



The Prevalence of Patient Aggression Toward Dental Students at a Canadian University Teaching Clinic

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ABSTRACT

Background: Studies show concerning rates of occupational violence against oral health care workers, but few studies of this nature have been conducted on dental students in university clinics.

Methods: We surveyed 3rd-, 4th- and 5th-year dental students in the 2020–2021 academic year at the dental teaching clinic of the University of Montreal, using a 17-item self-report questionnaire exploring 4 types of aggression: physical, verbal, reputational and sexual.

Results: Of 239 students, 45 (19%) responded to the online questionnaire, and 28 (62% of respondents) reported some form of aggression in the previous year. Verbal aggression and sexual aggression were each reported by 21 (47%) students. No differences were found between rates of aggression based on ethnicity. Women (74%) reported higher rates of aggression than men (47%), although this difference did not reach statistical significance. Of the 6 students who said they speak a language other than French (the workplace language) at home, 5 (83%) reported experiencing sexual aggression.

Conclusions: Most students surveyed reported experiencing some form of patient aggression in the past year. The most common forms of aggression were verbal and sexual. Women and students who speak a language other than French at home may be particularly vulnerable to patient aggression in the clinical setting. This study has implications for dental education and points to the need for training and new solutions to prevent and respond to patient aggression at university dental clinics.

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It has long been recognized that health care professionals consistently experience various forms of aggression at their workplace, and violence in health care settings seems to be on the rise.¹ More research on patient violence has been done in medical than in dental settings; however, a recent study shows that dentists report rates of physical, verbal and reputational aggression by patients comparable with those of other health care professionals in the United States and abroad.² Occupational violence has serious consequences for oral health care workers: impaired quality of work, psychological problems and, in certain cases, quitting the job.³ As dental students work in settings similar to those of established oral health care workers, it is appropriate to investigate their experiences with patient aggression as well.

To be able to prepare dental students adequately for work at university clinics and their future careers as dentists, we must understand the problems they face while interacting with patients on a regular basis. Concerning dental students, studies have looked at the general subjects of sexual harassment,⁴⁻⁷ gender issues,^{8,9} bullying¹⁰ and mistreatment,¹¹ which can be caused by professors, staff, peers or patients.

Two studies have specifically measured various types of patient-perpetrated aggression toward dental students. A 2019 study at New York University found that 28%, 86% and 36% of dental students reported experiencing at least 1 instance of physical, verbal and reputational aggression, respectively.¹² The other study, in 2021 at an Australasian dental school, reported much lower rates of aggression: 20% of participants experienced at least 1 episode of harassment by a patient, and 9% were unsure whether their experience was harassment.¹³ Recent evidence also suggests that witnessing rudeness before performing a procedure can have an effect on a dental student's psychomotor performance.¹⁴

Given these significant results, we wished to explore this subject further to identify the extent of this issue in a Canadian university setting. Our study focuses solely on student-patient interactions and does not investigate issues related to interactions with staff, peers, faculty or others. These rates could provide dental schools with the necessary information to develop strategies aimed at protecting and educating their students on the subject of patient aggression.

Materials and Methods

The project took place at the University of Montreal over 12 weeks beginning in July 2021. The dental clinic is situated in an urban area of Montreal. The population of Greater Montréal is 4.1 million.¹⁵ This clinic provides accessible service with reduced treatment costs compared with those recommended by the Association des chirurgiens dentistes du Québec. It serves approximately 9500

patients a year, who come from various regions of the province, making it the largest dental clinic in Quebec.¹⁶

A cross-sectional self-report anonymous questionnaire was sent by email to 239 dental students in the 2020–2021 academic year. The only criterion for participation in the project was being a student of the faculty of dentistry in 3rd, 4th, or 5th year.

The Questionnaire

The students answered 17 questions (Table 1) about their experiences with 4 categories of patient aggression during their training at the dental teaching clinic: physical aggression (questions 1–3), verbal aggression (questions 4–7), reputational aggression (questions 8–11) and sexual aggression (questions 12–17).

Questions on physical, verbal and reputational aggression were adopted from “Patient aggression toward dental students,”¹² which used a questionnaire inspired by 1 that measures intimate partner violence. Physical aggression includes attempting to physically hurt the student or damaging property; verbal aggression includes the patient raising their voice angrily, threatening to hurt the student or insulting them; and reputational aggression relates to threatening to damage a student's reputation.

Questions on sexual aggression were adopted from “Perceptions of sexual harassment in oral and maxillofacial surgery training and practice,”¹⁴ which used a validated scale to survey sexual harassment. However, we decided to measure only certain variables included in this questionnaire, to keep our survey brief. The questions related to sexual remarks, unwanted sexual attention, contacting students inappropriately outside the clinic and inappropriate touching.

Although not officially validated, our questionnaire underwent a brief process in which the questions were modified based on feedback from 5 dental students. Two francophone students then independently translated the questionnaire from English to French to ensure that the exact meaning of the questions was conserved in translation. Participants also answered demographic questions on gender, age group, year of study, language spoken most often at home, ethnicity and whether they wear religious symbols or clothing when working in the dental clinic.

The questionnaire was conducted online using an online survey tool (Qualtrics, Provo, Utah, USA) and was distributed by email using Qualtrics' mailer. Participants were told they could choose to leave an answer blank if they felt uncomfortable answering any question. The email contained an anonymous link to the online questionnaire, which cannot track the identity of the respondent. In addition, the “Anonymize responses” function was used to prevent the anonymous link from collecting the user's IP address and location. In

this way, only the responses were collected as research data. Three follow-up emails were sent to the prospective participants over the course of 2 weeks.

The demographic description of the participants was presented. The descriptive basic analysis of each aggressive act in the training clinic was described in the form of frequencies. Between-group comparisons were done using Pearson's X² test.

Ethics

This study was approved by the university's institutional review board, Comité d'éthique de la recherche clinique, as well as the scientific committee of the dentistry faculty of the University of Montreal. Informed consent from participants was obtained implicitly through the completion of the questionnaire, after they read an information document pertaining to the details of the research study.

Results

Demographic Information

Responses were collected from 45 students out of 239 contacted, giving a response rate of 19%. Of the study population, 60% were women (Table 2). Participant ethnicity was 49% white, 31% Arab, 12% Asian and 8% other. Students begin working in the university dental clinic in their first year of the dental school program; thus, all participants have been interacting with patients for at least 3 academic years.

Prevalence of Patient Aggression

Of the 4 categories of aggression, in the past year, only 1 student reported experiencing physical aggression, and 5 students had experiences of reputational aggression (Table 3). However, incidents of verbal and sexual aggression were frequent. In the past year, 21 students (46.7%) reported experiencing some form of verbal aggression, and the same number reported experiencing some form of sexual aggression. The most common form of verbal aggression was "raised their voice angrily at you," which was experienced by 20 students (44.4%) in the past year; however, no students had a patient "threaten to physically harm" them (Table 1). The most commonly reported items in the sexual aggression category were "made unwanted attempts to draw you into a discussion of personal or sexual matters" and "gave you unwanted sexual attention," each having been experienced by 11 students (24.4%).

No differences were found in rates of aggression based on ethnicity (white compared with non-white), year of study or the wearing of religious symbols. Although women reported higher rates of aggression than men (74.1% of women and 47.1% of men), this difference did not reach statistical significance (Pearson X² = 4.923, *p* = 0.085). Students identifying themselves as speaking a language at home other than French, the workplace language, reported higher rates of sexual aggression compared with those who speak French at home, at the border of statistical significance (Pearson X² = 3.74, *p* = 0.053). We noted that 6 students (5 women and 1 man) identified themselves as speaking a language other than French at home. Of this group, 4 of the women and the 1 male student all reported experiencing some form of sexual aggression in the past year.

Table 1: Results of questionnaire self-assessing levels of aggression directed at dental students in a clinic in Montreal (*n* = 45).

Question item	Never, no. (%)	Not in the past year, but previously, no. (%)	In the past year, no. (%)			
			Once	Twice	≥ 3 times	Total
Physical aggression						
1. Kicked you, grabbed you, slapped you, pushed you, shoved you, hit you, twisted your arm, pulled your hair, or threw something at you?	44 (97.8)	0	1 (2.2)	0	0	1 (2.2)
2. Damaged or attempted to damage property in or around the university clinic?	45 (100.0)	0	0	0	0	0
3. Threatened you with a weapon or an object used as a weapon?	45 (100.0)	0	0	0	0	0
Verbal aggression						
4. Raised their voice angrily at you?	23 (51.1)	2 (4.4)	10 (22.2)	6 (13.3)	4 (8.9)	20 (44.4)
5. Insulted you, swore at you, or called you a demeaning name?	39 (86.7)	0	4 (8.9)	1 (2.2)	1 (2.2)	6 (13.3)
6. Threatened to physically harm you?	45 (100.0)	0	0	0	0	0
7. Used derogatory language regarding your gender/race/ethnicity/sexual orientation/age?	38 (84.4)	1 (2.2)	5 (11.1)	0	1 (2.2)	6 (13.3)

Table 1 continued ►

Question item	Never, no. (%)	Not in the past year, but previously, no. (%)	In the past year, no. (%)			
			Once	Twice	≥ 3 times	Total
Reputational aggression						
8. Threatened to post negative comments about you and/or your practice on the Internet (e.g., Facebook, Twitter, Yelp, ZocDoc) or something similar?	44 (97.8)	0	0	1 (2.2)	0	1 (2.2)
9. Threatened to sue you and/or the faculty and/or the university?	41 (91.1)	0	3 (6.7)	1 (2.2)	0	4 (8.9)
10. Threatened to report you to a licensing body or government agency?	45 (100.0)	0	0	0	0	0
11. Threatened to spread false or damaging comments about you to other students, staff or clinicians at the university?	43 (95.6)	1 (2.2)	1 (2.2)	0	0	1 (2.2)
Sexual aggression						
12. Made unwanted attempts to draw you into a discussion of personal or sexual matters (e.g., attempted to discuss or comment on your sex life)?	34 (75.6)	0	6 (13.3)	2 (4.4)	3 (6.7)	11 (24.4)
13. Made crude and offensive sexual remarks, either publicly or to you privately?	39 (86.7)	1 (2.2)	5 (11.1)	0	0	5 (11.1)
14. Gave you unwanted sexual attention?	34 (75.6)	0	10 (22.2)	1 (2.2)	0	11 (24.4)
15. Solicited or pressured you for dates or contacted you inappropriately via text, social media, email, or phone?	36 (80.0)	2 (4.4)	6 (13.3)	1 (2.2)	0	7 (15.6)
16. Touched you (e.g., laid a hand on your bare arm, put an arm around your shoulders) in a way that made you feel uncomfortable?	37 (82.2)	1 (2.2)	5 (11.1)	1 (2.2)	1 (2.2)	7 (15.6)
17. Made unwanted attempts to stroke or fondle you (e.g., stroking your leg or neck, etc.)?	43 (95.6)	0	2 (4.4)	0	0	2 (4.4)

Table 2: Demographic characteristics of survey participants (n = 45).

Characteristic	No. (%)
Gender	
Female	27 (60.0)
Male	17 (37.8)
Not specified	1 (2.2)
Age, years	
21–30	45 (100.0)
Year of study	
3rd	13 (28.9)
4th	18 (40.0)
5th	14 (31.1)
Language spoken at home	
French	39 (86.7)
Other	6 (13.3)

Table 2 continued ►

Characteristic	No. (%)
Ethnicity	
White	24 (53.5)
Arab	15 (33.3)
Latin American	1 (2.2)
East, South or Southeast Asian	6 (13.3)
Occidental Asian	1 (2.2)
Other group	1 (2.2)
Not specified	1 (2.2)
Wear religious symbols or clothing in the dental clinic	
Yes	3 (6.7)
No	41 (91.1)
Not specified	1 (2.2)

Table 3: Montréal dental students' experience with the 4 categories of patient aggression in the past year ($n = 45$).

Category of aggression	No. (%)
Physical	1 (2.2)
Verbal	21 (46.7)
Reputational	5 (11.1)
Sexual	21 (46.7)
Total	28 (62.2)

Discussion

This study adds to the literature of exposure to various types of violence as reported by dental students. Most surveyed dental students reported some form of patient-perpetrated aggression in the past year. Verbal aggression and sexual aggression were reported by nearly half of the students. However, the rates of physical, verbal and reputational aggression were lower than those found by Rhoades and colleagues.¹² These differences may be attributed to the contextual characteristics of the location and population studied. The clinical setting may also be relevant in explaining these differences, e.g., the structure of the clinic (size, functioning), the degree of patient selection and the supervision of students.

Compared with the results of Liaw and coworkers,¹³ this study found significantly higher rates of patient aggression. This difference may have been caused by methodological differences. In our study, students indicated how many times they had experienced 17 specific examples of encounters with patients described in the questionnaire. In the research done by Liaw et al.,¹³ the questions were more global: students were asked to "state the number of incidents of harassment by patients and the types of harassment they had experienced."

Given that the items in the latter study were less specific, students were required to answer the questionnaire using their own personal understanding of what consists of harassment, possibly leading to underreporting of incidents.

An important facet of our study was the addition of questions relating specifically to sexual aggression. Also, the fact that 5 out of the 6 students who speak a language other than French at home reported experiencing a form of sexual aggression was of particular relevance, as this may identify a high-risk student population. These students are part of a minority in the student population as well as in the community, and it is possible that they become targets for inappropriate behaviour.

The high rates and various forms of aggression experienced by students have serious implications for dental training. Additional training modules should be developed to prepare students for dealing with types of aggression that they may encounter. Further research is needed to identify effective measures that can be implemented in the clinical setting to prevent or reduce incidents of aggression.

Supervision policies should encourage the reporting of aggression and procedures should be developed to deal with the personal and mental health consequences of student exposure to aggression.

Limitations of this study include a relatively low response rate of 19% as well as a modest sample size, which limits statistical power to detect gender-based differences, for example. The low response rate could be explained because only those who experienced aggression may have opted to respond, or many students may have opted not to respond because of a hesitation to revisit their personal experience of patient aggression. To determine how widespread this issue truly is, similar studies should be conducted at other dental faculties in Canada.

This study does not provide information about the events leading up to the incidents of aggression; they would be interesting to investigate in further research. A better understanding of the context of aggression could help to orient interventions aimed at lowering the rates of aggression in clinics.

The results of this study are based on self-reporting and participant recall as opposed to real-time reporting, which may have biased the results. Self-report questionnaires also rely on the subjective interpretation of the questions by each respondent. For example, perhaps some of the reports of verbal aggression in this study were in reality related to miscommunication because of language barriers or other communication difficulties.

In addition, this study was done during the COVID-19 pandemic, which affected the number of patients seen throughout the year and

increased the complexity of infection-control protocols and attitudes of patients and students.

Future studies on this topic should focus on developing effective interventions aimed at preventing and managing patient aggression. Further exploration of the consequences of patient aggression incidents might also help to identify resources for students suffering from them. Although this study focused only on student-patient interactions, follow-up research might also investigate interactions between dental students and other members of the clinic, such as staff, peers and faculty.

Conclusion

The aim of this study was to investigate the prevalence of patient aggression toward dental students at a teaching clinic. Most surveyed students (62%) reported experiencing some form of patient aggression in the past year. Verbal and sexual aggression were the most common forms of aggression reported. The results suggest that women and students who speak a language other than French at home may be particularly vulnerable to patient aggression in the clinical setting. More research is needed to increase the power of these results, and it would be relevant to repeat this study at other dental schools across the country to determine the true scope of this problem. However, the findings of this study suggest that interventions are required to provide students with a safer learning environment that prepares them to adequately respond to difficult patient situations in their future careers.

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