Self-Perceptions of Value, Barriers, and Motivations for Graduate Education Among Dental Hygienists

Amy N. Smith, RDH, MS, MPH; Linda D. Boyd, RDH, RD, EdD; Christine Macarelli Rogers, MS, RDH; Ronald C. Le Jeune, DDS, MEd, MSPH

Abstract: Increasing the knowledge base of its practitioners through formal education is vital to advancing the dental hygiene profession, ensuring practitioners’ readiness for participation in future health care workforce models, and preparing future dental hygiene educators. The aim of this study was to discover the value of, barriers to, and motivations for graduate education among dental hygienists as a first step toward establishing ways to stimulate enrollment and facilitate program change. A qualitative pilot study design was used, with focus groups used for data collection. Four virtual focus groups were conducted on a video conferencing platform with dental hygienists (N=15) of varying educational levels residing in nine states. Focus group results were examined for emerging themes. The majority of participants placed a high value on graduate education as it related to expanding employment options and satisfying personal goals, but perceived it to have little value regarding advancement in clinical practice. Top barriers to education were reported to be time management, finances, and degree program options. Motivational themes for pursuing education included increased career options, benefits, and salary; personal satisfaction; potential to advance the profession; and financial support. The participants agreed that increased education can lead to more varied career opportunities and advance the profession, but their responses suggested limited motivation to pursue graduate studies. Determining ways to increase the value, reduce barriers, and enhance motivation for a graduate degree should be a priority of academic institutions and professional organizations involved in dental hygiene to ensure a workforce that is qualified for future health care initiatives and prepared to become educators.

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Keywords: dental hygiene, dental hygiene education, allied dental education, allied health personnel, graduate education, master’s degree, dental hygienist

Submitted for publication 9/3/15; accepted 1/12/16

Historically, the term “professional” was awarded to those who practiced law, theology, medicine, and engineering. In 1988, Ronald M. Pavalko, a social theorist, published the second edition of his book outlining the characteristics of a profession. He proposed a trait model with eight common elements: theory and intellectual technique, relevance to social issues, training period, motivation, autonomy, sense of commitment, sense of community, and code of ethics. Pavalko also recognized the reality of marginalized or semi-professions. He defined semi-professions as occupations possessing many but not all of the eight common elements. Health care providers previously considered semi-professionals have built upon deficient areas, such as entry-level education, in an attempt to move their occupations into professional territory. The level of education of its practitioners advances a profession by developing a broader knowledge base, increasing societal presence, and gaining autonomy. Allied health professions such as nursing, occupational therapy, physician assistant, and physical therapy have increased educational requirements for an entry-level degree and created mid-level provider degree options to move their occupations towards recognition as full professions.

Dental hygiene has also made efforts to advance its level of education to establish itself as a fully qualified profession. In 2013, the University of Namseoul in South Korea launched its inaugural PhD
Comparable programs are being planned in the U.S. and Canada, and dental hygiene education as a whole has expanded worldwide. Internationally, there has been a decrease in the number of countries requiring a bachelor’s degree for licensure. Currently, 21 countries recognize dental hygiene as a profession. The majority of those countries have fewer than five associate degree programs each, and 17 of them plan to change from associate to bachelor’s degree for entry-level requirements. In contrast, the U.S. has 288 associate degree programs, and although advocated by the American Dental Hygienists’ Association (ADHA) since 1986, there are no immediate plans to increase the educational requirements for an entry-level degree. 

Although not required for licensure, bachelor’s and master’s degrees in dental hygiene are available. According to the American Dental Education Association (ADEA), there are 50 bachelor’s degree completion and 16 master’s degree programs with a dental hygiene major in the U.S. The ADHA reported a 2% decrease in the number of students enrolled in degree completion programs and a 16% decrease in master’s degree enrollment from 2009 to 2013. However, these educational trends are inconsistent with the future needs of the changing health care workforce. 

Due to changes in the demographics and disease patterns of the population, the oral health care workforce is evolving. In the oral health part of the report Healthy People 2020, the U.S. Department of Health and Human Services (DHHS) lists increasing prevention of dental diseases, injuries, and conditions and improving access to care as oral health goals to improve national health. The DHHS also has recommended reducing barriers and increasing access to care by increasing the size and number of dental public health programs managed by dental professionals with public health training. As providers in the current oral health workforce and with additional education, dental hygienists could fulfill this objective. Typically, curriculum guidelines for an associate degree do not provide in-depth public health-related courses. However, most bachelor’s and master’s programs offer public health courses that may include health care policy, health informatics and technology, health promotion and disease prevention, research, health care delivery, health care ethics, grant writing, and health care management. These courses could prove valuable in meeting the public health provider demands of the Healthy People 2020 oral health objectives.

In spite of these needs of the profession, individual dental hygienists may be reluctant to pursue a graduate degree due to their perceived lack of value for increased education and barriers to obtaining the education. A mixed-methods study published in 2011 sought to identify barriers to graduate education among hygienists (N=160) with bachelor’s degrees. A lack of value for graduate education was found to be one of the top barriers, following costs, fear of thesis, lack of time, and familial responsibilities. The need to promote the value and benefits of obtaining a graduate degree was a top theme that emerged from the qualitative data of that study.

The needs of the dental hygiene educator workforce should also be considered when encouraging advanced education. A 2014 ADEA survey of allied health faculty trends reported 89 open full-time dental hygiene faculty positions for the 2013-14 academic year. The same survey estimated that 292 dental hygiene faculty positions would be lost or vacated over the next five years due to retiring educators. Current and future educator shortages may be due to a lack of qualified applicants. The Commission on Dental Accreditation (CODA) requires full-time dental hygiene faculty members to hold at least a bachelor’s degree, and many institutions prefer a master’s degree for employment. While not a necessity, ADEA recommends that dental hygiene faculty members have a formal background in educational methods and evaluation, clinical training, knowledge of the literature, and advanced education in dental hygiene processes and clinical practice. Courses offered in bachelor’s and graduate degree programs address most of these recommendations. But if enrollment in bachelor’s and graduate dental hygiene programs continues to decline, it will be difficult to fill current vacancies and replace faculty members expected to retire in the future.

There has been limited research investigating the perceived value, barriers, and motivations regarding a graduate degree among dental hygienists. The aim of this study was to explore practicing dental hygienists’ perceptions of value associated with graduate education, as well as any perceived barriers and motivations to advanced education. The knowledge gained from this study can provide U.S. academic institutions and professional organizations with a better understanding of the educational goals of and challenges faced by dental hygienists. This information can aid in new program development,
student recruitment and retention, and the conduct of graduate degree programs.

Materials and Methods

This study was approved by the Massachusetts College of Pharmacy and Health Sciences University Institutional Review Board as exempt under the aegis of 45 CFR 46.101(b) (2) and was assigned protocol number IRB051815S. The study used a qualitative interview pilot study design exploring the perceptions of a purposive, convenience sample of practicing dental hygienists. A qualitative research method was chosen due to the lack of published research related to the topic since qualitative studies can help clarify and uncover new avenues about the research topic that can aid in future quantitative research designs. A shortage of information on the research topic was also a justification for using the focus group interview method. The relaxed structure of the focus groups encouraged an exchange of observations and opinions on the research topics.

Study participants were practicing dental hygienists. Possessing a current dental hygiene license was an inclusion requirement for participation. Recruitment of participants was through a federal health care agency and network of dental hygiene colleagues. A random drawing for a gift card was offered as an incentive to volunteer. Once interest was shown, subjects were sent a link to a short demographic survey. The survey included questions pertaining to age, gender, race, current employment setting, dental hygiene degree and year obtained, highest level of education and year obtained, and ADHA membership status. The principal investigator (PI [ANS]) used the demographic data to assign each volunteer to one of four focus groups: those who had held an associate degree only (one group), those who had earned a bachelor’s degree through a degree completion program or a four-year bachelor’s degree (two groups), and those who held a master’s degree (one group).

Each participant signed a consent form and returned it to the PI prior to participation. An email invitation with a link to the appropriate focus group was sent to each participant. During the 20-40 minute focus group sessions, the subjects answered open-ended questions with minimal interruption and redirection from the PI. The interview questions (Table 1) were modified versions of questions used by Duffy et al. in their study of barriers to a bachelor of science in nursing degree.

The online focus group setting used for this study was Zoom, a web-based company that provides secure audio and video conferencing tools (www.zoom.us/feature). This platform was selected based on its features, convenience, ease of use, and cost. Participants logged into the online focus group at the assigned time and date from their location, using personal computers, tablets, or telephones as their preferred devices. Six participants used both audio and video connections, and nine used audio only. The Zoom software allowed for the greatest chance of participation without limiting the geographic location of the subjects. As recommended by Sweet, each focus group was scheduled after usual working hours and accounted for time zone differences.

Each focus group recording was transcribed, sorted, and organized by the PI. After transcription was completed and verified by an independent dental professional and an individual member of each focus group, the data were reviewed for general themes, tones, and impressions, following best practices. Specific words and phrases were highlighted to create codes that became the building blocks of the analysis. The codes were used to form a generalizable list of main themes and then were organized into groups according to research question answered.

Table 1. Questions used in focus groups

<table>
<thead>
<tr>
<th>AD, BCD, and BD Questions</th>
<th>GD Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What value do you see in dental hygienists’ obtaining a graduate degree?</td>
<td>What value do you see in dental hygienists’ obtaining a graduate degree?</td>
</tr>
<tr>
<td>What are some of the greatest challenges you face regarding going back to school?</td>
<td>What were some of the greatest challenges you faced going back to school?</td>
</tr>
<tr>
<td>What motivations would encourage you to return to school?</td>
<td>Thinking back to before you started your graduate degree, what would have further motivated you to return to school?</td>
</tr>
</tbody>
</table>

AD=participants with an associate degree; BCD=participants who earned a bachelor’s degree in a degree completion program; BD=participants who earned a four-year bachelor’s degree; GD=participants with a master’s (graduate) degree
some participants viewed a graduate degree as adding little or no value in regards to clinical practice. Those who felt this way make comments like these: “If you want to get out of the chair, you should advance; otherwise, I don’t feel the need to go further” and “I wouldn’t consider it unless I was trying to get out of the chair.” A few also reported believing there is no monetary incentive to advanced education. Typical comments were the following: “There isn’t much increase in pay, so it isn’t financially viable” and “In my neck of the woods it isn’t imperative or desirable for clinical hygienists to have a higher degree. Your job might be in jeopardy if you become overqualified for clinical dental hygiene.”

When participants were asked about the perceived challenges or barriers to obtaining a graduate degree, the major barriers were time, familial and work responsibilities, financial worries, wanting an all-online program, and a lack of confidence and support. Examples of perceived challenges or barriers statements included the following: “I was out of school for so long, I might be out of the studying loop”; “I found it hard to find a program that really suited the hours that I could provide and the credit transferring since we moved a lot. One program was going to have me retake core classes and I was not interested in doing that. Finding a program that fit me was difficult”; “A barrier to getting my degree was my location and not having to physically move”; “Money is a huge hurdle. It’s a huge hurdle because there is no way to make it back, to pay for it afterwards”; “I’m not married anymore because of lack of family support during hygiene school”; and “I had to keep a job and plunking away at school. It took four and a half years of part-time evenings to get my master’s degree. It was all-consuming for a long period of time.”

The final focus group question asked about things that would or did motivate the participants to return to school. The themes identified included advancing the profession, the promise of a more diverse job with better pay and benefits, having tuition expenses paid, self-satisfaction, completing an online program while being able to work, and increasing their knowledge. Examples of the motivation comments include the following: “I really needed the degree to keep my research job and move up”; “If the programs were more accessible or closer to home”; “If someone would offer a job afterwards that would be enough to pay for the tuition. I would have to find a job I wanted that paid a lot more money”; “If we love

Table 2. Age, degree, and American Dental Hygienists’ Association (ADHA) membership of focus group participants (N=15)

<table>
<thead>
<tr>
<th>Age</th>
<th>Degree/s</th>
<th>ADHA Membership?</th>
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</thead>
<tbody>
<tr>
<td>50</td>
<td>AS</td>
<td>Yes</td>
</tr>
<tr>
<td>59</td>
<td>AAS</td>
<td>No</td>
</tr>
<tr>
<td>49</td>
<td>AAS</td>
<td>No</td>
</tr>
<tr>
<td>51</td>
<td>AAS, BS</td>
<td>Yes</td>
</tr>
<tr>
<td>48</td>
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<td>Yes</td>
</tr>
<tr>
<td>37</td>
<td>AS, BS</td>
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</tr>
<tr>
<td>34</td>
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<td>Yes</td>
</tr>
<tr>
<td>61</td>
<td>AAS, BS</td>
<td>No</td>
</tr>
<tr>
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<tr>
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<td>AAS, BS</td>
<td>No</td>
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<tr>
<td>47</td>
<td>AS, BS, MPH</td>
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<tr>
<td>34</td>
<td>AS, BS, MBA</td>
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</tr>
<tr>
<td>42</td>
<td>AS, MSDH</td>
<td>Yes</td>
</tr>
<tr>
<td>60</td>
<td>BSDH, MSDH</td>
<td>Yes</td>
</tr>
</tbody>
</table>

AS and AAS=associate degrees; BS, BA, and BSDH=bachelor’s degrees; MPH, MBA, and MSDH=master’s degrees

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our profession and we want it to be a true profession”; and “To be able to step outside the box and give our value to the community and other professionals who think of a hygienist as just cleaning teeth.” Six of the 15 focus group participants listed self-improvement and self-satisfaction as potential motivators. Six also stated they were motivated by the prospect of using education to advance or improve the dental hygiene profession.

Discussion

This study identified the perceived value, barriers, and motivations to obtaining a graduate degree among participating dental hygienists. Thematic analysis of the focus group interviews revealed an overall high value for a graduate degree when hoping to leverage the degree to gain more diverse employment opportunities in the dental hygiene workforce. The participants overwhelmingly perceived obtaining a graduate degree as a way to move out of clinical practice and to transition into a public health or educational career. This finding suggests dental hygienists are aware of the possible career benefits to obtaining a graduate degree. Focusing on recruitment techniques to emphasize faculty shortages and public health initiatives that require qualified dental hygienists may encourage those who are unsure of future employment prospects. The participants frequently commented that an advanced degree would make them “more marketable” and “open more doors” for them. These perceived benefits of improved practical skills and a positive change in career path have been noted in past studies regarding the rewards of increased education.17,31,32

Less frequently, the participants reflected on the positive value education has on increasing the knowledge base and helping to advance the profession of dental hygiene. At least one participant in each focus group viewed education as a way to increase the credibility, prestige, and diversity of the profession. Dental hygiene professional organizations could use these results to tailor campaigns to focus on encouraging education to help advance the profession. These attributes were also listed as personal and professional benefits in previous studies seeking to learn the professional benefits of undergraduate dental hygiene students after advancing their degrees.17,31,32 Similar studies in nursing have found increasing educational requirements led to a perceived increase in the knowledge base, employment advancement, employment value, and professional advancement.33-37

Negative perceptions about the value of graduate education in the focus groups were aimed at how it relates to clinical dental hygiene. The participants reported feeling there were no financial or practical benefits to obtaining a graduate degree and continuing to perform clinical dental hygiene. One participant suggested an advanced degree would actually be frowned upon in her local dental community. These results do not correspond to the perceptions of previously studied allied health students who felt increased education led them to provide more expansive clinical care and have greater value at work.31,37 While graduate education may not teach clinical skills, it does help build graduates’ abilities in patient management, research techniques, health promotion and disease prevention, and health care ethics. These courses can be valuable to clinical hygienists, especially when working in a public health setting, and should be promoted by academic institutions.

Among our study’s participants, the common challenges and barriers associated with returning to school were related to time management and financial issues, work and family obligations, and program options. The most frequently stated challenge involved a combination of the top themes. The majority of the participants spoke of having to worry about balancing a need to work for financial reasons with being able to complete the coursework and still have time for familial obligations. In comparison, previous studies in dental hygiene and nursing found the top barriers to be financial issues, family and work duties, prerequisites/program needs, and a perceived lack of value.16,26,38,41 Uncertainty about employment after increasing education was also a barrier reported by the participants in a previous dental hygiene study.16 Using these identified barriers as a guide, dental hygiene programs could provide resources and education on financial aid specifically for dental hygiene students, design programs around employed and adult student scheduling needs, and offer employment assistance after graduation.

Finding a graduate degree program to meet individual needs was also a top theme reported by participants in our study. The participants stated a preference for a completely online program or a campus close to home, and having a counselor available to help them manage the registration process was desired. A previous study of dental hygienists holding a bachelor’s degree found that 13% viewed not having an online program as a barrier.16 A study
of nurses holding an associate degree found that 25% of those surveyed noted trouble navigating the prerequisites and a confusing admissions process as top barriers. A meta-analysis of registered nurses returning for a bachelor’s degree found that complicated enrollment procedures and a lack of academic advising were top barriers.

In the U.S., there are master’s of dental hygiene degree programs in only 16 states, but 14 of them have an online option. Those dental hygienists preferring in-person education are limited by the small number and limited geographic range of graduate programs. Online options can be completed in any location, but a lack of knowledge about them became evident in our study’s results. Program representatives should consider expanding their advertising to include entry-level dental hygiene programs and state-level continuing education conferences. Creating mentor programs with current graduate students would also be useful to promoting programs. Peer guidance with applications, registration, and general questions could help those who are unsure about the educational process. Providing more opportunities outside of clinical practice was noted as the top motivator for advancing education among all groups of our participants. They reported believing that having a graduate degree would open doors in research, teaching, and other areas that were more desirable than continuing in what one called the “clinical trenches.” The participants’ perspectives could be useful to organizations such as the ADHA and ADEA when planning conference agendas, scope of practice recommendations, and future educational requirements.

Limitations of this study included the small, purposive, convenience sampling of subjects. Although the number of participants were only a tiny percentage of the total dental hygienists practicing in the U.S., a small sample size is common in qualitative research and focus groups in particular. The ideal focus group involves four to eight subjects who participate together in a live session lasting less than 90 minutes. Although a non-random sample was used, having a purposive sample ensured the participants were qualified to speak about the research topic and provide substantial data. This selection choice was made to ensure that the highest number of subjects would participate in the research and offer depth and understanding about the research focus. The responses in this pilot study may then be helpful in designing larger quantitative and qualitative studies in the future. It may also have been a limitation that the 15 participants skewed toward an older demographic, with none in their 20s and only four in their 30s. Future studies should seek the perceptions of more dental hygienists across a wider age range to ensure the findings are not correlated with age or years in practice and to potentially reveal differences in attitudes based on age and experience.

Data analysis could also be a limitation. The use of thematic analysis relies on interpretations made by researchers. The PI in this study was a master’s degree student who values the pursuit of a graduate degree among dental hygienists. Her personal experience may have influenced her interpretation and summary of the results. A misrepresentation of a response could misconstrue its meaning and not align with the subject’s true thoughts. To minimize this limitation, the PI repeatedly reviewed the audio and video recordings for transcript accuracy, as recommended by Mason and Creswell. Literal and interpretive readings were used to both organize and index the data, as recommended by Mason. Following best practices reporting direct quotes in the participants’ own words also reduced potential distortion of the findings, and the credibility of the analysis was increased by having one participant from each focus group review the themes for integrity and consistency.

Conclusion

This pilot study explored the value, challenges/barriers, and motivations regarding a graduate degree among a nationwide sample of practicing dental hygienists with varying degree types. While most of the participants reported seeing high value in obtaining a graduate degree, they did not feel it was useful in clinical practice. Major challenges/barriers to continuing education were time, finances, work, and program limitations. Motivations for pursuing education included expanding employment opportunities, pursuing self-improvement, and wanting to advance the dental hygiene profession. Dental hygiene organizations and graduate programs should use the results of this study to conduct a larger scale replication. By using the perceptions of value, barriers, and motivations of dental hygienists, graduate degree programs can design more effective recruitment and retention strategies. Dental hygiene organizations could also use the results to expand and improve their professional advancement efforts by making them more tailored to the needs of members.
Disclosure
The authors reported no conflicts of interest.

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