and individuals who did not provide consent were excluded. Data were collected using structured, validated questionnaires and analyzed using descriptive statistics in Epi Info Version 7.

Results: Most of the participants reported advantages of online learning, including flexibility and access to resources. However, 100% of academics indicated that the acquisition of practical skills was adversely affected. A large proportion of students (84%) indicated missing essential educational experiences, and over half reported psychological stress. Clinical training disruption and reduced patient attendance significantly impacted skill development and confidence.

Conclusion: While e-learning enabled continuity of education, significant challenges remain in ensuring clinical competence and student well-being. These findings highlight the need for resilient, context-specific strategies to support dental education in resource-limited and geographically isolated settings.

Keywords: Academics, COVID-19, Dental schools, Experiences, Students

INTRODUCTION

The COVID-19 pandemic caused unprecedented disruption to higher education systems worldwide, with dental education being among the most affected disciplines due to its reliance on direct patient care and hands-on clinical training.^[1] To reduce viral transmission, dental schools globally suspended face-to-face teaching and clinical activities, leading to a rapid and often unplanned transition to online learning. While these measures were necessary for

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infection control, they significantly altered traditional teaching methods and raised concerns regarding the quality of education, clinical competence, and overall student perceptions.^[2,3]

The shift to e-learning introduced both opportunities and challenges. On the one hand, digital platforms enabled continuity of theoretical instruction, improved access to recorded materials, and facilitated participation in virtual academic activities.^[3] On the other hand, barriers such as limited technological infrastructure, unreliable internet connectivity, inadequate digital skills, and reduced interaction between students and educators affected the overall learning experience. These challenges were particularly pronounced in dentistry, where practical skill acquisition and patient interaction are integral components of training.^[4-7]

Globally, several studies have explored the impact of the COVID-19 pandemic on dental education, reporting disruptions in clinical training, increased academic workload, reduced student engagement, and heightened psychological stress among both students and staff.^[3,8] However, most of this evidence originates from high-income countries with multiple dental institutions, well-established digital infrastructure, and access to alternative teaching modalities such as simulation technologies. As a result, these findings may not be directly applicable to resource-limited settings.

In small island developing states such as Fiji, the challenges associated with the pandemic were further compounded by structural and geographical limitations. Fiji National University's (FNU) School of Dentistry and Oral Health (SDOH) is the only institution responsible for training the country's dental workforce and serves students from the wider Pacific region. The sudden suspension of clinical activities and transition to online learning, therefore, had implications not only for individual students and academics but also for national workforce development and healthcare delivery. Limited access to stable internet, fewer technological resources, and the absence of alternative clinical training pathways further intensified these challenges.

Despite these unique contextual factors, there is a lack of empirical evidence examining how the COVID-19 pandemic affected dental education in Fiji and similar settings. Understanding these experiences is essential for identifying gaps, informing policy decisions, and strengthening resilience in educational systems facing future disruptions.

Aim

To evaluate and compare the educational, clinical, research, and psychosocial experiences of dental academics and undergraduate students at the SDOH, Fiji, during the COVID-19 pandemic.

Objectives

1. To assess the impact of COVID-19 on teaching, learning, and clinical training.
2. To examine perceptions of e-learning among academics and students.
3. To evaluate the impact on research productivity.
4. To explore financial and psychological effects.
5. To identify challenges and opportunities to inform future resilience strategies.

MATERIAL AND METHODS

Study design

A cross-sectional study was conducted in 2022 at the SDOH, FNU, to examine the experiences of students and academic staff during the COVID-19 pandemic, which began in Fiji in March 2020.^[9]

Inclusion and exclusion criteria

Inclusion criteria

- Dental academics employed at the SDOH, FNU, during the COVID-19 pandemic (2020–2021)
- Undergraduate students enrolled in the Bachelor of Oral Health (BOH) or Bachelor of Dental Surgery (BDS) programs between 2018 and 2021
- Participants who provided informed written consent
- Participants of all genders and ethnic backgrounds.

Exclusion criteria

- Students newly enrolled in 2022 who did not experience pandemic-related educational disruptions
- Students enrolled in programs other than BOH or BDS
- Academic staff not directly involved in teaching during the pandemic
- Individuals who declined or withdrew consent.

The number of academic participants was smaller than the student sample because SDOH has a limited academic workforce. All eligible academic staff employed during the study were invited to participate, resulting in a near-complete census of faculty rather than a sampled subgroup. While the smaller academic sample limits statistical generalizability, the descriptive nature of the study allows meaningful insight into faculty experiences within a single institution context.

Data collection and analysis

Two structured questionnaires (academics: 26 items; students: 14 items) were designed to capture demographics, impact on personal life, advantages and disadvantages of online learning, and effects on research, clinical training,

finances, and psychological well-being. Most items used a five-point Likert scale (1 = strongly agree to 5 = strongly disagree) [Tables 1-2]. Instruments underwent face and content validation by experts and pilot testing with 10% of the study population. Questionnaires were distributed in hard copy with information sheets and written consent. Data collection spanned 3 weeks, with 1 additional week for late responses. Responses were entered into Epi Info Version 7 and Microsoft Excel. Descriptive statistics (frequencies, percentages, means) only were used to summarize data, and findings were presented in tables. Inferential statistical analysis was not performed due to the small and non-random sample size, particularly among academic staff. The study was exploratory and descriptive in nature, aiming to provide an in-depth institutional snapshot rather than population-level inference.

Ethical considerations

Ethical approval was granted by the College of Human Health Research and Ethics Committee, FNU (ID 092.21). Confidentiality was maintained through coded identifiers. Data were stored securely, accessible only to the principal investigator, and will be retained for 5 years before disposal.

RESULTS

Participant characteristics

Nineteen academics and 98 students participated. Most were Fijian Indian (52.6%) and female. Students were largely aged 19–30 years (94.9%), while most academics were over 40 years (68.4%) [Table 3].

E-learning and research

Nearly half of the academics (63.1%) viewed online group discussions positively, but many reported increased workload (57.9%) and difficulty managing academic integrity (78.9%). Time for research was uncertain, with 73.7% agreeing that clinic suspensions increased productivity [Table 4]. Among students, 89% agreed they missed educational experiences. More than half (53.7%) faced challenges writing research without in-person learning, while 55.6% agreed that clinic suspension provided more time for writing [Table 5]. Most academics reported reliable connectivity (78.9%) and comfort with digital tools (79%), though 42.1% of those >40 years faced IT challenges. Almost half (47.4%) believed that students were disengaged in online learning [Table 5].

Table 1: Questionnaire for dental academics.

No.	Domain	Questionnaire item	Response options
1	Demographics	Age group	25–30, 30–35, 35–40, >40
2	Demographics	Gender	Male/female
3	Demographics	Ethnicity	Itaukei/Fijian of Indian descent/other
4	E-learning	Online group discussions (e.g. clinical cases) had a positive educational value	Strongly agree- strongly disagree
5	E-learning	Online lectures were better than face-to-face lectures	Strongly agree- strongly disagree
6	Workload	Workload increasing during the COVID-19 pandemic	Strongly agree- strongly disagree
7	Adaptation	Time was required to adapt and update teaching materials for online delivery	Strongly agree- strongly disagree
8	Academic Integrity	Difficulty controlling academic integrity (e.g. plagiarism, cheating) during online assessments	Strongly agree- strongly disagree
9	Research	Suspension of clinics/laboratories caused challenges in writing research	Strongly agree- strongly disagree
10	Research	Suspension of clinics provided more time to write research	Strongly agree- strongly disagree
11	Technology	Adequate Internet connectivity for online teaching	Yes/no/unsure
12	Technology	Comfort with technology-based education	Yes/no/unsure
13	Technology	Challenges with IT skills	Yes/no
14	Clinical Training	The acquisition of practical dental skills was affected	Yes/no
15	Clinical Training	Inability to teach conventionally due to clinic/laboratory suspension	Yes/no/unsure
16	Student Competence	Confidence in students' skills before progressing to the next level	Yes/no/unsure
17	Finance	Financial impact due to COVID-19	Yes/no
18	Psychological well-being	Experiences stress, anxiety, or related psychological symptoms	Yes/no

Table 2: Questionnaire for dental students.

No.	Domain	Questionnaire item	Response options
1	Demographics	Age group	19–30, >30
2	Demographics	Gender	Male/female
3	Demographics	Ethnicity	Itaukei/Fijian of Indian descent/other
4	Education	Missed educational experiences due to COVID-19	Yes/no/unsure
5	Research	Suspension of face-to-face teaching caused difficulty writing research	Yes/no/unsure
6	Research	Suspension of clinics provided more time for research writing	Yes/no/unsure
7	Clinical training	Patients had difficulty attending clinics due to financial hardship	Yes/no/unsure
8	Clinical training	Confidence in starting independent practice after graduation	Yes/no/unsure
9	Psychological well-being	Experienced stress, anxiety, depression or related symptoms	Yes/no
10	E-learning	Satisfaction with online learning during the pandemic	Yes/no/unsure
11	Clinical exposure	Perceived reduction in clinical exposure due to clinic suspension	Yes/no/unsure

Table 3: Characteristics of dental academics and students.

Variables	Categories	Frequency (%)	
		Dental academics	Students
Ethnicity	I-Taukei	5 (26.3)	19 (19.4)
	Fijian of Indian descent	10 (52.6)	51 (52)
	Others	4 (21.0)	28 (28.6)
Age	25–30 years	0	93 (94.9)
	30–35 years	4 (21.0)	5 (5.1)
	35–40 years	2 (10.5)	0
	40+ years	13 (68.4)	0
Gender	Male	7 (36.8)	21 (21.4)
	Female	12 (63.1)	77 (78.6)

Clinical training, finance, and well-being

All academics agreed that practical skills acquisition was affected, with 80% reporting disruption of clinics and laboratories. Most (68.4%) felt students lacked confidence progressing to the next year. Few reported financial (31.6%) or psychological impact (36.8%) [Table 6]. Students reported substantial patient non-attendance due to financial hardship (81.1%). Nearly half (44.4%) were uncertain about confidence in independent practice. Over half (51%) experienced stress, anxiety, or other negative emotions, largely from workload and reduced social interaction [Table 6].

DISCUSSION

This study provides one of the first empirical insights into the impact of the COVID-19 pandemic on dental education within a small island developing state. By examining both academics and students at Fiji's sole dental training institution, the findings offer a unique institutional

perspective on how abrupt educational disruptions affected teaching, learning, clinical training, and well-being.

The transition to online learning enabled continuity of theoretical education, with both academics and students recognizing benefits such as flexibility, accessibility of recorded lectures, and opportunities to engage in virtual academic activities. These findings are consistent with global reports highlighting rapid digital adaptation in higher education during the pandemic.^[1] However, despite these advantages, online learning was not perceived as an adequate substitute for traditional dental education. Reduced interaction, technological limitations, and decreased student engagement were frequently reported, underscoring the challenges of sustaining effective learning in a fully remote environment.^[4,10]

A key finding of this study is the substantial disruption to clinical training. All academic participants reported that students' acquisition of practical skills was negatively affected, and many expressed concerns regarding students' readiness to progress academically. Similarly, a large proportion of students reported reduced confidence in their clinical competence. These findings align with existing literature emphasizing that dentistry, as a practice-based discipline, cannot be effectively taught without hands-on experience.^[11–13] The suspension of clinics, combined with reduced patient attendance due to financial and public health concerns, significantly limited opportunities for skill development.^[13–15] In the context of Fiji, where a single institution is responsible for training the national dental workforce, such disruptions may have long-term implications for workforce preparedness and service delivery.

The study also highlights mixed impacts on research productivity. While some academics and students

Table 4: Academies' experiences with E-learning and research.

Statements	Disagree and strongly disagree <i>n</i> (%)	Uncertain <i>n</i> (%)	Agree and strongly agree <i>n</i> (%)
Do you agree group discussions posted on E-learning such as clinical cases and scenarios had a positive value on student education?	3 (15.7)	4 (21.1)	12 (63.1)
Do you agree that online lectures are better than face-to-face theater lecture?	8 (42.1)	3 (15.8)	8 (42.1)
Do you agree that you had a much higher workload?	6 (31.6)	2 (10.5)	11 (57.9)
Do you agree you need time to adapt to the new reality of delivering content and the needed time to update and improve PowerPoint lectures?	2 (10.5)	1 (5.3)	16 (84.2)
Do you agree you had a failure in controlling academic integrity, such as plagiarism and cheating during exams?	2 (10.5)	2 (10.5)	15 (78.9)
Do you agree that due to suspensions of clinics and laboratories, you had challenges in writing up your research?	3 (15.8)	2 (10.5)	14 (73.7)
Do you agree that due to the suspension of clinics and face-to-face mode you had got more time to write your research?	8 (42.1)	3 (15.8)	8 (42.1)

Table 5: Students' and academics' experiences with E-learning and research.

Students	Yes <i>n</i> (%)	No <i>n</i> (%)	Unsure <i>n</i> (%)
Do you agree that you missed educational experiences as result of the COVID-19 pandemic?	89 (84.0)	10 (9.5)	7 (6.7)
Do you agree due to the suspension of the face-to-face mode, you had challenges in writing up your research?	57 (53.7)	28 (26.4)	21 (19.8)
Do you agree due to the suspension of clinics, you had got more time to write your research?	59 (55.6)	28 (26.4)	19 (18.0)
Academics'			
Did you have good connectivity to provide studies online?	15 (78.9)	3 (15.8)	1 (5.3)
Did students feel more engaged and motivated in following up with distant E-learning?	5 (26.3)	9 (47.4)	5 (26.3)
Do you feel comfortable with all this technology-based education?	15 (79.0)	2 (10.5)	2 (10.5)
Did you have challenges regarding IT skills?	8 (42.1)	11 (57.9)	0

Table 6: Students' and academics' experiences with clinical requirements, finance, and psychology.

Students'	Yes <i>n</i> (%)	No <i>n</i> (%)	Unsure <i>n</i> (%)
Do you think that due to the financial problems brought by COVID-19, patients had difficulty coming for appointments?	86 (81.1)	5 (4.7)	15 (14.2)
Do you have confidence in starting an independent practice after graduation?	39 (36.8)	20 (18.8)	47 (44.4)
Did you experience anxiety, stress, depression, intrusion, avoidance, or hyperarousal?	54 (51)	52 (49)	0
Academics'			
In light of the COVID-19 pandemic, do you think the acquisition of practical skills regarding dental work is affected?	19 (100)	0	0
Due to suspensions of clinics and laboratory procedures, did you experience not being able to teach conventionally?	15 (80.0)	2 (10.5)	2 (10.5)
Do you think students have confidence in the skills they acquired before moving into the next level?	3 (15.8)	13 (68.4)	3 (15.8)
Have you been affected financially during the COVID-19 pandemic?	6 (31.6)	13 (68.4)	0
Did you experience stress, anxiety, depression, intrusion, avoidance or hyperarousal?	7 (36.8)	12 (63.2)	0

reported increased time for writing due to reduced clinical commitments, others experienced challenges due to limited access to laboratories and institutional resources. This variability reflects the broader disruption of academic research activities globally, particularly in settings with limited infrastructure and support systems.^[13-15]

Psychological impacts were more pronounced among students than academics, with over half of the students reporting stress, anxiety, or related symptoms. Contributing factors likely include uncertainty regarding academic progression, reduced clinical exposure, and social isolation. Academics reported comparatively lower psychological impact, which may reflect differences in professional stability and experience. Nonetheless, the findings emphasize the importance of incorporating mental health support into institutional response strategies during large-scale disruptions.

Importantly, this study addresses a critical gap in the literature by providing context-specific evidence from a resource-limited and geographically isolated setting. Unlike studies conducted in high-income countries with multiple dental schools and advanced digital infrastructure, this research reflects the realities of a single-institution system with constrained resources. The findings, therefore, offer valuable insights for similar settings, where disruptions to education may have amplified consequences.

Although COVID-19-related lockdowns have ended, the relevance of this study extends beyond the immediate pandemic period. The crisis has led to lasting changes in dental education, including increased integration of digital learning, hybrid teaching approaches, and heightened awareness of infection control. Furthermore, the lessons learned are directly applicable to future disruptions, such as emerging infectious diseases, natural disasters, and climate-related events, which are of particular concern in small island developing states.

Overall, while digital technologies provided an essential bridge for educational continuity, they were insufficient in addressing the core clinical training requirements of dental education. Strengthening digital infrastructure, developing innovative approaches to simulation-based training, and implementing flexible, resilient educational models are critical to ensuring preparedness for future disruptions.

Limitations

This study has several limitations. The use of convenience sampling for students and the small sample size of academic staff limit the generalizability of the findings. In addition, the reliance on self-reported data may introduce response bias. The study was conducted within a single institution, which may not fully represent other settings. However, as the

only dental university in Fiji, the findings provide valuable insights into national-level challenges.

CONCLUSION

COVID-19 pandemic significantly disrupted dental education at the SDOH in Fiji, particularly in relation to clinical training and student well-being. While online learning enabled continuity of theoretical instruction, it was insufficient in addressing the practical requirements of dental education. These findings highlight the need for resilient and adaptable educational strategies, including the integration of hybrid learning models, investment in digital infrastructure, and the development of alternative approaches to clinical training. Such measures are essential to ensure continuity and quality of dental education in the face of future disruptions, particularly in resource-limited and geographically isolated settings.

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