The Importance of Developing Communication Skills: Perceptions of Dental Hygiene Students

Kimberly K. Walker, PhD; Richard D. Jackson, DMD; Lisa Maxwell, LDH, BS, MSN

Abstract

Purpose: The purpose of this study was to gather data from first- and second-year dental hygiene students concerning their perceptions of the benefits and possible impediments to effective patient communication. Additionally, the students were asked to theorize as to the impact emerging communication technologies could have on oral health promotion, practice administration and patient/provider communication.

Methods: A self–administered questionnaire of 6 open-ended queries was employed. Thematic analysis was conducted to reveal themes related to their perceived ability to effectively communicate, perceived barriers to communication, possible solutions to lessen or eliminate these barriers, and the impact of emerging technologies on interpersonal communication.

Results: The questionnaire was completed by 63 of 68 students (93%). Patient apathy and patient unwillingness to change detrimental health-related habits were the most frequently cited barriers to effective communication. Of the students having patient contact, many stated that they were less sure of their ability to communicate effectively if the patient differed from themselves, such as being elderly or being from another culture. While most of the students believed their fundamental communication skills were good, many noted that improving their higher-order skills, such as conveying empathy or displaying a nonjudgmental attitude, were essential to being more effective communicators. Many students felt emerging technologies such as universal translators could potentially assist them in overcoming some of their perceived deficiencies.

Conclusion: While perceived inadequacies will likely diminish as the students gain more experience in school and later in private practice, dental hygiene programs may wish to consider implementing additional structured educational experiences to better prepare students to address patient apathy and to effectively convey a sense of personal compassion. Promoting student involvement in community outreach activities and providing a variety of service learning opportunities, including foreign travel, may broaden student experiences and deepen their awareness and appreciation of verbal and nonverbal communications displayed by differing cultures.

Keywords: behavioral research; dental and dental hygiene workforce models; education concepts and theory; health literacy; qualitative analysis

This study supports the NDHRA priority area, **Health Promotion/Disease Prevention:** Assess strategies for effective communication between the dental hygienist and the client.

Introduction

As health educators, dental hygienists are salient contributors to comprehensive health care, and they are often a source of information concerning the risks and benefits of proposed dental treatments.[1] Because of their focus on communication and education, they can develop trusting relationships, which may increase patients' adherence to recommendations and regimens proposed by the dentist.[2] Patients' expectations of obtaining quality oral care often lie more with the dental team's ability to communicate effectively and with establishing positive interpersonal relationships than with the provider's technical competence and clinical expertise.[3] Two-way communication that promotes dialogue and mutual respect plays a crucial role in minimizing barriers and strengthening the patient/provider alliance.[4] Positive communicative interactions can enhance the value patients assign to participation in their own health care and are "key to influencing how well people's lives can go."[5]

However, improving patient outcomes through the facilitation of communication and the development of strong interpersonal relationships is more complicated than ever. Today, patients are likely to be treated by multiple health care providers. They may

be seen only briefly by these providers, and they may receive contradictory health information if coordination of treatment between the providers is lacking. In addition, patients having poor health and electronic-literacy skills may be incapable of accurately processing and conveying information read online, leading to further confusion. Conversely, proactive patients with good literacy skills will expect productive, two-way communication between themselves and the provider.[6] Practitioners must be willing to spend the time and effort to communicate effectively with their patients regarding the information and the misinformation brought to them by their patients.[6]

Another complication to effective communication is the growing ethnic and cultural diversity of the United States, which makes it increasingly unlikely that patients will be thoroughly conversant in English. In addition, cultures do not share a universal pool of nonverbal cues. Therefore, it is imperative that the practitioner not only understands what is spoken but also the nonverbal context in which information is given, including gestures, facial expressions, maintaining personal space, touching, eye contact and other cultural norms.[7]

While a number of the core competencies in dental hygiene education relate to interpersonal communication, displaying empathy, caring for the individual and promoting health at the personal level, little data are available describing how students in these programs perceive their ability to attain the desired level of competency. The purpose of this study was to incorporate student voices in research to learn of their perceptions of communication and interpersonal relationship needs, as well as to learn of their perception of the barriers and benefits to effective communication and technologies relevant to future practice.

Methods and Materials

Sample and Materials

After being approved by the Institutional Review Board (IRB) of Indiana University, an open-ended survey consisting of 6 questions was distributed to 2 large first- and second-year dental hygiene classes at Indiana University School of Dentistry. The data were collected anonymously during the latter part of the fall semester. The questionnaire gathered data from these students concerning their views of the importance of possessing effective communication skills, their perceived ability to communicate effectively based upon their personal experiences and observations, the barriers they had encountered or observed during their own or while observing other students' interactions with patients, and their thoughts concerning the impact that emerging technologies could have on interpersonal communication. The respondents were also asked to provide potential solutions to the barriers they had encountered or observed. Participation in the study was not required of the students.

An inductive thematic analysis using the constant comparative method was conducted on the open-ended questions to uncover themes related to the students' perceptions of the aforementioned communication beliefs. A constant comparative methodology was employed to allow continuous comparison of newly collected data that had been coded. Open coding was initially developed with a pilot sample of responses reviewed and agreed upon by the authors. The data were then categorized using selective coding, which allowed connections to be made between categories.[8] The constant comparative analysis method is useful for comparing data from multiple open-ended interviews/questions and focus groups.[8] (See Table I for examples of codes.)

Results

Sixty-three of 68 students completed all sections of the questionnaire for a response rate of 93%. Questionnaires that had incomplete responses or unanswered questions were not included in the tabulation and analysis. Of the 63 students, 29 were first-year students and 34 were second-year students. The majority of the respondents were female (n=58), self-identified as Caucasian (n=62), and were native to the United States (n=58). There were no significant differences in demographic characteristics between the 2 classes.

Eighty-two percent of the students reported having some experience working with patients. All second-year students reported interacting with patients in the school's on-site or off-site clinics. Sixty percent of first-year students reported experience working with patients, either by providing care, observing other students' patient interactions, or through previous work experience, primarily in the role of a dental assistant in private practice.

Question 1: Do you think you use communication effectively? What types of communication do you feel you do well and what types do you feel less comfortable with?

Overall, the majority of students believed themselves to possess adequate basic verbal communication skills, although ratings of being "somewhat effective" or "not confident" were more frequent from first-year students. Both groups of students believed their writing skills and their use of nonverbal communication to be less well developed in comparison to their verbal skills. Both years also felt confident in using visual aids for demonstration, displaying respect and encouragement to their patients, and

communicating with the aid of a translator. Students reported less confidence communicating technical and detailed health information and communicating with patients differing from themselves, including patients from other cultures and those who are much younger or older.

Question 2: "What are the most important communication issues/barriers you have experienced or observed with patients?

The responses from both years could be divided into patient-related and provider-related responses. For all students, the most common patient-centered impediment to effective communication was believed to be patient apathy or inattentiveness. This included communicating with patients who were perceived to be less than truthful concerning their oral habits and communicating with those who stated they were unwilling to change their oral hygiene behaviors. As a result, students felt the time and efforts to communicate with such patients were "wasted." Less commonly, poor health literacy, patient physical disabilities (eg hearing disabilities), and language differences were also cited.

On the provider side, two barriers were cited. The first was having insufficient time during the appointment to affect positive patient change, and the second was the inability to eliminate or minimize dental jargon when discussing oral health. Lack of time was cited more often by students who had treated patients in the off-site facility.

Question 3: What communication skills or abilities do you think a dental hygienist must have today?

Second-year students overwhelmingly believed good speaking and writing skills are important to today's practice. First-year students agreed but were more likely to put such skills in the context of being able to communicate at the individual patient's level. All students identified the ability to communicate empathy as being of primary importance as well as having active listening skills and being multilingual, including the ability to sign.

Question 4: What areas of communication do you think will be important to you in your future practice?

The ability to communicate without jargon, write clearly and correctly, and keep abreast of new technologies for patient education were the skills most often cited as necessary to future practice. Displaying empathy, conversing in a nonbiased, nonjudgmental manner, and adapting information to account for different levels of health literacy were mentioned with less frequency. First-year students mentioned the importance of being able to communicate to achieve the trust and respect of patients as well as to project confidence when communicating with patients more often than did second-year students.

Question 5: What trends in communication do you perceive to be "up and coming" in dental hygiene? Why?

The use of digital information and technology such as intraoral cameras and the ability to communicate utilizing mobile technology were considered very important by a majority of students. Mobile technology was seen as being useful for reminding patients of appointments, maintaining oral care regimens between office visits through personalized reminders and as a possible tool for recruiting new patients. The use of universal translators was also seen as important in dealing with a more diverse patient population in the future.

Question 6: What communication skills do you think would be useful to learn or explore in your education?

The skills most often listed as being the ones they wanted to learn mirrored those they believed to be "up and coming": the ability to communicate via technology and media and the ability to work with universal translators to communicate with patients who speak foreign languages. Some first-year students also reported wanting more experiences to improve their interpersonal communication skills with patients and increased training designed to develop and display a confident persona when relaying technical information. (See Table I for examples of quotes.)

Discussion

The perspectives of the students that responded were similar regardless of the year of training in identifying potential barriers to effective communication, current and future communication needs in hygiene practice, and technologies that could allow more effective interpersonal communication. Similarly, all students indicated that their interpersonal communication skills would benefit once their higher-order communication skills improved, particularly when interacting with the very elderly or the very young, with those with physical impairments, and with those with poor literacy skills. It is commendable that the students placed such high value upon attaining these higher-order skills.

Patients place value on having a supportive and empathetic dentist and a dedicated dental team and respond favorably to suggested changes in personal behavior and attitudes toward maintaining their oral health.[3,9] The inclusion of patients having seri-

ous medical conditions as part of student education has proved effective in helping students to relate to patients undergoing life-threatening illness.[10] Videos of patients describing their dental experiences have also been shown to be effective in raising students' awareness of the importance of empathy toward patients.[11] Earlier and additional exposure of students to a greater number of these experiences could allow them to develop confidence in projecting empathy. In particular, as the population ages, interacting with elderly and infirm patients will be more common, and the ability to show concern for their condition will be of importance.

In the study, most students felt the most difficult people with whom to effectively communicate with were unwilling or complacent patients. This perception was slightly stronger among students who reported being assigned to the off-site facility and may be related to the shorter appointment times and rotational nature of the experience, which often results in an inability to interact with the patient at subsequent visits. This may have also been the cause for perceptions of not being successful in modifying their patients' attitudes concerning their oral health, as previously noted. Patients seen at the school's clinics are often treated by the same student over a long period—sometimes over several years. Therefore, multiple opportunities to communicate and form relationships with these patients exist.

However, there are communication techniques that are potentially amenable to motivating even the most complacent patient. Prospect theory research postulates that the way information is framed, in terms of losses or gains, can affect people's decisions to protect their health.[12] In health communication, a loss-frame refers to phrasing an argument in terms of the consequences that will occur if a behavior/treatment is not undertaken.[13] A gain frame takes the opposite approach. A recent meta-analysis of the effects of prospect theory on health behaviors, including dental health, demonstrated individuals tend to be more motivated to perform detection behaviors (e.g. screenings) when the communication is phrased in terms of what the patient will lose. Conversely, patients are more inclined to perform preventive behaviors (e.g. brushing and flossing) when the message is phrased in terms of what will be gained.[14]

It may be of benefit for students to be given additional education concerning the use of prospect theory in motivating patients to perform desired behaviors. A line of future research may be to conduct seminars in health communication theories and experimentally compare patient adherence outcomes between dental hygiene control groups who have not participated in seminars and experimental groups who have. The results did find that first-year students verbalized a greater recognition of the importance of applying oral, written, and nonverbal skills at the patient's level than did second-year students. However, this is stressed repeatedly early in the first year of their education, and the difference seen may be just a reflection of the most recent discussions heard rather than true response differences. A notable difference between first-year and second-year students was that first-year students felt less confident in their overall ability to communicate, including by telephone, and in their ability to convey confidence when interacting with patients. These results are typical of differences between students who have had less clinical experience with patients in other health fields.[15] In a meta-analysis of educational strategies that increase confidence in communication and interpersonal skills, clinical experience had the greatest influence upon developing confidence—more so than peer or faculty mentoring.[16] The perceived lesser confidence expressed by first-year students may indicate the need for earlier clinical experiences communicating with patients or utilizing objective structured clinical examinations (OSCE) with faculty feedback.

Students in this sample were also very aware of the various cultures represented in their work and the need to communicate effectively with a wide range of health beliefs, status, and behaviors, yet, understandably, perceived it to be a more challenging aspect of care. Cross-cultural adaptability is a two-way process, in which both the patient and provider are influenced by factors such as attitudes, beliefs, behaviors, interpersonal relationships, environment, education, and economic conditions.[17] Integrating cross-cultural experiences into a curriculum can help students develop cross-cultural competency. Service learning projects are one means for allowing educational experiences that can foster understanding of the social, cultural, or economic factors impacting underserved populations. Service learning experiences can be implemented domestically or internationally. All dental hygiene students at IU are required to participate in 9 hours of service learning. Most select service learning opportunities in the community, while a few are able to participate in international experiences. While international service learning experiences are posited to be more effective than domestic experiences at fostering cross-cultural understanding,[18-21] little empirical evidence exists in support. Experimental studies are needed to test perceptions and beliefs of cultural understanding of hygiene students who participate in both methods.

Emerging technologies and media that promote communication were seen to be very important. This perception is in line with the tenor of the Millennial generation, who use informational and communication technology for general dental and educational services more than their older counterparts.[22] This

perspective is also in line with the current high-tech nature of dentistry, including the common use of intraoral cameras, digital radiography, and computer tomography (CT) imaging.[23]

In conclusion, it should be recognized that the results are based on limited data derived from a convenience sample of students who were primarily Midwestern, white, and native to the United States. Because culture, race, and ethnicity play a large role in shaping health-related values, beliefs and behaviors,[24] a more diverse group could display differing opinions of what may be necessary for effective interpersonal communication. Recruitment of more diverse students is an area of consideration.

Despite the limitations provided by the sample, the study provides a novel pilot understanding of student's perceptions of the meaning and importance of interpersonal communication today and in future practice from the voice of dental hygienists themselves. Although the importance of considering student voice in higher education research is well established, it is a poorly developed element in dental education research.[25] Teaching and communication are complex two-way processes, and gaps may occur between what the sender believes is being conveyed and what is understood by the receiver. The inclusion of student perceptions may assist dental hygiene faculty to better understand how their students perceive their ability and confidence with interpersonal communication skills in order to inform dental hygiene education aimed at assessing strategies for effective communication between the dental hygienist and patient. It would be of interest to compare the results of this questionnaire with additional data collected from practicing hygienists at varying levels of their career.

Conclusion

First-year and second-year dental hygiene students conveyed an understanding of the importance of possessing effective interpersonal communication skills. The most common barrier to effective communication was dealing with complacent patients. Instruction of health communication theories such as prospect theory and framing could be useful for improving patient adherence to behavioral recommendations.

Kimberly K. Walker, PhD, is an Assistant Professor, The Zimmerman School of Advertising and Mass Communication in Tampa, Florida, and affiliate faculty at the Indiana University School of Dentistry. Richard D. Jackson, DMD, is an Associate Professor, Cariology, Operative Dentistry and Dental Public Health, Indiana University School of Dentistry. Lisa Maxwell, LDH, BS, MSN, is Dental Hygiene Program Director, Indiana University School of Dentistry.

Table I: Codes and Examples

Question 1: Comfortableness with communication

Overall confidence:
- "I believe I use excellent communication skills"
- "Yes, I feel I have good verbal communication."

Less confidence:

Writing and nonverbal
- "I feel uncomfortable using non-verbal language when we are behind a mask."

Technical information and "others"
- "I don't do as well with in-depth, technical conversations."
- "I feel less comfortable with presenting hard to understand information."

Interpersonal communication with "others"

"I am much less comfortable speaking with those who speak a different language."

"I am not sure of how to talk to children sometimes."

More confidence:

Visual aids
- "I'm good at using charts and visual aids to describe treatment."
- "Yes, as a hygiene student, I use lots of visuals such as a dentoform and chairside instruction manual."

Respect
- "I can talk to people, and explain things, while still letting them make a decision."
- "Can show patients that I care"

Translator
- "I feel like I communicate well with a translator."

Question 2: Barriers to communication

Patient-related barriers:

Apathy/inattentiveness
- "We don't usually have long-term interaction with these individuals, therefore, they sometimes just want to get in and out."
- "Patients who use tobacco don't like to listen to the negative effects unless they are willing to quit."
- "It is hard to communicate with patients that simply do not care or do not feel the need to change."

Provider-related barriers:

Lack of time
- "We don't have enough time to spend on a long presentation with them."
- "(Need) More time in dental chair to communicate."

Reducing jargon
- "Hard to speak to them in non-college language."
- "There is a lot of information to distil."

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Question 3: Necessary communication skills today

Good verbal and written skills (first-years in context of health literacy)

"We must be able to explain things to patients of all ages, in terms they can understand." (first-year)
"Have to have good verbal communication."
"We have to be able to speak to the patient in ways they understand. Constantly as if they understand." (first-year)

Empathy/Nonjudgmental

"(Hygienists need) to effectively communicate without sounding judgmental."
"Respect their personal opinions."

Listening

"Today, hygienists must be able to listen, apply answers to the situation and explain treatments and prevention methods."
"Listen and then share knowledge."
"Reflective listening"

Languages and signing

"Communication skills with others from various countries."
"Speaking Spanish"
"Speaking with the deaf"

Question 4: Necessary skills for future practice

Technologies

"Use of visual aids to explain prevention and treatment."
"Digital communication"
"Indirect communication with visual aids, charts, etc."

Empathy/nonjudgmental/health literacy/trust and respect

"We have to be able to gage their current knowledge and transfer dental term(inology) to "normal terms."
"We need (to be able) to sympathize with the patient."
"Good, empathetic understanding"
"Have the trust of patients" (first-year)

Question 5: Communication trends in hygiene

Technology (digital and mobile)

"I believe texting is upcoming in dental hygiene, as they (patients) can receive reminders via text."
"(Hygienists) need to be able to use tools, x-rays and technology in order to show patients their condition/finding, etc."

Translators and other languages

"Need to be bilingual; more patients are wanting to receive oral care."
"Need to be able to learn different languages and show and explain concepts to them."
"Work with translators."

Question 6: Communication skills to explore in education

Technology (digital and media)

"Learning to present information via media resources such as videos."
"More training on use of X-rays intraoral cameras, and other devices for visual aids."
"Want to learn how to recruit patients online and retain them."

Translators and Language

"Taking Spanish and sign language."

Confidence (first years)

"Just learning how to be confident in what we are saying."

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