

Barriers to pursuing further education among Canadian dental hygienists: a qualitative exploration

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ABSTRACT

Purpose: In recent years, Canada has seen the development of new educational pathways to baccalaureate education for dental hygienists. Research has demonstrated that degree education strengthens dental hygienists' cognitive and practice abilities and increases career opportunities. However, the 2021 Canadian Dental Hygienists Association (CDHA) Job Market and Employment Survey reported that only 27% of respondents held a baccalaureate degree. The current study was the first to explore levels of interest in and barriers to pursuing degree education among Canadian diploma-holding dental hygienists. **Methods:** This qualitative explorative study utilized purposeful maximum variation sampling to select Canadian dental hygienists across 10 provinces and 1 territory for 3 e-focus groups. Selected participants (N = 17) were CDHA members who held a dental hygiene diploma as their highest educational credential. E-focus groups were thematically analysed for barriers using Saldaña's descriptive and in vivo coding. **Results:** All participants expressed an interest in pursuing further education at some point during their career. Reported barriers to doing so were family commitments, financial restrictions, accessibility, limited employer support, unfamiliarity with eligibility criteria, unfamiliarity with existing programs, stress/anxiety over returning to school, and unfamiliarity with the benefits of earning a degree. **Conclusions:** The qualitative research findings supplemented answer options for a subsequent national online research survey distributed to all CDHA members; results of that survey are not included in this article. National and provincial dental hygiene associations and educational institutions can use the study findings to develop strategies to reduce barriers and raise awareness of degree education among Canadian dental hygienists.

RÉSUMÉ

But : Le Canada constate un mouvement grandissant vers l'élaboration de nouvelles voies d'accès à l'obtention d'un baccalauréat pour les hygiénistes dentaires. La recherche a démontré que les études universitaires renforcent les capacités cognitives et de pratique des hygiénistes dentaires et augmente leurs possibilités de carrière. Toutefois, le Sondage sur le marché du travail et de l'emploi mené en 2021 par l'Association canadienne des hygiénistes dentaires (ACHD) a révélé que seulement 27 % des répondants détenaient un baccalauréat. La présente étude a été la première à examiner les niveaux d'intérêt et les obstacles liés la poursuite d'études universitaires chez les hygiénistes dentaires du Canada titulaires d'un diplôme. **Méthodes :** Cette étude qualitative exploratoire a utilisé une sélection maximale d'échantillons variés pour sélectionner par choix raisonné des hygiénistes dentaires dans 10 provinces et un territoire du Canada pour 3 groupes de discussion en ligne. Les participants sélectionnés (N = 17) étaient des membres de l'ACHD qui détenaient un diplôme en hygiène dentaire comme diplôme d'études le plus élevé. Les groupes de discussion en ligne ont été analysés par thème pour déterminer les obstacles à l'aide du codage descriptif et in vivo de Saldaña. **Résultats :** Tous les participants ont exprimé leur intérêt à poursuivre leurs études à un moment ou à un autre de leur carrière. Les obstacles signalés étaient les engagements familiaux, les restrictions financières, l'accessibilité, le soutien limité de l'employeur, la méconnaissance de l'admissibilité, la méconnaissance des programmes existants, le stress et l'anxiété liés au retour aux études et la méconnaissance des avantages de l'obtention d'un diplôme. **Conclusion :** Les résultats de la recherche qualitative ont enrichi les options de réponse pour un sondage national de recherche en ligne subséquent qui serait distribué à tous les membres de l'ACHD; les résultats de ce sondage ne sont pas inclus dans le présent article. Les associations nationales et provinciales d'hygiène dentaire et les établissements d'enseignement peuvent utiliser les résultats de cette étude pour élaborer des stratégies visant à réduire les obstacles et à sensibiliser les hygiénistes dentaires canadiens aux études universitaires.

Keywords: baccalaureate degree; barriers; dental hygiene education; entry-to-practice; non-traditional students pursuing further education; qualitative research

CDHA Research Agenda category: capacity building of the profession

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PRACTICAL IMPLICATIONS OF THIS RESEARCH

- Research shows that dental hygienists who obtain a baccalaureate degree have stronger cognitive abilities, including research use, evidence-based decision making, and critical thinking skills.
- A better understanding of barriers to pursuing further education is essential to inform national and professional dental hygiene associations as they seek to facilitate ways to further the education of Canadian dental hygienists.
- Advanced dental hygiene education has the potential to improve oral health outcomes for clients across the country.

INTRODUCTION

Given the global rise in chronic and preventable diseases, the World Health Organization (WHO) deemed building the abilities of the health care workforce as integral to meeting the increasingly complex needs of the public in the 21st century.¹ As technology, medical care, and treatments continue to evolve, the education of health care professionals (HCPs) needs to focus on enhancing professional training that influences patient safety.²⁻⁴ High-quality and safe patient care requires identifying credible research to inform practice decisions, translating research to educate and treat clients, working collaboratively on interdisciplinary teams, and taking leadership roles in health care delivery.^{2,3,5} Therefore, the educational preparation of HCPs must be re-evaluated, including the diploma entry-to-practice (ETP) credential for Canadian registered dental hygienists.

Several dental hygiene program options exist across Canada. Currently, Canada has 33 diploma programs ranging from 2 to 3 years in length, 2 ETP baccalaureate programs, and 5 degree-completion programs. Table 1 identifies the program models available within each Canadian province.

Registered dental hygienists are responsible for addressing the oral health needs of the public, keeping current with oral health knowledge, assuming advocacy roles, and taking initiatives to advance the profession.^{5,6} Other professions that originally required a diploma or baccalaureate degree for ETP now find higher educational credentials necessary.^{6,7} Such professions include nursing, dietetics, laboratory technology, physical therapy, occupational therapy, and pharmacy, which now require a baccalaureate, master's or doctoral degree for ETP. The Council of Ministers of Education, Canada (CMEC) reported that baccalaureate education prepares graduates with key abilities in knowledge, communication, and professional capacity/autonomy.⁸ These abilities encompass the skills deemed essential by WHO for HCPs.¹ Because of their strict 2- to 3-year course timelines, diploma and associate degree programs are limited in their ability to provide students

with the in-depth public health and research knowledge that is available in a program of longer duration, such as a baccalaureate program.^{4,5} It is acknowledged that the current focus of dental hygiene diploma programs is on the development of clinical skills.⁹

The Canadian Dental Hygienists Association (CDHA) and American Dental Hygienists' Association have committed to advocating for elevating the dental hygiene ETP credential to a baccalaureate degree.^{10,11} Since 1998, the CDHA Policy Framework for Dental Hygiene Education has recognized the importance of expanding dental hygiene theory to support future dental hygienists.¹² Broadening perspectives on oral health and evidence-based decision making (EBDM) were recognized as key factors in improving the quality of oral health services.^{3,6} Advanced education of any HCP broadens the knowledge base and increases societal presence and professional autonomy.⁴ In addition, the American Dental Education Association aligned with the movement to increase dental hygiene ETP and developed strategies to address access to care issues, facilitate graduate-level research, and advance the dental hygiene profession by emphasizing the need for a baccalaureate degree program as ETP.¹³

Research has demonstrated that registered dental hygienists who obtain a dental hygiene degree have stronger cognitive abilities, including research use, EBDM, and critical thinking.^{2,5,6,14-19} According to Clarke et al., baccalaureate degree-holding Canadian dental hygienists felt their education prepared them to conduct oral cancer screenings more frequently and with more confidence than those holding diplomas.¹⁹ As the need for registered dental hygienists in varied practice settings has grown, additional employment opportunities requiring educational credentials beyond a diploma have surfaced. Studies of dental hygiene degree-completion graduates have reported that many continued their education to become educators, administrators, and researchers, or to enroll in graduate programs.^{2,5,6,14,15,20,21} A degree increases career options beyond clinical settings and offers a pathway to further education. Kanji and Laronde's study¹⁴ concluded that over 25% of the University of British Columbia's degree-completion and ETP baccalaureate respondents acquired a graduate degree.¹⁴

Despite the research supporting the shift to baccalaureate education for ETP, the dental hygiene profession is not aligned with other HCPs; a 2021 CDHA survey reported that only 27% of Canadian dental hygienists held a baccalaureate degree.²² Given the benefits of earning a degree, the current study was the first to explore levels of interest in and barriers to pursuing further education among Canadian registered dental hygienists practising with a diploma as their highest level of education.

Table 1. Dental hygiene academic programs within each Canadian province

Educational models	Canadian province offering program ^a
2-year diploma	NB, ON
Advanced diploma (6 semesters)	ON
3-year diploma	BC, MB, NS, QC, SK
Baccalaureate degree completion	BC, AB, MB, NS, ON
4-year entry-to-practice baccalaureate degree	BC, AB

^aNB: New Brunswick; ON: Ontario; BC: British Columbia; MB: Manitoba; NS: Nova Scotia; QC: Quebec; SK: Saskatchewan; AB: Alberta

METHODS

A qualitative explorative study design was utilized due to the lack of conclusive information in this area. This study received institutional review board approval from the University of British Columbia's Behavioural Research Ethics Board (H20-00455). Purposeful maximum variation sampling was employed by including a brief demographic survey in the participant recruitment email, sent by CDHA to all members. Canadian registered dental hygienists across 10 provinces and 1 territory were selected for 1 of 3 e-focus groups (N = 17), conducted through video conferencing. Selected participants were assigned to an e-focus group based on location of residence as follows: Time Zone-1 (New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island), Time Zone-2 (Ontario, Quebec, Manitoba, Saskatchewan), and Time Zone-3 (Yukon Territories, Alberta, British Columbia). Two e-focus groups had 6 participants, while the third had only 5 participants. This enrolment was considered within the ideal range of 5 to 8 participants.^{23,24} E-focus group participants were CDHA members who held a diploma as their highest dental hygiene credential and, at the time of the study, were not enrolled in a degree or graduate program. To gather a Canada-wide perspective, attempts were made to select participants based on their geographic location. Participation was incentivized with a \$40 VISA gift card. Each e-focus group consisted of a 90-minute structured open-ended discussion. E-focus group questions were developed and guided by previous national studies to answer the research questions.^{22,25,26} Table 2 lists the e-focus group interview questions and probes.

E-focus groups were audio- and videorecorded with participant consent, transcribed verbatim, and underwent thematic analysis for barriers using Saldaña's approach to descriptive and in vivo coding.²⁷ In vivo coding was used to select descriptive codes, words or short phrases directly from the responses, which were then condensed into broader themes that encompassed the breadth of opinion from participants. Codes were developed deductively using knowledge of pre-existing themes and inductively to uncover new, unanticipated themes.^{27,28} The process was reviewed numerous times to ensure accuracy in theme

coding. Member checking enhanced the rigour and was completed in 2 phases: first, the transcripts were provided to participants to ensure the accurate representation of discussions; second, thematic summaries were shared to confirm emerging themes.^{28,29} Findings from the current qualitative study were then used to inform and supplement answer options for a subsequent national online survey.

RESULTS

Each e-focus group comprised 5 or 6 dental hygienists, totalling 17 study participants. All participants disclosed an interest, at some point during their careers, in pursuing further education. Eight had no education beyond their dental hygiene diplomas, 1 had a trade school diploma, 3 had other certifications, and 5 had some previous university experience. Table 3 presents the distribution of participants based on location of practice, year of graduation, province of graduation, and current practice setting(s).

Identified barriers to further education

Eight prevalent barriers emerged from the 3 e-focus group discussions: family commitments, financial restrictions, accessibility, limited employer support, unfamiliarity with eligibility criteria, unfamiliarity with existing programs, stress/anxiety over returning to school, and unfamiliarity with the benefits of earning a degree. Figure 1 illustrates the perceived barriers identified in the e-focus groups.

Family commitments

Participants discussed obligations to personal relationships such as marriage and children; many agreed that pursuing further education meant having to delay starting a family. The following quotation encompassed one participant's commitment to family: "You start having kids, you have a husband...it's very difficult to get time, energy, and money to put into that [further education]..."

Financial restrictions

Participants expressed concern over their inability to further their education while maintaining their employment hours and income, especially with an increase in school-related expenses (e.g., tuition, textbooks). This sentiment is clearly expressed in the following quotation: "I'd have to quit my

Table 2. E-focus group interview questions and probes

Interview questions	Probing questions
Are you interested in further pursuing dental hygiene education?	<ul style="list-style-type: none"> • If so, which programs are you interested in pursuing? • If so, within what period of time (within one year, 1–2 years, 3–5 years, after 5 years)? • If not, why not?
Are you interested in further pursuing education outside of the dental hygiene field?	<ul style="list-style-type: none"> • If so, which programs interest you? • If so, within what period of time (within one year, 1–2 years, 3–5 years, after 5 years)? • If not, why not?
What do you believe may be some barriers for those individuals in returning to school?	<ul style="list-style-type: none"> • Consider the following: time; finances; lack of professional and/or family support; family obligations/commitments; limited accessibility to education; age; lack of benefits/lack of increase pay.

Table 3. E-focus group participant demographics (N = 17)

E-focus groups	Location of practice (number of participants)	Year of graduation	Province of graduation (number of participants)	Practice setting(s) (number of participants) ^a
Time Zone-1 (n = 6)	New Brunswick (1) Newfoundland and Labrador (2) Nova Scotia (2) Prince Edward Island (1)	1980, 1992, 1995, 1999, 2005, 2006	New Brunswick (0) Newfoundland and Labrador (0) Nova Scotia (5) Prince Edward Island (0) Quebec (1)	Private practice (5) Public health (1)
Time Zone-2 (n = 5)	Manitoba (2) Ontario (1) Quebec (1) Saskatchewan (1)	1981, 1995, 1996, 2012, 2020	Manitoba (1) Ontario (3) Saskatchewan (1)	Private practice (5) Education (2)
Time Zone-3 (n = 6)	Alberta (2) British Columbia (3) Yukon Territories (1)	1984, 1987, 1998, 2000, 2012, 2018	Alberta (1) British Columbia (2) Nova Scotia (1) Ontario (1) Saskatchewan (1)	Private practice (5) Education (1) Independent dental hygiene practice (1)

^aA few participants disclosed working in more than one practice setting

job to reduce my hours, and then...have to put forth all this money to obtain the education.” Participants expressed how family necessities superseded using available funds to further their education, connecting financial restrictions to family commitments. Participants with university-attending children stated that furthering their education would result in the reallocation of funds necessary for their children’s education. More recent graduates disclosed financial limitations associated with student loan repayments. The following quotation encompassed the above sentiment: “...I was newly out of school, I was broke, I couldn’t afford to go back to school...I was working to try and...pay off my student loans. Still paying off my student loans almost like 10 years later.” All participants agreed that furthering education required a financial commitment and stated, “It’s not cheap.”

Accessibility

Accessibility-related barriers included geographic distance to educational institutions offering the program of interest, limited availability of distance learning programs, a dislike of online learning, and accessibility constraints with admission requirements. Individuals voiced the inability to access education when residing in isolated areas and having to travel or move. This sentiment was captured in the following quotation: “The barrier for me too is the distance...that would mean uprooting my family, or me leaving my family for a period of time, which is not something that I would want to do either.” Other accessibility constraints discussed were limited part-time degree-completion options, limited class sizes, absence of a waitlist, and only one annual intake.

Limited employer support

Many participants reported an employer explicitly stating that further education was not necessary for a registered

dental hygienist in clinical practice. For example, “...I have had other dentists say, ‘Well, why would you...continue on? You’re not going to be able to scale teeth any better.’” Another participant expressed:

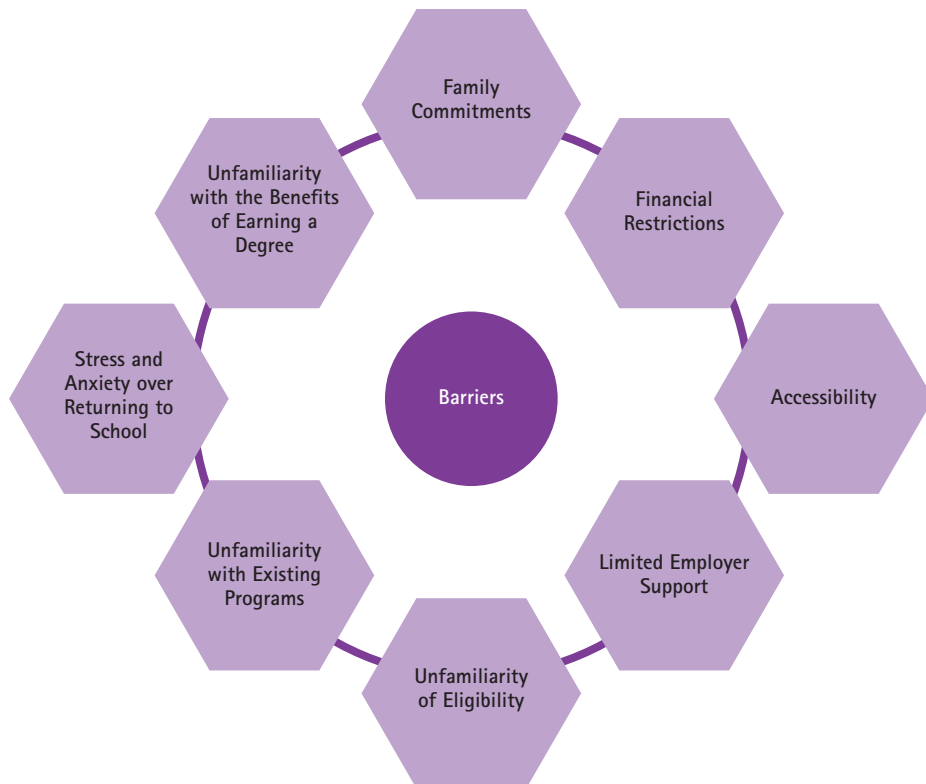
...I can remember him saying to me, ‘Why on earth would you want a degree?! I’m not going to pay you anymore money, and you’re not going to learn anything new, and you’re a great hygienist so just leave it be.’

Further discussion revealed over half of the participants experienced a lack of autonomy and control over their clinic days and the treatment provision for their patients. The following statement, “Or even within your own office, and how you want to educate the patients and you’re told not to...it just really brings you down” showcases the lack of support and independence some registered dental hygienists felt from their employers. Participants agreed that an understanding of the important role dental hygienists play on the oral health care team and the skills that they bring to clinical care was lacking among colleagues, leading to individuals deciding not to advance their education. While participants acknowledged that all employers were not the same, the following statement captured what the majority experienced: “There are some really great docs [dentists] out there who are incentivizing their team and doing a really great job...but the majority, it’s not that they don’t know better, they just haven’t done better.”

Unfamiliarity with eligibility criteria

Participants spoke at length on the requirements for admission to a degree program, voicing the need to upgrade or complete additional courses to meet prerequisite requirements. Older participants mentioned a restriction with transferring credits to complete a degree once they

Figure 1. E-focus groups' perceived barriers to pursuing further education



were beyond the allotted 10-year time limit since their graduation with a diploma. One participant said: "...I was one credit short, and now the 10-year period [to finish a degree] is done, so I know I have to do more than that [the one credit]..." Those who persevered and explored applying 10 years after graduation discussed the challenges of obtaining all required documentation (i.e., transcripts, course syllabi) and having credits transferred; those who corresponded with educational institutions recalled being told that none of their credits would transfer "...because they were all too old." A consensus expressed that the perceived 10-year window after graduation to furthering one's education was impractical and not conducive to family planning or managing other life priorities, leaving more experienced dental hygienists with no option but to abandon the pursuit of further education, particularly as they approached retirement age.

More recent graduates identified the grade point average (GPA) requirement as exceedingly competitive and considered it to be a predominant criterion for admission. Participants felt those with "B+" grade averages or "average students" would never have the opportunity to continue their education. Discussions ensued over the possibility of

upgrading and improving grades without having to repeat the entire dental hygiene diploma program. All e-focus groups discussed the exclusion of an individual's years and practice setting experience as admission criteria. The sentiment that knowledge and professional experience were not accorded equal value with GPA scores was encompassed in the following statement:

But if you look at all the experience, and I've taught at the university then they were just reliant on the grade point average and it wasn't high enough to enter, which was bizarre because I'm teaching students. I'm mentoring students. I've done so much, but they were just stuck on the grade point...it's one thing when you're 19 and it's another thing when you're a seasoned professional...

Participants reiterated accessibility barriers, limited degree-completion programs offered across Canada, lack of admission seats, and absence of waitlist availability as concerns. Participants agreed that, despite the shift of educational institutions towards an ETP full-time degree,

degree-completion pathways must still be offered and encouraged for those interested. The competitive admission requirements and limited intake also reduced interest in degree completion. Furthermore, participants discussed the importance of implementing waitlists, as captured in the following quotation:

Especially if they had waitlists as well, because that opens up so many doors...and they [dental hygienists interested in pursuing further education] have options to choose from, but here you're just limited to one where they only take a limited number of people.

Increasing annual intake periods was discussed to improve accessibility by reducing the full year wait to apply, if the initial intake is missed for any reason.

Unfamiliarity with existing programs

A majority of participants were not familiar with the various Canadian degree-completion programs offered or with the structure of each: "I'm actually not sure what pathways of DH education actually even exist...or what's out there." Uncertainty regarding program structure included specific delivery format (i.e., online, onsite or hybrid), if programs were full time or part time, and program length. Specifically, when discussing the University of Toronto and Dalhousie University, few participants could identify which of the 2 offered a dental hygiene degree-completion program, with even fewer being able to confirm the requirements of a practical component. The same was true when discussing the degree-completion programs offered at the University of Alberta and the University of British Columbia. Further discussions touched on program length, with a few participants believing that completion of a full-time 4-year dental hygiene degree program was required to obtain a degree. Furthermore, discussions revealed beliefs that additional education only prepared dental hygienists for careers in education or research, but not for other dental hygiene fields, such as public health or practice management.

Stress and anxiety over returning to school

A few participants expressed stress and anxiety over returning to school. Some participants mentioned that the length of time since they were in school made a return to school seem daunting, while others specified exams and being graded as major contributors to their anxiety and decline in mental health. The following quotation encompasses this sentiment:

I think for me the anxiety behind furthering my education would hinder me...I don't know how it would affect my mental health. I get nervous when I do a CE [continuing education] course and I do the little quiz after it.

More recent graduates stated their disinterest with immediately enduring school and exam stress again. Participants agreed that courage was required to return to school irrespective of the program or education being pursued, or the duration of time away from school.

Unfamiliarity with the benefits of completing a degree

Many participants expressed the view that a degree would not further their career or benefit their clinical practice; participants did not anticipate an increase in compensation or responsibilities as reflected in the following statement:

...if they [dental hygienists] are just planning on staying in a clinical practice, it [further education] literally has no benefit or reward for a clinical practitioner...you're not going to get paid more, you're not going to get more experience, your boss isn't going to let you do more...it's just you have a degree on the wall. There's nothing extra to it.

A few participants argued in favour of earning a higher net income by continuing to work in private practice over reducing clinical hours and risking lost income to pursue additional education. A small number of participants acknowledged the increased income and benefits, such as Registered Retirement Savings Plans (RRSPs), following the completion of further education and seeking employment in non-clinical roles such as education. The sentiment of benefits and long-term rewards for educators was captured in the following quotation:

But being a hygienist in private practice that [has] no benefits. If I left tomorrow, I have no RRSP...there's many benefits to working at the university and if you do put in your time and get your tenure, it takes a while for it to pay off, but it does tend to pay off in the end.

Most participants felt that dental hygiene degree-completion programs were designed to prepare graduates for roles only in education or research and may not offer a sufficiently broad curriculum for those interested in other areas of dental hygiene practice. Conversations revealed a lack of awareness among participants of the various skills and knowledge dental hygienists could improve upon by earning a degree, as well as the transferability of skills and knowledge to areas outside of clinical dental hygiene or community-based practices. A minority of participants noted that clinical settings may restrict one's vision of opportunities and recognition of capabilities, captured in the following statement:

So, I think sometimes just being in a clinical setting closes your vision of what you're capable of doing...And I think it's unfortunate that a lot of hygienists don't understand how qualified they are and [their] skill and be able to apply that skill in other areas.

These individuals felt that exposure to various practice settings would increase dental hygienists' understanding of their diverse skills and how they could be applied in non-traditional roles. By broadening this view, participants felt that dental hygienists might make more informed decisions regarding the pursuit of further education and transitioning from their current clinical roles into non-traditional roles.

Participants with previous education and advocacy experience spoke to the importance and benefits of further education for dental hygienists and those they work with, including other health professionals and the public. The following statement encompassed this sentiment:

...the perception that the degree would not benefit your community, your specific job, your practice, and I think that that's a misconception because it has not been articulated well...You could touch base with your community health boards to push for oral health care in nursing homes...so, I think there is a little bit of misconception of how that [additional education] could translate into improving the oral health of every province.

Exposure to a variety of practice settings was also discussed; participants felt they did not have sufficient information to know which area(s) further education could lead. Research and exposure to non-traditional settings were deemed necessary by participants. One main reason for the ambiguity was attributed to the limited dental hygiene practice setting options discussed during their diploma education, including qualification requirements for various practice areas. This sentiment was relayed as follows:

...when I was in [dental hygiene] school, we touched on all these other places that hygiene and hygienists could work...but [were] never given enough information to really say, 'Oh, that sounds really cool or really interesting and maybe I'd like to try that.'

Participants agreed that the focus of dental hygiene diploma programs was clinical dental hygiene therapy.

To summarize, the main themes that emerged from the e-focus group discussions regarding barriers to pursuing further education were family commitments, financial

restrictions, accessibility, limited employer support, unfamiliarity with eligibility criteria, unfamiliarity with existing programs, stress/anxiety over returning to school, and unfamiliarity with the benefits of earning a degree.

DISCUSSION

Previous studies reported a prevalent interest among dental hygiene students in pursuing further education, be it degree completion or graduate education.^{2,4,6,26} Motivating influences for pursuing further education included personal satisfaction; a desire to increase knowledge and abilities, to remain competitive, or to improve critical thinking skills; third-person influences; an interest in pursuing graduate studies; and employment in non-traditional dental hygiene roles.^{2,4,6,14,15,17,18,26} However, the current study was the first to explore levels of interest in and barriers to pursuing further education among Canadian dental hygienists practising with a diploma as their highest level of education. Barriers to graduate education had been explored for dental hygienists in the United States.⁴ Other studies have also examined barriers but samples included students, baccalaureate-educated dental hygienists, and other health care professionals.^{4,6,30-34} The current Canadian dental hygiene ETP standard is a diploma, although there is support to transition to a baccalaureate degree for dental hygiene ETP.^{2,5,6,15,16}

Barriers affirmed by the participants were family commitments, financial restrictions, accessibility, limited employer support, and unfamiliarity with eligibility requirements. Newly identified barriers from this study were unfamiliarity with existing programs, stress/anxiety over returning to school, and unfamiliarity with the benefits of completing a degree.

Family commitments

Participants who were soon to be married, newly married, and/or had young children, prioritized building a family over pursuing further education. Similar findings were reported in previous studies investigating barriers to dental hygiene graduate education.^{4,30,35} Fambely's³¹ study on mature female dental hygiene students reported that being a parent was the participants' primary and most important family role. Similarly, in the health education literature, family commitments was a common barrier to advancing education.^{33,36} Perhaps dental hygiene attracts those looking for more family and work-life balance versus career progression. Some may view a return to school as disruptive to this work-life balance.

Financial restrictions

Cost was another highly prevalent barrier. Earlier research found lack of finances to be a barrier to degree and graduate education, for dental hygienists and for other health care professionals.^{4,30,37,38} Similarly, lack of finances was reported in the 2002 CDHA Dental Hygiene Labour Survey as a barrier to pursuing professional development activities.³⁵

In a general interview-based study of adult learners, Flynn et al.³⁹ concluded that financial responsibilities were a barrier to adult education.

Accessibility

Accessibility to education emerged as a barrier, particularly for dental hygienists from provinces that do not offer degree-completion education. According to Smith et al.,⁴ dental hygienists pursuing graduate education felt forced to relocate in order to attend their preferred program. Increased availability of online degree-completion and graduate programs surfaced as a suggestion to reduce this barrier, both in the current study and in previous studies.^{2,4,6,30} Nursing literature reported similar findings and expressed a need for online programs.^{33,36}

Limited employer support

Limited employer support was another prevalent barrier. Previous nursing and graduate education studies uncovered the feeling of being undervalued by employers and a lack of job security.^{4,30,38,40} Meanwhile, dental hygienists with master's and doctoral degrees remarked on their increased credibility as well as having their opinion and expertise respected by other professionals, including interprofessional care teams.⁴¹ Further, a study conducted with nurses reported that employer support positively influenced their decision to return to school.⁴² Meanwhile, a broad-based study on online master's education reported the retention of students at one year doubled for those receiving employer support.⁴³ Educating employers to understand the importance and benefit of further education could result in greater employer support.

Unfamiliarity with eligibility criteria and existing programs

Unfamiliarity with eligibility criteria and existing programs were barriers that emerged from the discussions. Though neither barrier emerged in previous studies, dental hygienists not interested in returning to school would not spend time considering the various programs or the eligibility requirements. CDHA's website lists degree-completion programs in Canada. Participants in the current study seemed unaware of this repository of programs.⁴⁴

Stress and anxiety over returning to school

A novel barrier that emerged in the current study was stress/anxiety over returning to school. This barrier was previously identified for graduate education but not for undergraduate degree education. Stress/anxiety-related barriers to graduate education were fear of thesis-based research and lack of confidence.^{4,28} Spagnola and Yagos⁴⁵ acknowledged the effects that fears have on the success of non-traditional students and retention rates. Stressors and fears vary and are highly personal; examples included the fear of being laughed at and performance-based anxiety.^{45,46} Both Deutsch and Schmeitz⁴⁷ and Fambely³¹ reported that female students having multiple competing life roles—including

being a wife, mother, and employee—had increased stressors associated with depression and anxiety.^{31,47}

Unfamiliarity with the benefits of completing a degree program

Respondents acknowledged previously identified motivators for undertaking baccalaureate education, including increased knowledge base, critical thinking, and opportunities in diverse professional practice settings. However, they did not regard these motivators as concrete benefits of baccalaureate education.^{2,4-6,8,14-16,20-22,30,37,38,41} Increased income was expressed by only a few respondents in the context of non-traditional practice settings. However, increased income has been reported for baccalaureate degree and graduate degree holders.^{4,14,22,38} A minority of participants working in non-clinical practice settings voiced benefits of personal satisfaction, increased self-esteem, confidence, and respect within the profession, among colleagues, and the public.^{1,17,34,40,48,49} While a few respondents acknowledged perceived benefits to further education, most participants reiterated a lack of perceived benefit, aligning with previous studies.^{4,16,17,21,32,37,48,50}

Even though all participants of the current study practised with a diploma as their highest educational credential, many supported the revision of the Canadian dental hygiene ETP standard to a baccalaureate degree, concomitantly reducing barriers for those yet to enter a dental hygiene program. Similarly, participants in previous studies also supported a shift to baccalaureate education as the dental hygiene ETP credential.^{2,5,6,15,16,18,26}

Methodological limitations

Methodological limitations of the study included the qualitative design, potential researchers' influence, and response bias. Employing a qualitative explorative design involved the facilitation of e-focus groups, which could have been influenced by the researchers' positive preferences for pursuing further education. Minimizing the researchers' influence was managed by posing open-ended questions, maintaining neutral verbal and non-verbal communication to avoid affirming or disagreeing with participant responses, and using verbatim quotations in the results to stay true to participants' own words. However, response bias was still possible as participants may have felt uncomfortable sharing their true thoughts or may have been influenced by other participants. This potential limitation was addressed by member-checking and providing participants with the opportunity to confirm the accuracy of the researcher's findings and interpretations.^{28,29}

Future research

Further research into the barriers identified in this study is required both for confirmation and understanding. Why are dental hygienists in Canada unfamiliar with existing programs, admission requirements, and benefits of a degree

education? More e-focus groups could be conducted to further research findings to thematic saturation, as a high interest for participation emerged in the recruitment stage of this study. Additionally, researching how employers view dental hygienists with diplomas versus degrees could further the understanding of their perceived differences, and offer an assessment of how to educate employers on the benefits of dental hygiene degree education.

CONCLUSION

This study makes a novel contribution by exploring barriers preventing dental hygienists with a diploma as their highest academic credential from pursuing a baccalaureate degree. Five reaffirmed barriers emerged: family commitments, financial restrictions, accessibility, limited employer support, and unfamiliarity with eligibility requirements. Newly identified barriers were unfamiliarity with existing programs, stress/anxiety over returning to school, and unfamiliarity with the benefits of completing a degree. These results may inform discussions within CDHA, provincial associations, and educational institutions about strategies to reduce the identified barriers and to facilitate pathways for furthering degree education for Canadian dental hygienists.

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CONFLICTS OF INTEREST

Authors have no conflicts of interest to disclose.

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