ADVOCACY FOR THE PROVISION OF DENTAL HYGIENE SERVICES WITHIN THE HOSPITAL SETTING: DEVELOPMENT OF A DENTAL HYGIENE STUDENT ROTATION

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Editor's Note

Compassion for hospitalized patients whose oral health care needs are not being optimized was the stimulating force for the creation of a hospital-based rotation for dental hygiene students. Read how the advocacy efforts of these committed dental hygienists made the rotation a reality and learn how to advocate for a similar cause.

ABSTRACT

Educational preparation of dental hygiene students for hospital-based practice, and advocacy efforts promote inclusion of dental hygienists within hospital-based interdisciplinary health care teams.

Background and purpose

Although the value of attending to the oral care needs of patients in critical care units has been recognized, the potential impact of optimal oral health care for the general hospital population is now gaining attention. This article describes a hospital-based educational experience for dental hygiene students and provides advocacy strategies for inclusion of dental hygienists within the hospital interdisciplinary team.

Methods

The dental hygienist authors, both educators committed to evidence-based oral health care and the profession of dental hygiene, studied hospital health care and recognized a critical void in oral health care provision within that setting. They collaboratively developed and implemented a hospital-based rotation within the curriculum of a dental hygiene educational program and used advocacy skills to encourage hospital administrators to include a dental hygiene presence within hospital-based care teams.

Conclusions

Hospital-based dental hygiene practice, as part of interprofessional health care delivery, has the potential to improve patient well-being, shorten hospital stays, and provide fiscal savings for patients, institutions, and third party payers. Advocacy efforts can promote dental hygienists as members of hospital-based health care teams. Further research is needed to document: (1) patient outcomes resulting from optimal oral care provision in hospitals; (2) best ways to prepare dental hygienists for career opportunities within hospitals and other similar health care settings; and (3) most effective advocacy strategies to promote inclusion of dental hygienists within care teams.

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INTRODUCTION

"Oral health care is often excluded from our thinking about health (and is) commonly regarded as peripheral to health care and health care policy." This statement from the Institute of Medicine within the document, *Advancing Oral Health in America,* is particularly relevant to care provision within the hospital setting.[1]

When dental hygienists provided hospital-based services in the 1950s-1980s, the hospitals were usually associated with university-based medical and dental schools.[2] In 1983, an analysis of cost management issues associated with hospital dental services reported that because educational services provided to patients by dental hygienists were nonbillable, these services were not warranted in the hospital care delivery system. The analysis further found was that a dental hygienist provided limited contributions as an "oral health information resource" for nondental hospital staff. This outcome supported their elimination except for positions within in-house ambulatory dental clinics with fee-for-service reimbursement.[2] This analysis in the early 1980s focused only on traditional dental hygiene clinical debridement-based services as a revenue generating entity because little was known about oral-systemic relationships. Dental hygienists had little direct bedside patient contact as oral care was solely within the purview of the nursing staff despite their limited education in principles of oral health.[3,4] Most oral health care protocols were not evidence-based because nursing textbooks included only basic information about the oral cavity.[5] Certified nursing assistants were the personnel most often responsible for oral health care provision. Oral assessments conducted by nurses, rather than dental hygienists, demonstrated that nurses significantly underreported or inaccurately reported oral diseases and conditions.[6]

Since 1990s, with the combination of the fee-for-service or insurance-driven dental care delivery system, the vast majority of US dental hygienists are employed in private settings.[7,8] The inclusion of a dental hygienist in hospital settings varies globally.[9] A 2010 survey of members of the International Federation of Dental Hygiene revealed that dental hygienists have been consistently employed for decades in hospitals in many countries including England, Canada, The Netherlands, Belgium, Israel, Australia, and New Zealand.[10] Dental hygienists reported working in many hospital-based arenas including oncology, geriatric, developmentally disabled, speech and swallowing, and cardiac. They described simultaneously serving as clinicians, oral health patient educators, and oral information resources within the hospital. Interprofessional collaboration was routine and expected.

Recently, improved patient outcomes and institutional oral health care cost-savings have been documented by including a dental hygienist within the critical care team.[11,12] Based on existing international precedents,[10] the evidence regarding contributions of dental hygienists in hospital-based settings,[12] the relationship between oral bacteria and the development of nosocomial pneumonia with associated additional 5-7 hospital days per case and billions of dollars in health care costs,[13,14] and the limited oral health background/education of current hospital staff,[15] the time for inclusion of dental hygienists within hospital-based care teams has arrived.

Goals of the Dental Hygiene Student Hospital Rotation

For the student rotation, the initial goal of dental hygiene education program director and coauthor (L.S.) was for dental hygiene students to determine the oral health needs of the hospitalized patients in order to develop individualized patient oral health care plans. Because most patients relied on Medicaid or Medicare in this semirural area, a secondary long-term goal of the student rotation was to connect the patients with local oral health care resources such as the college dental hygiene clinic and the local Federally Qualified Health Center as part of discharge planning. A tertiary goal of the rotation was to increase the awareness of the hospital administrators regarding the impact of oral health on systemic health with data gathered during this rotation. Preventing any potential problems or emergencies for the health-compromised cardiac patients was also essential. After several meetings with hospital administrators, a medical board representative, and the hospital education coordinator, the dental hygiene student 8-week cardiac care unit rotation was approved.

METHODS

To prepare dental hygienists for hospital-based dental hygiene practice, a hospital rotation was developed for students in the final academic quarter of their dental hygiene educational program. After regional networking efforts, a semirural hospital was selected as the most appropriate institution to introduce the dental hygiene student rotation. The college dental hygiene program director met with the vice president of nursing services/chief nursing officer of the hospital to share scientific evidence regarding the positive impact of oral health on general health, especially for cardiac unit patients with periodontal disease.[16,17] Educational benefits for the students were also elucidated.

Before the hospital rotation, students were required to complete an Health Information Portability and Accountability Act (HIPAA) tutorial, and two orientation online courses required for all hospital employees. Hospital administrators expressed concern about the severe illness of the cardiac care patients and requested dental hygiene students *not to use* "floss, explorers, periodontal probes, or other dental instruments" in patient's mouths because

these might "cause" gingival bleeding. To promote successful future collaboration between the dental hygiene program and the hospital, educators agreed to these directives. This administrative directive underscored the general misunderstanding in medical circles of the etiology and significance of gingival bleeding and further supported the need for hospital-based dental hygienists as a resource for evidence-based oral health information and for collaboration with hospital administrators and staff. Not having previously worked with dental hygiene students, the hospital administrators felt it would be particularly important to consider the reaction of the charge nurses.

RESULTS

Interactions with the nursing staff provided an interesting revelation for the college faculty and students. Many of the nursing faculty, hospital staff, and nursing students described the mouth as a "repulsive," "gross," and a "foreign place" that they wished to avoid at all costs, an observation that has been documented elsewhere.[18] Nurses often view oral hygiene attempts as more about comfort than removal of potentially pathogenic microbes.[19] For example, even though nursing and other staff were aware of patients' severe oral malodors, oral inspections to identify the source of the odors were not normally conducted during hospital stays.

It was also observed in the cardiac unit that the bedside oral care provided by the certified nursing assistants was not evidence based.[4] It was learned that their training consisted of the traditional approach of using dental swabs for oral debridement and for providing moisture for patients complaining of dry mouth even though such swabs were documented decades ago as ineffective in removing oral biofilms.[3,13,18,20] The nursing and other hospital personnel seemed relieved that the dental hygiene students, or later, a registered dental hygienist, might care for this "repulsive," "gross" part of the human body.

With input from the hospital staff, the educators developed a patient oral health screening tool to assess and record signs of periodontal disease based on visual examination and patient-reported periodontal disease symptoms. About half of the cardiac unit patients were edentulous or partially edentulous with narrowed alveolar ridges and significant areas of gingival recession. When questioned whether in the past anyone had talked with them in the past about periodontal disease, most responded that they had not. Further questioning revealed poor understanding of periodontal disease sequelae evidenced by patient's descriptions that their bone had either "shrunk" or "dissolved away." Calculus, recession, inflammation, gingival edema, and erythema were commonly observed during visual examinations. Many patients reported that they had not had a dental visit for more than 5 years. Patient oral health literacy and knowledge about evidence-based oral-systemic links was generally poor or nonexistent, particularly in those who were edentulous. Many patients served by Medicaid or Medicare did not have access to consistent dental care and the majority lacked a dental home. Table 1 displays data collected from the 8-week rotation based on visual examinations and revealed that 39% of the 56 cardiac screened patients appeared to have gingival or periodontal disease symptoms.

DISCUSSION

Ideally, from an educational perspective, the rotation would have been designed so that students would use dental instruments to (1) conduct comprehensive periodontal evaluations; (2) provide other expanded dental hygiene services; and (3) collect additional data of existing oral conditions including dental charting: and (4) develop individualized oral care treatment plans. However, it was important at the outset to comply with administrator's preferences regarding intraoral procedures.

The initial rotation, in addition to achieving all original goals, had an important outcome of gaining the professional trust of the nursing staff. The nursing staff stated that the oral assessments conducted by the dental hygiene students complied with and complimented present nursing staff instructions and protocols and ameliorated their work load. They also reported that the students knew and maintained appropriate asepsis protocols. In addition, family members or spouses, who were often present during student conducted oral health screening and education efforts, expressed enthusiasm for these encounters, and actively shared in the learning experience.

During the examination of one particular patient, dental hygiene students identified an oral 'sore spot' exacerbated by wearing an ill-fitting lower partial denture. The dental hygiene student reported the finding to her instructor who then explained the patient's oral condition to the charge nurse. Only then was a soft diet initiated, enabling the patient to resume eating without wearing the painful prosthetic. The dental hygiene instructor's input clarified for the charge nurse why the patient was refusing food. The student's advocacy on the patient's behalf resulted in the patient no longer being viewed as a 'difficult patient', but more accurately, as one experiencing mastication-induced pain. This experience underscores the valuable contributions that dental hygienists can make toward patient well-being.

Future Educational Plans

A 9-month rotation is planned for 2015-2016 academic year with the hope of expanding to additional hospital patient populations. The ultimate goal is the inclusion of registered dental hygienists in the hospital settings whose responsibilities

Table 1. Planning and mobilization strategies[a].

Planning strategies

1. Conduct a SWOT analysis[21] of the potential for change.

2. Recognize that hospital-based dental hygiene practice could be perceived as a disruptive innovation and plan for possible resulting reactions.[22,23]

3. Honor and address the impact of "organizational change" as an ethical responsibility[24]

4. Learn to be an effective listener

Mobilization strategies

1. Creative networking
   a. Seek out diverse stakeholders and allies
   b. Find a champion, someone of influence who will take up the challenge.

2. Provide an evidence-based reason to change. Determine the following:
   a. What do *they* value ("*they*" as hospital administrators, department heads, professional associations, special population advocacy groups, legislators, identified change agents, etc)?
   b. What do they *need to know* before they will join your cause?
   c. How will the proposed changes impact their job and function?
   d. Show the identified ally a *motivating locus*, a reason to change specific to that ally's interest.

3. Read *Thinking in New Boxes*,[24] a 5-step process by consultant/economists, Luc De Brandere and Alan Iny, which stresses using both inductive and deductive thinking:
   a. "Doubt Everything" scrutinize your hypothesis, what you hold as "truth"
   b. "Probe the Possible": examine your world, identify changes
   c. "Diverge": create *new* models, concepts
   d. "Converge": analyze, test ideas
   e. "Re-evaluate Relentlessly": now idea remains good forever!

4. Explore the University of Kansas[25] *Community Tool Box Best Practices to Effect Change* which focuses on
   a. Assessing, prioritizing, planning
   b. Taking targeted action
   c. Changing community care systems
   d. Achieving widespread change in behavior and risk factors
   e. Improving population health and development

5. Advocacy, advocacy, advocacy
   a. Find and use your voice
   b. Know relevant legislators and let them know you.
   c. Share the research, the need for Dental Hygiene Practice Act reform, SWOT Analysis data, solutions to administrative logistical concerns with others whenever appropriate.
   d. Identify and engage other relevant "power brokers," interprofessional associations, nonprofit organizations, advocacy groups for minorities, the underserved.

6. Money $$$ talks!
   a. Review the literature; share the research, know the facts. This workforce change will save money as well as lives. Share the fiscal efficacy of patient outcome improvements and expanded dental hygiene functions/opportunities.
   b. Talking points: Hospital Dental Hygiene Practice has been proven to be[11,12]
      i. safe
      ii. cost-effective
      iii. improved patient outcomes

[a] The author attests that she has no professional or other connections with and is unknown to De Brabandere & Iny nor has the author received any compensation of any kind from De Brabandere & Iny.

would include (1) assessment of every hospitalized patient to determine their oral health status; (2) development of collaborative team-based oral health care protocols including education for nursing staff; and (3) discharge recommendations and referrals to promote follow-up dental care and a secure dental home. A long-term goal was creation of a hospital onsite clinic to serve as a

- site for dental conditions referred from the emergency department for dental conditions
- dental home for referred Medicaid and Medicare patients.
- benefit of employment and to incentivize optimal employee wellness

Advocating for Dental Hygienist Hospital-based Practice

Coauthor (J.A.J.) was motivated to explore incorporation of dental hygienists in hospitals because of (1) emerging evidence of oral-systemic connections;[16,17] (2) limited oral health background of the medical providers, especially regarding preventive modalities;[5,15] and (3) the recently changing dental hygiene employment climate.[8] Discussions with hospital administrators revealed that they were generally unaware of state laws defining the scope of dental hygiene practice dental hygiene educators' educational qualifications, and the concept that direct-access dental hygienists could bring benefits to the hospital.

To date, hospital-based dental practice has been largely limited to research and teaching hospitals, with associated dental schools, and special oncology settings.[9,10] Currently, only a few states employ dental hygienists in hospitals, often these are associated with dental schools.[26] Despite evidence of the benefits, barriers to incorporation of hospital dental hygiene practice need to be addressed. These include

- practice act changes
- recognition by hospital financial officers of the cost efficiencies of hospital-based dental hygiene services
- reappropriation of hospital fiscal resources to include dental hygienist team members
- coordination of in-house patient care with the patient's existing dentist
- identification of a 'dental home' for patients without a dentist of record.
- integration of hospital dental hygiene care with physician's orders, other hospital protocols, and existing "dental home"

Although scopes of practice differ among states, 'direct access dental hygiene practice' has been defined as "the ability of a dental hygienist to initiate treatment based on their assessment of a patient's needs without the specific authorization of a dentist, treat the patient without the presence of a dentist, and maintain a provider-patient relationship."[27] There are 38

Table 2. Summary of initial student hospital rotation.

Category	Results
Demographics	No. of patients screened: 56 (27 males, 29 females)
	Average age: 57 y
Systemic disease status	Most common comorbidities: rheumatoid arthritis, cancers, dual diagnosis of cardiovascular disease, and diabetes
Oral status	Maxillary denture or removable partial denture: 52%
	No reported periodontal disease: 57%
	Reported periodontal disease: 39%; not applicable (not able to examine): 4%
	Periodontal condition (visual examination): 23%; moderate-severe calculus/gingivitis/edema: 47%; slight calculus/gingivitis/edema: 14%; not applicable (not able to examine): 16%.
	Tobacco use: past: 49%; current: 19%; none: 30%
Access to dental restorative services	>5 y: 23%; past 1-4 y: 20%; past 6-12 mo: 14%; past 6 mo: 43%
Access to dental hygiene services	>5 y: 39%; past 1-4 y: 19%; past 6-12 mo: 11%; past 6 mo: 31%

states with direct-access provisions in the dental hygiene practice act which can provide the opportunity for dental hygienists to contribute within hospitals and other settings without the direct supervision of a dentist.[28]

Advocacy efforts are aided by studying the dynamics of innovation diffusion theory, change theory, and application of change advocacy 'principled negotiation' skills.[29,30] The process of implementing hospital-based dental hygiene services requires knowledge of evidence-based research, collaboration and advocacy skills, patience, creativity, flexibility, diplomacy, commitment, and perseverance. For those beginning this process, **Table 2** provides helpful strategies for the advocacy journey.

SUMMARY

Hospital-based dental hygiene practice as part of collaborative interprofessional health care delivery can improve patient outcomes and provide fiscal savings for both patients and institutions by shortening hospital stays.[11,12]

A dental hygiene hospital-based rotation, similar to that described here, could be implemented by other dental hygiene educational programs. Continued oral-systemic research may provide additional data regarding the value of oral health for a variety of hospitalized and *post*-hospitalized patients.

Hospital-based dental hygiene practice benefits the hospital, patients, and providers. Dental hygienists are ideally suited as a resource for other health care team members and for patients in hospital settings. Direct-access dental hygienists in permitted states are one approach to providing this workforce.

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