Educational Deficiencies Recognized by Independent Practice Dental Hygienists and their Suggestions for Change

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Abstract

Purpose: The purpose of this study was to determine the perceived level of preparedness Maine Independent Practice Dental Hygienists (IPDHs) received from their standard undergraduate dental hygiene education, and recognize areas necessary for further preparation in order to explore careers beyond the private practice dental model.

Methods: A convenience sample of 6 IPDHs participated in a survey exploring their educational experience in public health and alternative practice settings. The survey also asked for their recommendations to advance dental hygiene education to meet the needs of those wishing to pursue alternative practice careers.

Results: This study found that participants felt underprepared by their dental hygiene education with deficits in exposure to public health, business skills necessary for independent practice, communication training and understanding of situations which require referral for treatment beyond the IPDH scope of practice.

Conclusion: As the dental hygiene profession evolves, dental hygiene education must as well. The IPDH participants' recommendations for dental hygiene programs include increased exposure to alternative settings and underserved populations as well as elective courses for those students interested in alternative practice and business ownership.

Keywords: dental hygiene education, dental public health, independent practice, alternative practice

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Introduction

Access to dental care is a growing problem in many areas of the U.S. Specifically, 8 out of 16 counties in Maine are entirely designated as dental shortage areas. The remaining counties have at least some localized areas of dental shortage designation.[1] Dental shortages in Maine were documented as early as 1929 when it was noted that dentists served only 20% of communities.[2] In addition to the existing deficit of dental services in Maine, large numbers of dentists are expected to retire in the next 10 years with twice as many dentists retiring as graduating.[3,4] Dental hygienists practicing in alternative settings, therefore, have a unique opportunity to increase access to care. The purpose of this study was to determine the perceived level of preparedness Maine Independent Practice Dental Hygienists (IPDHs) received from their standard undergraduate dental hygiene education, and recognize areas necessary for further education in order to explore careers beyond the private practice dental office model.

In 1982, Rovin et al predicted within 2 decades there would be new forms of dental care delivery which would lead to an increase in patient access.[5] In response to the need for greater access to dental care, many states have moved to allow dental hygienists to provide care independently from a dentist. A study by Freed et al in 1996 found that IPDH practices appeared to offer advantages to underserved patients by increasing access to care.[6]

Colorado and Washington were the first states to allow unsupervised practice of dental hygienists during the 1980s.[6] As of October 2012, 35 states allow some form of direct access to dental hygiene care without specific authorization of a dentist.[7] In 2008, Maine passed legislation to allow independent practice of the dental hygienist and more recently to allow IPDHs to be reimbursed directly by MaineCare (Maine's nomenclature for Medicaid) as a care provider. Specific information pertinent to Independent Practice Dental Hygiene in the State of Maine can be found in the State of Maine Dental Practice Act, Licensing Statue for Independent Practice Dental Hygienists-Title 32, Chapter 16, Subchapter 3-B.

Fees for services in dental hygiene practices were found to be lower than their counterparts in private practice dental offices.[8] In Maine, the cost of an appointment at an IPDH practice was roughly <$100 than its equivalent in a dental practice.[1] Paying the dental hygienist directly rather than accessing hygiene care through a dentist makes care more affordable. More affordable services not only increases access to MaineCare patients but also the under and uninsured population.

The IPDH model of care delivery, also called collaborative practice, alternative practice or unsupervised practice, was developed primarily to reach a greater number of patients including Medicaid patients.[9] Years ago, few people thought of the business of dental hygiene as a career opportunity; however, it is now a rewarding career and thriving business for many.[10] According to the American Dental Hygienists' Association (ADHA), dental hygiene education was, historically, tailored to dental hygienists who plan to provide care in private practice dental offices. ADHA suggests changes must be made to advance current dental hygiene curriculum in order to keep pace with the evolving health care delivery system.[11]

The American Dental Education Association's (ADEA) Policy Statement: Recommendations and Guidelines for Academic Dental Institutions states that education institutions are encouraged to prepare students for evolving workforce models which will include interdisciplinary care and being part of a health team.[12] According to ADEA, dental hygiene programs specifically should:

"…prepare graduates for new and emerging responsibilities. Monitor and anticipate changes in supervision requirements within the state and modify the curriculum and extramural experiences of students so as to prepare them to provide more extended services in a variety of practice settings."[12]

The ADHA recommends programs redefine curricula to meet evolving oral health needs. Specifically, their recommendations are that dental hygiene programs:

"Evaluate the dental hygiene curriculum and create new models for entry level programs that address: oral health needs, training programs in community-based, underserved areas, community health and disease management, cultural competence, needs of special groups, health services research, public policy development, evidence-based research methodology and practice, and collaborative practice models."[11]

Some states, such as California, require dental hygienists to take an educational course in addition to their education requirements for registered dental hygienist licensure prior to receiving their license to practice in alternative settings. California's course is 150 hours consisting of training in management, business, dental hygiene practice and medically complex patients.[13] In Maine, there is no required course beyond the registered dental hygienist licensure education requirements necessary to obtain IPDH licensure. This leaves the responsibility for additional training necessary to succeed outside the private practice setting up to the dental hygienists to obtain on their own.

Previously, multiple surveys have been conducted asking alternative hygiene practitioners their thoughts about additional education requirements prior to licensing. A qualitative study of Limited Access Permit (LAP) dental hygienists in Oregon reported that LAP dental hygienists feel additional coursework should include organizational structure, billing, coding, prescription writing and public health delivery systems.[14] Similarly, a study of Colorado IPDHs reported accounting, computer science, management and marketing coursework would be beneficial to those dental hygienists interested in practicing independently.[15]

Beach et al suggests successful independent dental hygienists will be practitioners with a strong urge for entrepreneurship.[16] Research shows while only a few dental hygienists may want to own a practice, many more may be interested in working in this environment.[8] Independent dental hygienists will have to assume the risks and responsibilities for items such as equipment malfunction and repair, running a business, managing employees, and the financial burdens of owning a business.[16]

Literature suggests dental hygienists practicing outside the private practice dental office will need skills beyond what the traditional dental hygiene education curriculum provides. Some states require additional training prior to licensure for alternative practice, but for those which do not, it is unclear where the responsibility lies to ensure dental hygienists have adequate training. Although it has not been determined that it is the responsibility of basic dental hygiene education programs to prepare students for alternative practice, it can be agreed upon that the profession is changing. The ADHA and ADEA recommend programs begin to evolve to meet the needs of the changing profession and this study will provide dental hygiene programs with suggestions to enable compliance with this recommendation.

Methods and Materials

A survey design approach using both closed and open-ended questions was utilized. The survey was developed by the researcher, and while not validated, was reviewed by experts in the field of dental hygiene education and curriculum development. The survey was administered via telephone.

A convenience sample of 6 practicing IPDHs was selected from Maine. In an effort to capture the most relevant information for today's dental hygiene curriculum, only the most recent graduates actively practicing as IPDHs were selected; more specifically, those who graduated since the new millennium. Contact information was obtained through the Maine State Board of Dental Examiners. Through review of the Maine State Board of Dental Examiners records, it was determined that 6 IPDHs had graduated since the year 2000. Participants were read a statement indicating the voluntary nature of the survey and verbal consent obtained. All 6 participants contacted agreed to participate and although participants were able to withdraw at any time, all chose to complete the survey.

Questions addressed included:

1. What are the perceptions of practicing IPDHs in Maine about their educational preparedness for alternative practice environments?
2. What recommendations do the IPDHs have for inclusions in dental hygiene education to better prepare dental hygienists for alternative practice settings?

This study was reviewed and approved by the University of Texas Health Science Center San Antonio Institutional Review Board (IRB). The IRB also reviewed and approved the statement read to the participants to obtain verbal consent and determined that recorded consents were not required. Likert Scale data were analyzed using descriptive statistics in Microsoft Excel 2007®. Themes evolved from transcription of the narrative portion of the survey.

Results

The average age of the participants was 36 with a range from 26 to 51. All participants graduated from dental hygiene programs located in Maine. Graduation year ranged from 2001 to 2008. Three received an Associate of Science degree and the other 3 received a Bachelor of Science degree in dental hygiene. The participants had been practicing independently for an average of 2 years with a range of 1 to 4 years. The primary populations being served were reported as: MaineCare, low income, uninsured and, in one case, residents of long-term care facilities. All the IPDH practices represented in this study were located in a rural setting. Of the participants, 3 used traditional fixed dental equipment, the others used mobile. Although the equipment was reported as mobile, 2 of the 3 participants who reported using mobile equipment used it in a fixed location. All participants were owners of their practice, and only 1 reported having employees.

Participants responded to 10 questions based on a 4 point Likert Scale. The response choices were 1=Strongly Disagree, 2=Somewhat Disagree, 3=Somewhat Agree, 4=Strongly Agree. The most common response was "Somewhat Disagree" and the least common response was "Strongly Agree."

The 10 Likert Scale questions can be grouped by topic including exposure to public health (questions 3, 5, 6, 7), exposure to alternative practice environments (questions 2, 9) and overall perceptions of preparedness for the participant's chosen career path (questions 1, 4, 8, 10). When comparing responses to the topics, the IPDHs reported the lowest level of satisfaction with the exposure to alternative practice settings they received in their education. Of the 3 topics, none received overall positive responses (Table I).

The first open-ended question of the survey was: "Please describe your educational experiences with alternative practice setting career opportunities." Two responded that extramural internships were an integral part of their educational exposure to alternative practice settings. Two reported their only exposure was in the classroom through discussion in public/community health courses. One participant described visits to local schools to perform screenings as alternative practice exposure. Four stated they received inadequate exposure to alternative practice settings during their education.

The second open-ended question was: "Please elaborate on your level of interest in public health careers during your education and, if appropriate, how your education impacted that level of interest." Most survey participants felt their education impacted their interest in public health minimally or none at all. Various reason were given such as they did not have enough public health exposure in their education to make an impact, they already had decided on a career in private practice dental offices prior to entering dental hygiene school, or private practice was portrayed as more appealing. Although their exposure to public health was mini-

Table I: Respondents' Frequency of Agreement or Disagreement toward Survey Statements Question and the Topics for Each Question

Survey Questions	Question Topic	Strongly Disagree=1	Somewhat Disagree=2	Somewhat Agree=3	Strongly Agree=4
Q1. I am satisfied with the preparedness I received during my dental hygiene education program for my chosen career path	Overall preparedness for chosen career path	1	3	2	0
Q2. I feel as though I was given ample opportunity to learn, explore, and pique my curiosity about alternative dental hygiene careers during my dental hygiene education	Exposure to alternative practice settings	2	3	1	0
Q3.I fell as thought my level of interest in public health careers was impacted in some way by my dental hygiene education problem	Exposure to Public Health	1	1	4	0
Q4. I feel as though ALL skills necessary to my current practice choice were included in my education	Overall preparedness for chosen career path	2	2	1	1
Q5. Upon graduation I felt very well informed about how to make an impact on the underserved population I was interested in helping	Exposure to Public Health	1	3	2	0
Q6. My dental hygiene education program helped be identify and underserved population I was interested in helping	Exposure to Public Health	1	3	0	2
Q7. During my dental hygiene education, I was well informed and made aware of the unmet dental needs existing in my own state	Exposure to Public Health	2	0	2	2
Q8. I feel as though I gained adequate clinical experience in alternative practice environments to prepare me for my chosen career in dental hygiene during my dental hygiene education	Overall preparedness for chosen career path	1	3	1	1
Q9. My dental hygiene education exposed me to a variety of practice environments available to me as a dental hygienist	Exposure to alternative practice settings	2	2	0	2
Q10. My dental hygiene education prepared me well for practice environments outside of the private practice dental office	Overall preparedness for chosen career path	0	4	2	0

mal, 2 participants were greatly impacted because they were able to witness the needs of underserved patients being met. They felt witnessing a change they could make first hand, was much more life changing than reading it in a text ever could be. They both credited this as a key moment in defining their career choices.

The final open-ended question was: "Please explain what you feel would have been helpful in your dental hygiene education that could have better prepared you for your current career practice choice." Of the 6 participants, 4 stressed that business training should be added to dental hygiene education to prepare students for independent practice. They stated financial, legal, business plan

creation and marketing were areas of owning a business they wished they'd been better trained in. Two participants said communication skills should be a greater part of dental hygiene education programs. Interpersonal, interprofessional and dental team communication skills were noted as important components of a successful independent practice business. One participant specified that empathy and compassion training is necessary because in alternative settings a clinician is more likely to encounter difficult situations and being able to handle these with finesse would facilitate better patient care.

One respondent felt strongly that a better understanding of treatment and referral procedures was necessary for those dental hygienists practicing independently. When working alone, relying on other dental professionals in the office to help treatment plan, refer, and guide would not be an option. Therefore, having a good understanding of when to refer to a dentist for more treatment beyond the scope of the IPDH practice is necessary to optimize patient care.

Discussion

Dental hygiene practice possibilities have changed in Maine with the advent of IPDH. Students in Maine have this career option available to them; however, the participants in this survey suggest a lack of preparation from their current dental hygiene curriculum. The participants described their overall dissatisfaction with alternative career experiences during their dental hygiene education. While they did feel prepared by their basic dental hygiene program for traditional private practice, they did not feel well prepared for their chosen career path as IPDHs and were not given ample opportunity to explore alternative practice settings.

Maine does not require additional education prior to IPDH licensure; however, all participants agreed further training is necessary. Some states require training prior to alternative practice licensure, but for those who do not, where does the responsibility lie? ADEA and ADHA suggest dental hygiene programs evolve to meet the changing needs of the profession and this includes preparing students for all opportunities available to them as dental hygienists.

Better preparation could be accomplished by adding elective courses and experiences designed to educate, inspire and motivate the student interested in alternative dental hygiene practice. Additional courses should include business, communication, and additional training identifying needs which are beyond the dental hygiene scope of practice for referrals, as well as increased exposure to alternative practice settings through extramural internship opportunities.

When discussing exposure to alternative practice settings, participants felt extramural internships/experiences, and exposure through public/community health class discussions were the most impactful experiences they engaged in during their education; yet this exposure was minimal. This study demonstrates an appreciation and desire by students interested in public health dental hygiene to have programs with curriculum that nurtures and grows the extramural internship experience. One participant suggested that extramural experiences should include a variety of populations and not be limited to children so the student may gain a broader understanding of the multitude of underserved populations.

Further suggestions for educational programs emerged during the open-ended questions. Although extramural internships were identified by respondents to create the most exposure to public health practice settings, exposure to public health settings could also be accomplished in the classroom. Students could research various underserved populations and ways to meet their needs. Once students have identified a population of interest, they could create a business plan that would prepare them for future career prospects. Speakers could be invited into the classroom to discuss their own personal experiences in alternative dental hygiene positions. This would bring reality and create human connection to alternative practice settings. This would differ from the traditional community health course by emphasizing the career opportunity aspect of alternative settings as opposed to the public health component.

Participants felt elective courses should be offered to students planning to practice independently. Shadowing various dentists and office management for one semester to gain better knowledge of all aspects of dentistry was suggested. If a dental hygiene school has connections with a dental school, there should be ample opportunity for dental and dental hygiene students to collaborate, integrate and learn from each other in a mutually beneficial classroom/clinical/long-term care or hospital setting.

A communications elective including skills for communicating with both other professionals and patients was also suggested. One participant described their job duties "in the field" as more communicative than clinical. It was reported that more

time is spent educating patients, caregivers and working with other health care professionals than providing clinical services. Therefore, having advanced communication training would be ideal.

Participants also felt elective coursework in business would greatly benefit those wishing to engage in entrepreneurial business ownership. This would also be an opportunity for interprofessional training by allowing dental hygiene students to participate in a business course which is geared toward the health care professional.

A limitation of this study was that recent graduates with the most current information about student education experiences are not eligible for IPDH licensure until acquiring a minimum of 2 years of dental hygiene experience. Another limitation was that only 6 practicing IPDHs graduated since 2000. Although they all agreed to participate, the number of responses was limited along with the opportunity for random selection. It should also be noted that 3 of the participants graduated prior to IPDH legislation passing in the State of Maine in May 2008.

Continued research using this survey can be used to expand the number of participants in Maine and extend to other states with alternative practice licensure. Expansion of the research is important as more relevant information will surface as IPDHs who graduated following the enactment of IPDH legislation are licensed. Additional research should be done to determine how current dental hygiene programs are meeting the changing needs of Maine's Dental Hygiene scope of practice.

Conclusion

This study demonstrated that participants did not feel the current level of dental hygiene educational programs fully prepared them for their career choice. Meeting the needs of students now includes those students who will one day practice independently outside the private dental practice, or in alternative settings. The responsibility to prepare students for business ownership and independent practice may not lie entirely within the basic dental hygiene curriculum, but as the field of dental hygiene changes so dramatically, there is a responsibility for programs to adjust their methods to align with these emerging priorities. This study shall serve as the beginning of the conversation, not the complete answer, nor the end. It does not provide all the answers, but it does identify a deficit and begin to discuss the changes necessary to meet the needs of graduates.

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