

Risk perception and readiness of dental students to treat patients amid COVID-19: Implication for dental education

Dental settings have one of the highest risks of infection transmission (Jamal et al., 2020; Mohebati, Davis, & Fry, 2010). Therefore, the COVID-19 pandemic has presented significant challenge for dental students and infection control measures. Data presented here were extracted from a survey conducted among Palestinian dental students in their clinical study years to evaluate their readiness to return to dental care provision during the COVID-19 pandemic.

A total of 305 dental students from Al-Quds University (AQU) and Arab American University (AAU) completed the questionnaire in mid-May 2020. Thirty-four percent of the current sample ($n = 103$) perceived COVID-19 as very dangerous, and 84.3% ($n = 257$)

believed that COVID-19 is a serious public health issue. Fifty-five percent ($n = 168$) did not consider themselves prepared for this outbreak, and 66.2% ($n = 202$) did not think that their outpatient clinics' infection control measures prior to COVID-19 are adequate to receive patients during this pandemic. Eighty-eight percent of the students ($n = 269$) admitted to fear of transmitting the virus to family and friends. This fear was mainly related to their perception that standard precautions used in dental settings are inadequate and make it unsafe to deal with patients during the current pandemic ($\chi^2 = 50.45, p < .001$). Thus, 82% of students ($n = 250$) preferred to avoid working with COVID-19 suspected patients. This perception

TABLE 1 Students' risk perception and readiness to treat patients amid the COVID-19 pandemic

Question	Categories	N	%
How do you perceive COVID-19?	Very dangerous	103	33.8
	Moderately dangerous	190	62.3
	Not dangerous	12	3.9
In case a patient was sneezing or coughing in your clinic, what would you do?	Refuse treating the patient and ask him/her to leave the clinic	15	4.9
	Treat the patient and ask him/her to go to the hospital	113	37.0
	Refer the patient to the hospital without treating him/her	177	58.0
To what extent do you have confidence in handling suspected COVID-19 patients?	Not at all	70	23.0
	To a little extent	60	19.7
	To some extent	95	31.1
	To a considerable extent	56	18.4
I fear I will transmit COVID-19 to my family members	To a great extent	24	7.9
	Strongly agree	191	62.6
	Agree	78	25.6
	Disagree	23	7.5
I feel overwhelmed with new COVID-19 regulations	Strongly disagree	13	4.3
	Strongly agree	49	16.1
	Agree	192	63.0
	Disagree	56	18.4
I don't feel safe at work when I use the standard precautions	Strongly disagree	8	2.6
	Strongly agree	54	17.7
	Agree	139	45.6
	Disagree	102	33.4
	Strongly disagree	10	3.3

of unsafety related to the prior-to-COVID-19 infection measures also impacted the level of confidence these students had in dealing with COVID-19 patients ($\chi^2 = 25.8, p = .01$). Only 26% ($n = 80$) of the students had "considerable-to-great" level of confidence in handling suspected COVID-19 patients (Table 1).

It is obvious from current data that students' confidence in handling COVID-19 patients and the fear of transmitting infection to family and friends were related to their perception of the inadequacy of standard infection control protocols used prior to COVID-19. Therefore, dental schools need to invest in the new infection control measures placed by national authorities, and adopted by universities as their new norm. As an example, AQU followed a very strict protocol in reopening their student dental clinics and ensured all advanced PPE needed to implement these protocols. This should be accompanied by periodic updating of students' knowledge about infectious diseases and control measures.

Another important point that needs to be addressed by dental schools following the COVID-19 pandemic is how to change current teaching philosophy to make it more resilient for future pandemics and crises. First, dental schools need to teach their students not to depend solely on the current restorative model and to learn alternative evidence-based treatment options that focus on prevention, minimal intervention, and less aerosol generation. Examples are atraumatic restorative treatment, Hall technique, and the use of silver diamine fluoride (SDF) in disease stabilization (de Amorim et al., 2018; Khan, Badar, Tab assum, & Ghafoor, 2019; Slayton et al., 2018).

Second, students in this sample believed that they have an important role in educating patients about COVID-19; this sense of responsibility needs to be maximized in emphasizing the importance of dentists' role in pandemics in providing care and supporting other frontline healthcare providers when needed. Dental students need to view themselves not only as excellent dentists but also as practicing healthcare professionals providing oral health within the context of systemic health and infection prevention.

KEYWORDS

COVID-19, dental, perception of risk, students

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

AUTHOR CONTRIBUTIONS



Ruwa Alawia: Data curation; Formal analysis; Writing—original draft. **Abanoub Riad:** Formal analysis; Writing—review & editing. **Elham Kateeb:** Conceptualization; Methodology; Supervision; Validation; Writing—review & editing.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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