Tackling Stress Management, Addiction, and Suicide Prevention in a Predoctoral Dental Curriculum

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Abstract: Health care professionals, particularly dentists, are subject to high levels of stress. Without proper stress management, problems related to mental health and addiction and, to a lesser extent, deliberate self-harm such as suicide may arise. There is a lack of information on teaching methodologies employed to discuss stress management and suicide prevention in dental education. The purpose of this article is to describe a University of British Columbia Faculty of Dentistry module designed to address stress management and suicide prevention, using students' personal reflections to illustrate the impact of the pedagogies used. The module enrolls more than 200 students per year and has sessions tailored to the discussion of stress management and suicide prevention. The pedagogies include standardized patients, invited guest lectures, in-class activities, video presentation, and self-reflections. More than 500 students' self-reflections collected over the past five years illustrate the seriousness of the issues discussed and the level of discomfort students experience when pondering such issues. The instructors hope to have increased students' awareness of the stressors in their profession. Further studies are needed to unravel the extent to which such pedagogy influences a balanced practice of dentistry.

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Health care professionals are subject to high levels of stress and demands inherent to their profession, given their responsibility to human life and high expectations placed on them by society. Not surprisingly, much research has been done regarding ways for health professionals to deal with occupational stress[1] and depression.[2] Within these professions, dentists have been singled out as among the most likely to experience severe stress,[3-5] depression,[6,7] and substance abuse.[8] Although such effects are not unique to dentistry and its specialties,[9] dental professionals are also often considered to be among the health professionals with the highest rates of deliberate self-harm such as suicide, either attempted or completed, and at rates said to be seven times higher than the general population.[10] However, suicide incidence reports in dentistry remain inconclusive.[11] The relationship between dentistry and suicide may be a mere myth to some, a relevant issue for others, or an ultimate escape from underlying mental illness and depression. It can even be material for popular television shows like *Seinfeld,* in which an episode portrayed dentists and suicide.[12]

The behavior of attempted suicide crosses boundaries of age, gender, culture, and social class. It is the eighth leading cause of death in the United States, with more than 35,000 suicides annually or 105 per day, meaning that about 1.6 percent of all deaths come from suicide.[13] In Europe, the situation is also alarming: annual suicide rates per 100,000 range from twenty-three male suicides in Austria and Switzerland to three female suicides in the United Kingdom.[14] Independent of the place of occurrence, each suicide intimately affects at least six other people along with the ripple effect that accrues to the community at large, says the American Association of Suicidology.[15]

Suicide, a deliberate action of self-harm usually committed out of despair, can be seen as a drastic response to the inability to cope with life stressors such as the death of a parent, a car accident, or even a joyful event like getting married. Although the relationship between these life events and suicide remains complex, Hawton and van Heeringen[16] pointed out that it can also be a consequence of undiagnosed mental illness or untreated depression.

Depression in particular causes psychological and physical suffering characterized by the persistence of such symptoms as sadness, anxiety, pessimism, decreased energy, loss of interest or pleasure in activities previously enjoyable, and disturbances in sleep and appetite. Isolation, one of the potential effects of depression, only perpetuates the cycle of depression-isolation-depression. Depression can also lead to self-medication or substance abuse to alleviate the suffering, while contributing to the tunnel vision of relief from the self and society through death. Individuals suffering from depression are more likely to have thoughts of death or to attempt suicide compared to non-depressed individuals.[13]

It is unknown if dentists are more or less depressed than members of other professions, but despite the relevance of depression and stress to suicide, such issues are underdiscussed in dental curricula.[11] Although dental students may receive some education on stress management, the harmful effects of addiction to licit and illicit drugs, and coping skills development,[1,2,7,11] less attention has been placed on suicide prevention. This article describes a teaching methodology employed in the University of British Columbia (UBC) Faculty of Dentistry's undergraduate curriculum to present the often related topics of stress management, substance abuse, and suicide prevention. We illustrate this discussion with students' self-reflections on these issues and conclude by urging dental schools worldwide to foster an open discussion about inherent stressors of the dental profession and their potentially fatal outcome if not properly managed.

The PACS Module

Introduced more than five years ago after a pilot study,[17] the UBC Professionalism and Community Service (PACS) module is a four-year longitudinal learning experience using community service-learning as its main pedagogy. Since its introduction, the module has enrolled more than 200 students in total, with ages ranging from twenty-three to fifty-one years. In the 2013-14 academic year, 45.2 percent were women. Each class size varies from forty-eight to sixty students, depending on annual enrollment and number of students repeating a given academic year.

The PACS module supports community activities in not-for-profit organizations, inner-city schools,[18] and long-term care facilities and hospitals[19] and presents a series of didactic themes to students on such topics as ethics and professionalism,[20] aboriginal health, sexual health,[21] socio-cultural-economic determinants of oral health, social responsibility,[22] and addiction.[23] The majority of these themes are fully covered in year one but resurface in the other three years depending on the populations served. Figure 1 shows the focus for each year: underserved

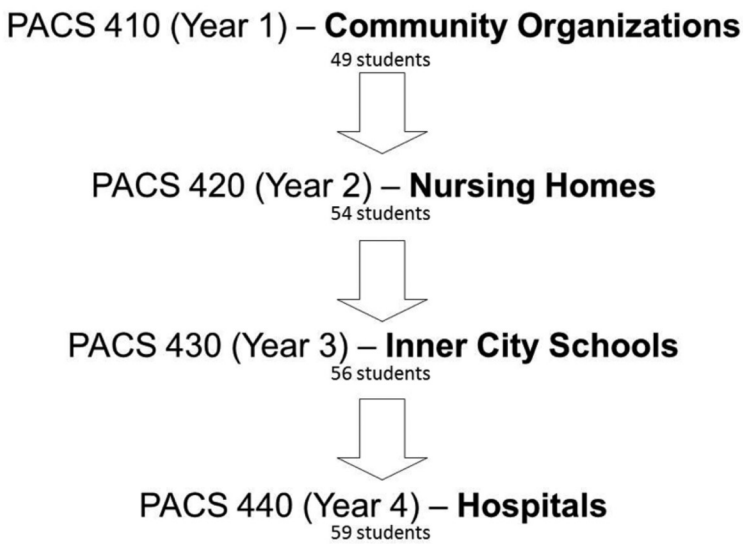

Figure 1. Target communities in PACS module and number of students enrolled in 2013-14 academic year

communities and not-for-profit organizations in year one, institutionalized elders in year two, inner-city elementary school children in year three, and hospital patients in year four.

Use of Self-Reflections

One of the assessments used throughout the PACS module entails personal reflections. Students are encouraged to reflect on a continuous basis in all four years on various occasions, but the number of annual reflections varies from two to six per student. We believe that self-reflections have added value as a didactic tool by bringing critical significance to what is learned, while allowing students to express personal ideas, question their learning, and raise issues that still need to be explored.[24,25] Self-reflections also provide a meaningful venue in which students reflect on their learning as a means of formative assessment.

The self-reflections used in PACS are submitted by students individually, either electronically or handwritten, and vary from 100 to 500 words per entry. Both the course coordinator and the student's group tutor motivate further thinking by adding written feedback to each reflection, either via email if the reflection was sent electronically or handwritten if the reflection was handed in as hard copy. The course coordinator and tutor keep the assessment in a constructive yet formative manner. From the didactic and experiential sessions that students are asked to reflect on, we have gathered more than 500 self-reflections per graduating class since the PACS module was introduced in 2007. Since one of those sessions is about stress management and suicide prevention, we focus here on the self-reflections produced after that session, which takes place in year one.

For this study, we obtained permission from the Behavioural Research Ethics Board of the University of British Columbia (#H12-03176, H10-02516, and H10-02516) to use existing reflective data from our previous studies. However, the self-reflections were not analyzed qualitatively for thematic content because such analysis has been presented elsewhere.[18,23,25] In this article, we use excerpts from some of the self-reflections to illustrate the extent to which students consider the impact and relevance of stress management, addiction, and suicide to the practice of dentistry. We selected some examples to show various perspectives, both positive and negative, about the topics.

Stress Management and Suicide Prevention

One of the thematic issues addressed in PACS relates to practitioner behavior and professional health/stress management, which are explored in a three-hour session at the end of term one in year one (Table 1). This session aims to engage students in discussing the resources available to manage their professional health and ways to successfully balance their professional and personal lives so they can deliver an optimal quality of oral health care to their patients. It also introduces students to potential triggers for suicide attempts among dental professionals and helps them identify coping skills to deal with stress while offering practical suggestions and services for improving their mental and physical health.

Students are told that the session format is a plenary discussion with guest presenters and includes life stories from community members and peers (Table 1). Students are asked to choose two questions from the following list and reflect on them in writing after the session: How do you feel when you are under stress; are there coping mechanisms that have helped? What signs or indicators may be present for you to recognize stress in others? What do we do to camouflage our feelings and emotions; how do you feel about it? Is there a good stress; how do you handle stressors? What can be the consequences of not dealing with stress, anxiety, or trauma in a timely fashion? How would you manage a planned versus a non-planned life change? Is the care you provide to your patients the same you provide to yourself? Students are given two options for submitting self-reflections. They may provide the self-reflections identified by name via email in order to receive their tutor's and coordinator's feedback. They may also provide their reflections anonymously, mostly in a handwritten format; however, they are made aware that no feedback will be possible if they wish to maintain their anonymity. The vast majority of the reflections have been submitted with identification, and students have found the feedback useful.[25]

Prior to this session, students are given two readings: Alexander's "Stress-Related Suicide by Dentists and Other Health Care Workers: Fact or Folklore?"[11] and Rankin and Harris's "Comparison of Stress and Coping in Male and Female Dentists."[24] These articles set the stage for the session's content, while giving students the opportunity to come to class with some background knowledge.

Table 1. Pedagogies used to address stress management, suicide prevention, addiction, and substance abuse in University of British Columbia PACS module

Stress Management and Suicide Prevention		
Session	Pedagogy	Content
Pre-reading	Self-learning	Stress-related suicide; coping by male and female dentists
1:00-1:50 pm	Guest lecture; in-class discussion (facilitated)	Stress management and quality of life
1:50-2:00 pm	Break	
2:00-2:15 pm	Video presentation	Suicide testimonials
2:15-3:45 pm	In-class discussion (facilitated)	Myths and truths about suicide; stress management
3:45-4:00 pm	Self-reflection	Reflect on suggested questions about the session's content
Addiction and Substance Abuse[†]		
Session	Pedagogy	Content
1:00-1:10 pm	Standardized patients' role-play	Ethical scenarios[‡]
1:10-1:20 pm	Small-group discussion	Debrief about role-play experience and ethical content
4:00-4:15 pm	Self-reflection	Reflect on suggested questions about standardized patients, role-play, and ethical scenario

[†]A complete description of pedagogies used to discuss addiction and substance abuse in dentistry can be found in Brondani MA, Pattanaporn K. Integrating issues of substance abuse and addiction into the predoctoral dental curriculum. J Dent Educ 2012;77(9):1108-17.

[‡]Seven scenarios occur between 1:00 pm and 3:00 pm, one of which is Dr. Gleason's; see Brondani MA, Rossoff LP. The "hot seat" experience: a multifaceted approach to the teaching of ethics in a dental curriculum. J Dent Educ 2010;74(11):1220-9.

The three-hour session starts with a fifty-minute presentation on stress management by a member of the Dental Professional Advisory Program from the British Columbia Dental Association. This part engages the large class in discussing the benefits that good physical and psychological health has on mental health and quality of life. The presenter discusses stress as a normal factor in life, both professional and personal, and gives practical steps to cope with difficult situations. The presenter concludes by leading the class in sharing examples of coping mechanisms and stress management. After a short break, one of two fifteen-minute videos is shown, on an alternating annual basis.

The first video is a testimonial from a successful dentist who attempted suicide at the peak of his career after decades of private practice. The dentist was a UBC faculty member from 2004 to 2011. The testimonial highlights common issues associated with depression and suicide: childhood physical abuse, drive to overachieve, relational problems, and persistent physical symptoms of stress and depression that do not respond to treatment. These are context-driven stressors that may form a dangerous path from overachievement to depression to burnout to self-harm, potentially aggravated by underlying personality disorders and mental illness. The testimonial begins with a metaphor of a firetruck coming down a hill to reach a burning building when the driver realizes the brakes are not working. The dentist asks the class, "What if you don't want the brakes to work?," and then tells his life trajectory, the suicide attempt, and how he managed to overcome such a stressful period in his personal and professional life.

The second video is a short documentary about the female partner of a successful dentist who committed suicide in front of her eighteen years ago. The video, titled "A Need to Connect" (Fanlight Productions, Brooklyn, NY), depicts her personal journey of descent into the grieving process after witnessing the act of losing her loved one. This highly emotional video features coauthor Dhorea Ramanula, a support worker and certified facilitator who speaks to high school students, abused women, and health care providers in British Columbia. She begins the discussion by asking why this happened to a successful, well-educated, and healthy dental professional. She poses many other questions, such as the following: Why did it happen? What were the signs? What could I have done differently? If there were warning signs, what would they look like? The video concludes with a call to connect, to ask, to communicate, and to raise awareness while emphasizing that "you are not alone and everything has a solution; suicide doesn't."

Although not shown together in the same year, the two videos set the stage for the following ninety-minute class discussion on stress management and suicide prevention facilitated by individuals who appear in the videos. During this discussion, the facilitator reminds students of the main points discussed in the dental professional advisor's talk, while providing additional ideas on how to manage stress.

For a 2010-11 student reflecting on the question "Is there a good stress?," coping skills and stress management were important for a balanced lifestyle: "We all heard that a good amount of stress is beneficial and that we have higher demands from the public. But what happens when it gets out of control? . . . How do we know it is out of control? I have tried to fight off daily stresses by eating healthy (as often as I can), getting surrounded with good friends, and trying to have a good amount of sleep (as often as I can). I guess that's a good way to cope with stress . . . or even lessen it."

In 2011-12, another student pondered suicide as a harsh choice "when you are desperate and lost" while questioning the statistics on suicide and dental professionals. In a review of contemporary research on stress and suicide in health professionals, Alexander found "little evidence that dentists are more prone to suicide than the general population, although some related data suggest that female dentists may be more vulnerable."[11] However, we cannot ignore the fact that health care professionals face stress due to their responsibilities to human life, social expectations about them in general, and expectations related to their individual performance. A U.S. study on the suicide risk for working physicians and dentists concluded that white female physicians have an elevated suicide rate compared to the working population, while white male dentists have a suicide rate similar to white male physicians.[26] The inconsistency among studies requires further research before conclusions can be reached. A 2012-13 student reflected on the effects of this problem of inconsistent information: "The two papers we read were informative, but somewhat discordant. I wonder if there is a personality-related stress even before getting into dental school. . . . I mean, perhaps it is a personality trait that prompts people to contemplate suicide no matter the profession they are in. The stress of dentistry would be just a venue, perhaps."

Suicide risk is a serious issue not only in dentistry. Research on Internet and cyber bullying has discussed the psychological impact[27] and the ultimate outcome of suicide upon children, teenagers, and adolescents worldwide.[28-30] Furthermore, suicide seems to be much more prevalent among youth of First Nations and Aboriginal Peoples,[31-34] among whom emotional and social distress, lack of cultural connection, family violence, and behavioral problems including licit and illicit drug abuse are major risk factors.

Throughout this three-hour session, we emphasize the need to create a safe environment in order to foster an open discussion of a sensitive yet important topic for dental professionals. Students are made aware of the resources, Internet sites, support groups, and counselling services available to them at UBC and to the profession in case they undergo a difficult time, whether personal or professional.

Substance Abuse-Suicide Connections

Suicide is an extreme self-harm behavior that entails a complex phenomenon with psychosocial, cultural, environmental, and biogenetic causes. Although the idea of suicidal behavior being bound to personality traits and mental illness is debatable, the links between addiction and substance abuse and their suicidal implications are strong.[35,36] Given this relevance, such links are discussed in a separate session. In particular, the abuse of alcohol by dental professionals is explored using standardized patients as described by Brondani and Rossoff[20] and by Brondani and Pattanaporn[23] using a small-group learning format. In this session, the standardized patient plays the role of an alcoholic dentist, Dr. Gleason, who is noticed at a lunch party consuming excessive amounts of alcohol by another dentist played by a student. The student interacts with Dr. Gleason to raise the issue of ethical implications of confronting a health care provider under the influence of alcohol and about to see patients in the afternoon shift. This roleplay takes no longer than ten minutes and is followed by ten minutes of discussion with the other students and group tutor.[20] Students are asked to reflect on the following two questions: Has addiction touched your life or impacted those around you; if so, how? Do you believe drug abuse to be a disease or a product of lifestyle and environmental factors; if so, why?

Across the years PACS has been in the UBC curriculum, students have reflected on a variety of issues. Some have pondered the consequences of addiction for the practice of dentistry and patient safety, as in these comments: "Imagining that he

was a colleague of mine and a professional, I have to consider: what if he ended up harming the patients he is about to see? Or what if I was an associate of his practice? . . . would that make me accountable?" (student in 2009-10). Others thought about the underlying reasons for consuming alcohol in excess or using any other illicit drug and the potential suicidal implications. Along with depression, the presence of undiagnosed mental health issues, distorted body image, and risk-taking behavior can add to the list of contributing factors. A student in 2008-09 reflected, for example: "What if he does [consume alcohol in excess] to try to cope with a bigger problem in his life or with a not-yet diagnosed mental condition? I have heard stories about people taking their lives while intoxicated." Students have also reflected on their own familial experience with alcohol and its detrimental effect on family relationships, as well as the implications for individuals in other settings. A student from 2011-12 commented: "If alcohol is a companion for Dr. Gleason, now imagine for somebody who was not that lucky in life to have a job and a professional career, somebody who lives at society's margins with no job, no home, with nothing. . . . Alcohol is not just a companion; it is a path to the way out of suffering and dismissal and may walk hand in hand with thoughts of suicide."

Discussion

Although a number of articles have discussed the need for a healthy balance between the professional and personal parts of one's life[2,3,9,23] as well as suicide among dentists,[11,37] such important issues do not appear specifically among the forty-seven competencies for the new graduate of the UBC D.M.D. program.[38] One of the competencies states that a new graduate should be able to "recognize and institute procedures to minimize occupational hazards related to the practice of dentistry," which can be assumed to address coping skills and stress management as occupational hazards, perhaps even including substance abuse. But are we missing the opportunity to also graduate a dental professional competent to recognize when help is needed and when proactive anti-stress measures should be taken? The forty-seven UBC competencies provide a framework "to educate and train a biologically oriented, technically competent, socially sensitive practitioner of dental medicine who adheres to the highest standards of professional conduct and ethics and who can function effectively as a member of the nation's health care delivery."[38] However, we believe that to meet the purpose of a dental professional in society, it is necessary to identify coping skills, develop stress management strategies, and recognize signs of burnout syndrome if we are to graduate individuals who are able to promote the oral health of the community while balancing their own lives successfully.

In fact, the focus on graduating dental professionals who may face pressure to take on a high volume of patient services to achieve financial success (making them feel like no more than "drill and fill merchants"[39]) adds negative stressors as described by one of the individuals in the videos. A student in 2010-11 commented on this concern: "although we are in a profession that is also a business, the cut-off between making enough for a comfortable life versus making a large profit at the expense of one's health is a personal call heavily influenced by the media, family, and peers." Students' reflections have been informative to us in demonstrating their growth and personal development. Comments have also addressed the impact of the module's pedagogy as a whole, as expressed by a student in 2009/10: "I did not realize how creative one can be to discuss such important topics with engaging activities rather than boring, non-participative lectures." For others, the discussion about suicide in particular remained challenging: "I did not enjoy the session as it was heavy and depressing. As dentists, we are not the only ones to suffer from high levels of stress. Instead of a talk like this, we could have done more of the positive-oriented activities that highlight our coping and adaptive skills to stress . . . which was good" (student in 2010-11). Although students are encouraged to freely express their feelings and emotions, there is the possibility that students may have commented on what they assumed we would want to read, as discussed by Brondani in 2010.[22]

Other limitations of this study include the lack of formal student evaluation of this particular session on stress management and suicide prevention, the non-thematic analysis of the self-reflections, and the tangential attention to mental health problems that frequently underlie suicide behavior. In fact, one of these sessions is being restructured to include a more direct discussion of mental health and its relationship to stress management, addiction, and suicide behavior. In spite of these limitations, the sessions seem to be meeting their intended purpose to sensitize students to the joys and challenges of their chosen profession, while employing pedagogies

that positively influence the balancing of professional and private lives. We also believe that, by giving students the opportunity to explore suicide behavior and overcome its stigma, we give them a greater self-awareness that will help them thrive in their chosen profession.

Conclusion

Although dental curriculum time allocated to discussing important issues such as stress management and suicide prevention is minimal or absent worldwide, there is no ideal pedagogy. We believe that modules such as PACS can foster a forum to discuss suicide prevention and stress management with a variety of pedagogies including guest lectures, video presentations, standardized patients, and self-reflections. We also hope to have increased students' awareness about the stress of their profession and how to balance the demands of practice with their personal lives. However, we cannot guarantee that these new graduates will exercise a balanced lifestyle, and we agree with Sancho and Rulz[37] that we need to explore "the demographic variables . . . the opportunity factor [and] the stressors not related to work . . . for the profession to decrease the risk of suicide" (p. 411). To that end, follow-up studies involving UBC dental graduates who have experienced PACS could be conducted to access its impact on their health behaviors. Future studies could also unravel the extent to which such pedagogies have positively influenced a balanced practice of dentistry. Finally, we call on other dental schools to foster an open dialogue about the benefits and challenges of incorporating suicide prevention within predoctoral dental training.

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