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Dental trainees' mental health and intention to leave their programs during the COVID-19 pandemic

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ABSTRACT

Background. Dental trainees (dental students, graduate students, and postdoctoral residents) are at increased risk of experiencing poor mental health, which can lead to intentions to leave their program, especially during the COVID-19 pandemic.

Methods. The authors invited 355 dental trainees at the University of Washington School of Dentistry to complete an 83-item questionnaire in August and September 2020. The outcome analyzed was intention to leave their programs. There were 4 self-reported predictors: anxiety, burnout, depression, and COVID-19 impact on overall mental health. The authors ran multiple variable logistic regression models to evaluate relationships between each predictor and outcome ($\alpha = .05$) and reported odds ratios (ORs) and 95% CIs.

Results. The survey response rate was 35.5%. Overall, 12.7% of participants reported any intention to leave. In total, 22.2% and 16.7% of participants endorsed clinically significant anxiety or depression symptomatology, respectively; 28.6% reported 1 or more burnout symptoms; and 69.0% reported that COVID-19 affected their overall mental health. Participants reporting anxiety (OR, 8.87; 95% CI, 1.80 to 43.57; $P = .007$), depression (OR, 11.18; 95% CI, 1.84 to 67.74; $P = .009$), or burnout (OR, 8.14; 95% CI, 1.73 to 38.23; $P = .008$) were significantly more likely to report intention to leave than those not reporting mental health problems. All participants reporting that the COVID-19 pandemic impacted their mental health expressed intention to leave.

Conclusions. Poor mental health is common among dental trainees and is associated with intention to leave their program.

Practical Implications. COVID-19 has exacerbated the prevalence and consequences of poor mental health among dental students, highlighting the importance of providing wellness resources.

Key Words. Dental students; anxiety disorders; burnout, professional; depressive disorder; COVID-19.

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The dental student training experience increases students' risk of experiencing poor mental health, as exemplified by the high levels of stress, anxiety, and depression that dental students have reported.^{1,2} Sources of stress include examinations, grades, workload, competition, and debt.³⁻⁵ Although researchers have not examined anxiety prevalence among US dental students, international estimates of abnormal levels of anxiety are as high as 67%.⁶ Low mood was reported from 15% of students at 1 US dental school, and 27.7% of students at another US school reported symptomatology suggestive of major depression, which the researchers noted was significantly higher than the prevalence among the general US adult population.^{7,8} Financial insecurity, minority race and ethnicity, and being a first-year student were associated with moderate to severe depressive symptoms.⁸

Poor mental health can lead to adverse outcomes during dental school. Results of the 2019 American Dental Education Association Survey of Dental School Seniors, the only national survey of US dental students, showed widespread burnout, which includes feeling fatigued, emotionally drained, overwhelmed, and disconnected from school.⁹ At 1 US dental school, 40% of students met criteria for burnout, consistent with data from dental schools outside the United States.^{10,11}

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Burnout can lead to poor academic performance.^{1,2,12} Another consequence of burnout is intention to leave dental school or actual attrition, although studies on this topic have not been conducted in dentistry since the late 1990s.¹³ Most concerning is the association between poor mental health and suicidal ideation, with results from 1 school indicating a 6% prevalence of clinically significant suicidal ideation among dental students.¹⁰

The COVID-19 pandemic has exacerbated mental health problems among those living in the United States, especially among those aged 18 through 24 years, the age group into which most dental trainees (dental students, graduate students, and postdoctoral residents) fall.^{14,15} Seattle, Washington, was the first epicenter of the US pandemic, and the University of Washington (UW) was the first dental school in the United States to close its clinics in March 2020. Clinic closures introduced new uncertainties (for example, curricular, clinical, economic, career, and health). Relatedly, swift transitions to online education, paired with sweeping closures and substantial restrictions on activity in Seattle, caused major disruptions to the day-to-day lives of trainees. Other destabilizing events occurring at the same time included civil unrest after nationwide police-instigated violence targeted at Black, indigenous, and people of color and widespread political tensions leading up to the 2020 presidential election.

A study of UW dental trainees might be particularly worthwhile for determining the impact of the COVID-19 pandemic on trainee mental health and other related outcomes, such as retention, especially in the context of growing concerns about dental student wellness. In this study, we administered a schoolwide survey to estimate the prevalence of mental health problems and the extent to which poor mental health and the COVID-19 pandemic were related to intention to leave dental school. Ultimately, this knowledge can be used to inform the development of relevant dental trainee wellness interventions—perhaps on a national scale—aimed at addressing unmet mental health needs, mitigating the psychological effects of the COVID-19 pandemic, and reducing other adverse outcomes, such as dropout.

METHODS

Study design

We administered an anonymous survey via the web-based application Research Electronic Data Capture. Those eligible to participate were all trainees at the UW School of Dentistry, including dental students ($n = 268$), graduate students ($n = 15$), and postdoctoral residents ($n = 72$). Each participant was e-mailed an initial invitation to complete the survey, followed by 2 reminder e-mails. The survey was available for completion from August 19, 2020 through September 15, 2020. Participation was voluntary, and there was no incentive provided. The UW Institutional Review Board classified our study as exempt.

Survey measures

We developed an 83-item survey that included multiple-choice, checklist, and open-ended items on the following topics: intentions to leave their program, general mental health (for example, anxiety, depression, and burnout), and effects of the COVID-19 pandemic. The survey also assessed substance use, isolation from peers, use of professional support system, unmet needs (food insecurity and ability to pay bills), and demographics. We used previously validated items when available, adapting them when necessary to ensure relevance to trainees. We also created new items specifically for this investigation when no appropriate measure could be found in the literature.

Outcome

The outcome analyzed was intention to leave their programs, measured with an adapted item from the Physician Worklife Study.¹⁶ Response alternatives were on a Likert-type scale (not at all, slightly, moderately, likely, definitely). Data were dichotomized as no intention to leave or any intention to leave.

Predictor variables

There were 4 self-reported predictors: anxiety, depression, burnout, and the impact of the COVID-19 pandemic on overall mental health. Anxiety was assessed with the 7-item Generalized Anxiety Disorder scale (GAD-7), which maps to the diagnostic criteria for generalized anxiety disorder.¹⁷

ABBREVIATION KEY

GAD-	7-Item Generalized
7:	Anxiety Disorder scale.
PHQ-	9-Item Patient Health
9:	Questionnaire.
UW:	University of Washington.

Each item was scored from 0 (not at all) to 3 (nearly every day), and a total score was calculated by means of summing item scores. We used the standard threshold of a total score of 10 or higher to classify participants as likely meeting the criteria for generalized anxiety disorder. Depression was assessed with the 9-item Patient Health Questionnaire (PHQ-9), which maps to the diagnostic criteria for major depressive disorder (major depression).¹⁸ PHQ-9 scores are calculated like GAD-7 scores. Using the standard threshold, a PHQ-9 total score of 10 or higher was classified as suggestive of major depressive disorder. We measured burnout with a single item from the Physician Worklife Study.¹⁹ The item has 5 ordinal response alternatives. Consistent with previous use, we dichotomized responses as no burnout symptoms or 1 or more symptoms of burnout.²⁰ Finally, using an item created for this study, we asked participants to rank how much they agreed with the statement, “COVID-19 has impacted my mental health” on a Likert-type scale (strongly disagree, disagree, neutral, agree, strongly agree). Responses were dichotomized as affecting mental health (agree, strongly agree) and not affecting mental health (strongly disagree, disagree, neutral).

Confounding and descriptive variables

We included the following variables as model confounding variables: demographic characteristics (that is, gender, race, and first-generation college student status), food insecurity, ability to pay bills, alcohol use, isolation from peers, and professional support use.

Gender had 3 categories (man, woman, or other). Race included the following categories, consistent with the US Census Bureau: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White, or other. We regrouped all categories except Asian and White as other owing to small subgroups. First-generation college student status was a dichotomous variable (no, yes). To measure food insecurity, we used the existing 2-item screener described elsewhere (no, yes).²¹ We asked about the ability to pay bills (can pay bills in full, cannot pay bills in full) using an item from a questionnaire developed at the Pew Research Center.²²

To measure alcohol use, we adapted the Substance Use Brief Screen, which asks about frequency of tobacco, alcohol, and marijuana use.²³ We omitted the description of marijuana as illegal to reflect Washington state laws and altered the time frame to ask about substance use in the past 3 months. Because use of tobacco and marijuana was relatively low (4.0% and 16.9% used any amount of tobacco or any amount marijuana, respectively), we included only alcohol use in the analyses. We created a dichotomous variable called alcohol use to indicate having 4 or more alcoholic drinks on 3 or more days in the past 3 months (yes, no).

We created a new item on social support, “Do you ever feel alone or isolated from your peers?” (no, yes) and assessed use of a professional support system by means of asking respondents to select from a newly created checklist of resources that they had used while at UW (for example, counseling and treatment services, wellness coach, and personal trainer). Professional support system use was dichotomized as never used resources or used 1 or more resources.

To better describe the study population, we asked how much the COVID-19 pandemic influenced the participant’s finances, using an adapted item from the Pew Research Center survey.²² We also asked about the impact of civil unrest in Seattle and in the United States by means of modifying the previous question. For both items on effect of the COVID-19 pandemic, there were 3 response alternatives: no impact, minor impact, or major impact. We created a new checklist from which trainees identified the educational and technological resources they needed for remote learning but did not have access to (for example, library services, quiet work space, tutoring services, and internet access).

Data management and statistical analyses

We first summarized all data according to trainee type (for example, dental student, graduate student, or postdoctoral resident) and compared across groups using χ^2 test ($\alpha = .05$). When there were low expected cell counts, we used Fisher exact test. Because there were no significant differences in the outcome or predictor variables across trainee type, we analyzed the data as a single group. We assessed the bivariate relationships between intention to leave the program and each predictor by means of generating unadjusted odds ratios (ORs) and 95% CIs using logistic regression models. Then, we used multiple variable logistic regression models to evaluate the relationship between each predictor variable and intention to leave the program. These latter models adjusted for confounding variables (that is, demographics, food insecurity, ability to pay bills, alcohol use,

social support, and professional support use), and we reported confounding variable—adjusted ORs and 95% CIs. Observations with missing data were excluded from the regression analyses. Survey responses were downloaded from the web-based application Research Electronic Data Capture and imported into SPSS, Version 25 (IBM) for analyses.

RESULTS

Descriptive statistics

Of the 355 trainees who received an invitation, 126 (35.5%) completed the survey. Group response rates were 36.2% for dental students ($n = 97$), 86.7% for graduate students ($n = 13$), and 23.6% for postdoctoral residents ($n = 17$) (Table 1). Of the dental students who responded, 38.1% were first year, 15.5% were second year, 17.5% were third year, and 26.8% were fourth year.

Slightly more than one-half (55.6%) of all participants were women. In terms of race, 57.1% were White, 33.3% were Asian, and 7.9% self-identified with another race category. Overall, 22.2% were first-generation college graduates, 14.3% were food insecure, and 17.5% could not pay their bills in full. Alcohol use was reported from 23.8% of participants. In total, 46.8% reported feeling isolated from peers, and 28.6% used 1 or more professional support systems. Almost 69.0% of participants reported that the COVID-19 pandemic had impacted their finances, and 61.9% reported some impact from the civil unrest. Approximately one-half of participants reported that their educational and technological needs were met. Library services and quiet work space were the 2 most common unmet educational needs.

Outcome

Overall, 12.7% of participants reported any intention to leave their programs (Table 1). This was similar across all 3 trainee types.

Predictor variables

One in 5 participants (22.2%) had GAD-7 scores suggesting that they met diagnostic criteria for generalized anxiety disorder, and 16.7% had PHQ-9 scores suggesting that they met diagnostic criteria for major depressive disorder. In addition, 28.6% of participants reported 1 or more symptoms of burnout, and 69.0% reported that the COVID-19 pandemic impacted their overall mental health (Table 2).

Regression models

Because results from the unadjusted and confounding variable—adjusted models were similar, we report the latter (Table 3). Participants who were categorized as likely meeting criteria for generalized anxiety disorder were 8.87 times as likely to report intention to leave as those who were categorized as not meeting criteria (95% CI, 1.80 to 43.57; $P = .007$). Those who were categorized as likely meeting criteria for major depressive disorder were 11.18 times as likely to report intention to leave (95% CI, 1.84 to 67.74; $P = .009$) as their nondepressed counterparts. Participants endorsing burnout were 8.14 times as likely as those who did not to report intention to leave (95% CI, 1.73 to 38.32; $P = .008$). All participants reporting that the COVID-19 pandemic had impacted their overall mental health also reported intention to leave.

DISCUSSION

In this study, we administered a survey to dental trainees at a single dental school to assess mental health during the COVID-19 pandemic and the effects of poor mental health on intention to leave their training program. There were 2 main findings.

First, poor self-reported mental health was prevalent among survey respondents, and the COVID-19 pandemic was a likely contributor. Nearly 70% of respondents believed that the pandemic affected their mental health. One in 5 participants endorsed symptoms consistent with generalized anxiety disorder, and 17% endorsed symptoms consistent with major depression. These results are similar to estimates from a multinational survey of health care profession trainees in which dental students were overrepresented and for which the GAD-7 and PHQ-9 were also used.²⁴ That survey was completed in August and September 2020, the same time as ours, and documented generalized anxiety disorder and major depression prevalence estimates of 23.4% and 22.9%, respectively.²⁴ Our

Table 1. Characteristics of study population of dental students, graduate students, and postdoctoral residents at the University of Washington School of Dentistry and corresponding *P* values from bivariate analyses (*n* = 126).

VARIABLES	TOTAL, NO. (%) (<i>n</i> = 126)	DENTAL STUDENTS, NO. (%) (<i>n</i> = 97)	GRADUATE STUDENTS, NO. (%) (<i>n</i> = 12)	POSTDOCTORAL RESIDENTS, NO. (%) (<i>n</i> = 17)	<i>P</i> VALUE
Gender					.35*
Man	51 (40.5)	41 (42.3)	2 (16.7)	8 (47.1)	NA [†]
Woman	70 (55.6)	51 (52.6)	10 (83.3)	9 (52.9)	NA
Other	3 (2.4)	3 (3.1)	NA	NA	NA
Missing	2 (1.6)	2 (2.1)	NA	NA	NA
Race					.56*
Asian	42 (33.3)	32 (33.0)	6 (50.0)	4 (23.5)	NA
White	72 (57.1)	56 (57.7)	5 (41.7)	11 (64.7)	NA
Other	10 (7.9)	7 (7.2)	1 (8.3)	2 (11.8)	NA
Missing	2 (1.6)	2 (2.1)	NA	NA	NA
First-Generation College Student					.61*
No	96 (76.2)	75 (77.3)	8 (66.7)	13 (76.5)	NA
Yes	28 (22.2)	20 (20.6)	4 (33.3)	4 (23.5)	NA
Missing	2 (1.6)	2 (2.1)	NA	NA	NA
Food Insecure					.90*
No	107 (84.9)	83 (85.6)	9 (75.0)	15 (88.2)	NA
Yes	18 (14.3)	14 (14.4)	2 (16.7)	2 (11.8)	NA
Missing	1 (0.8)	NA	1 (8.3)	NA	NA
Ability to Pay Bills					NA
Pay bills in full	104 (82.5)	80 (82.5)	9 (75.0)	15 (88.2)	.60*
Cannot pay bills in full	22 (17.5)	17 (17.5)	3 (25.0)	2 (11.8)	NA
Alcohol Use					.06*
No	96 (76.2)	73 (75.3)	12 (100)	11 (64.7)	NA
Yes	30 (23.8)	24 (24.7)	NA	6 (35.3)	NA
Isolated From Peers					.97
No	67 (53.2)	52 (53.6)	6 (50)	9 (52.9)	NA
Yes	59 (46.8)	45 (46.4)	6 (50)	8 (47.1)	NA
Professional Support System Use					.88*
Never used resources	90 (71.4)	70 (72.2)	8 (66.7)	12 (70.6)	NA
Used ≥ 1 resources	36 (28.6)	27 (27.8)	4 (33.3)	5 (29.4)	NA
COVID-19 Impact on Finances					.97
Minor or major impact	87 (69.0)	67 (69.1)	8 (66.7)	12 (70.6)	NA
No impact	39 (31.0)	30 (30.9)	4 (33.3)	5 (29.4)	NA
Civil Unrest Impact					.45
Minor or major impact	78 (61.9)	58 (59.8)	7 (58.3)	13 (76.5)	NA
No impact	46 (36.5)	38 (39.2)	4 (33.3)	4 (23.5)	NA
Missing	2 (1.6)	1 (1.0)	1 (8.3)	NA	NA
Unmet Educational and Technological Needs (Yes Responses)					NA
No unmet need	64 (50.8)	46 (47.4)	7 (58.3)	11 (64.7)	.36
Library services	38 (30.2)	36 (37.1)	NA	2 (11.8)	.006

* Fisher exact test was used. † NA: Not applicable.

Table 1. Continued

VARIABLES	TOTAL, NO. (%) (n = 126)	DENTAL STUDENTS, NO. (%) (n = 97)	GRADUATE STUDENTS, NO. (%) (n = 12)	POSTDOCTORAL RESIDENTS, NO. (%) (n = 17)	P VALUE
Quiet work space	35 (27.8)	28 (28.9)	4 (33.3)	3 (17.6)	.61*
Tutoring services	21 (16.7)	20 (20.6)	1 (8.3)	NA	.07*
Internet access	12 (9.5)	9 (9.3)	1 (8.3)	2 (11.8)	.87*
Desktop computer	10 (7.9)	6 (6.2)	1 (8.3)	3 (17.6)	.14*
Other (unspecified)	7 (5.6)	5 (5.2)	NA	2 (11.8)	.35*
Video or audio hardware	6 (4.8)	3 (3.1)	1 (8.3)	2 (11.8)	.18*
Wi-Fi	3 (2.4)	2 (2.1)	1 (8.3)	NA	.30*
Laptop computer	3 (2.4)	1 (1.0)	1 (8.3)	1 (5.9)	.13*

Table 2. Distribution of outcome and predictor variables for participating dental students, graduate students, and postdoctoral residents at the University of Washington School of Dentistry (n = 126).

VARIABLE	TOTAL, NO. (%) (n = 126)	DENTAL STUDENTS, NO. (%) (n = 97)	GRADUATE STUDENTS, NO. (%) (n = 12)	POSTDOCTORAL RESIDENTS, NO. (%) (n = 17)	P VALUE
Outcome					
Intention to leave their program					.41*
No intention to leave	110 (87.3)	86 (88.7)	9 (75.0)	15 (88.2)	NA [†]
Any intention to leave	16 (12.7)	11 (11.3)	3 (25.0)	2 (11.8)	
Predictor					
Anxiety					.70*
No	97 (77.0)	76 (78.4)	9 (75.0)	12 (70.6)	NA
Yes	28 (22.2)	20 (20.6)	3 (25.0)	5 (29.4)	NA
Missing	1 (0.8)	1 (1.0)	NA	NA	NA
Depression					.17*
No	101 (80.2)	82 (84.5)	7 (58.3)	12 (70.6)	NA
Yes	21 (16.7)	14 (14.4)	4 (33.3)	3 (17.6)	NA
Missing	4 (3.2)	1 (1.0)	1 (8.3)	2 (11.8)	NA
Burnout					.31*
No symptoms	90 (71.4)	67 (69.1)	11 (91.7)	12 (70.6)	NA
≥ 1 symptoms	36 (28.6)	30 (30.9)	1 (8.3)	5 (29.4)	NA
COVID-19 has impacted my mental health					
Agree or strongly agree	87 (69.0)	65 (67.0)	8 (66.7)	14 (82.4)	NA
Neutral, disagree, or strongly disagree	39 (31.0)	32 (33.0)	4 (33.3)	3 (17.6)	NA

* Fisher exact test was used. † NA: Not applicable.

observed rates of anxiety and depression were lower than the 29% prevalence reported among the general US adult population during the COVID-19 pandemic, although in that study, researchers reported data from the first month of the pandemic in the United States, when the acute impact on mental health could be expected to be larger.²⁵ The rate of likely major depression that we observed is consistent with rates reported in pre-pandemic studies of US dental trainees.^{7,8} Nearly 30% of survey participants reported burnout, which was also lower than the burnout prevalence for dental

Table 3. Logistic regression models predicting intention to leave the program for dental trainees at the University of Washington School of Dentistry (n = 126).

PREDICTOR	INTENTION TO LEAVE THE PROGRAM					
	Odds Ratio	95% CI	P Value	Adjusted Odds Ratio*	95% CI	P Value
Anxiety	6.09	2.02 to 8.38	.001	8.87	1.80 to 43.57	.007
Depression	5.11	1.64 to 15.93	.005	11.18	1.84 to 67.74	.009
Burnout	7.48	2.37 to 23.56	.001	8.14	1.73 to 38.23	.008
COVID-19 Has Impacted Mental Health	—†	NA‡	NA	—	NA	NA

* Multiple variable logistic regression adjusted for gender, race, first-generation college student status, food insecurity, ability to pay bills, alcohol use, isolation from peers, and professional support use. † —: Unable to derive odds ratio or adjusted odds ratio owing to no variation on outcome. ‡ NA: Not applicable.

and medical students reported previously.^{10,11} A possible explanation is that survey respondents might have been biased toward better mental health than those who did not respond.

Regardless of how it compares with estimates reported in other studies, the prevalence of anxiety and depression we observed is a cause for concern. At least 1 in 5 trainees had clinically significant psychological symptoms that are known to be distressing and may interfere with everyday functioning. In addition, people can experience distress and interference resulting from anxiety or depressive symptoms even if symptoms are not severe enough to meet diagnostic criteria for a psychiatric disorder. In this way, that nearly 70% of participants endorsed an impact of the COVID-19 pandemic on mental health is cause for concern.

Second, there was a relationship between poor mental health and intention to leave the program. Nearly 13% of participants in our study reported any dropout intentions. Although dropout intentions do not necessarily result in actual attrition, our observed prevalence of dropout intention was consistent with rates reported in a 1997 UK study, which ranged from 8.4% through 16.8%.¹³ Marôco and colleagues²⁶ reported burnout as a predictor of dropout intention in their study of predoctoral university students.

Applying these findings to our study, the COVID-19 pandemic may compound the effects of poor mental health—to which dental trainees are predisposed owing to the rigor and intensity of training—that most likely is a function of the additional uncertainties regarding academic and clinical training, as well as future employment and income prospects. For instance, in a study of dental and dental hygiene students at 1 US dental school, researchers documented changes in future career plans because of the COVID-19 pandemic among nearly 12% of those surveyed.²⁷ To explain the somewhat paradoxical finding that younger adults have experienced worse mental health outcomes during the COVID-19 pandemic than adults in older age groups, other researchers have suggested that the reason is that younger adults have encountered greater disruptions in major life events.^{14,28} In addition to this disruption, younger adults may have an underdeveloped repertoire of coping skills due to more limited life experience. Thus, younger adults, and especially those such as dental trainees who are already experiencing considerable stress, represent a vulnerable group.

Our data suggest that attention should be paid to dental trainees' mental health. There are several interventional approaches that could help address the unmet mental health care needs of dental trainees. The first is to make professional resources available and to remove barriers to use. More than 70% of participants had never used resources such as counseling services or psychological care. Accessing resources can be a challenge for dental students with inflexible schedules, which reinforces the need to make such resources available outside of training hours and in close physical proximity to the school to reduce the related barrier of time-consuming commutes. Some students may have co-payments or deductibles, which highlights the need for dental schools to eliminate cost-related barriers to care for trainees. In addition, owing to the embarrassment and stigma associated with accessing services and potential concerns about confidentiality, especially among health science students, services may need to be provided outside of the physical dental school space.²⁹

Another approach to addressing unmet mental health care needs among dental trainees is to provide comprehensive wellness programming to all trainees. Such a process should include screening and referrals for clinical depression and anxiety, monitoring for burnout, and ensuring that students are engaged with school.^{26,30} Trainee engagement could be enhanced with opportunities for extracurricular social activities to address isolation (46.8% of survey respondents reported feeling isolated from their peers), service learning and public health outreach, and research.^{31,32} Universal wellness programming that teaches trainees evidence-based strategies (for example, cognitive behavioral techniques) for stress management may be helpful, especially if delivered early in training and reinforced regularly.^{33,34} Wellness initiatives might also include the universal, consistent provision of formal opportunities for trainees to convey acute financial or educational and technological needs, such as library or tutoring services, internet access, or hardware needs, all of which were among the most common unmet needs for survey participants during the COVID-19 pandemic.

There were 3 main study limitations. First, we had a relatively low survey response rate that limits internal generalizability. We sent 3 survey invitation reminders but offered no incentives for participation. Incentivizing participants could increase response rates in future studies. Our sample may be biased toward healthier students, based on lower rates of anxiety and depression in our sample compared with studies of the general US adult population during the COVID-19 pandemic. Second, we focused on a single dental school, which limits external generalizability. UW is in Seattle, one of the first US cities affected substantially by the pandemic. A national study of dental schools would generate more generalizable and representative data on US dental trainee mental health. Third, our primary outcome was intention to leave the program, which, as stated previously, does not necessarily translate to attrition. At the time the study was conducted, no trainees had left the program since the start of the COVID-19 pandemic. Other outcomes, such as academic performance, satisfaction with work–life balance, and suicidal ideation are equally important to evaluate in the context of understanding the consequences of poor mental health.

CONCLUSIONS

We found that poor mental health was common among surveyed dental trainees, which may have been exacerbated by the COVID-19 pandemic. Poor mental health was associated with dropout intentions. These findings support concerted efforts to promote wellness among dental trainees as a way to address unmet mental health care needs and prevent adverse outcomes associated with poor mental health. ■

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