How Do U.S. and Canadian Dental Schools Teach Interpersonal Communication Skills?

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Abstract: The status of instruction in interpersonal communication was surveyed in forty U.S. and Canadian dental schools. Key faculty members were identified, and syllabi and course descriptions were collected and content-analyzed. The following findings were obtained for responding schools: 1) only one-third of schools had courses specifically focusing on interpersonal communication; 2) more than half of the schools offered these types of courses only during the first two years; 3) the most common topics were communication skills, patient interviewing, and patient education/consultation; 4) the most frequently used method of teaching was lectures; active practice was used less often; 5) written examination was the primary instructional evaluation tool, whereas more sophisticated performance-oriented assessments were used less often; and 6) about half of the teachers did not have a D.D.S. degree; those not dentists were primarily psychologists. At least eight of the forty dental schools surveyed do not appear to meet the accreditation guidelines for predoctoral programs in this area of instruction. Some could not identify a faculty member responsible for such instruction. Schools offering more extensive instruction were more likely to offer active rather than passive teaching and use more sophisticated student evaluation strategies. This research suggests a need for reevaluation of teaching in this subject area.

It is widely recognized that health care providers need appropriate interpersonal communication skills and that these skills can be learned. Interpersonal communication is the process of sending, receiving, and interpreting information through verbal and nonverbal channels between people. Good communication is the basis of effective patient care and management. A number of studies have evaluated the effectiveness of communication or interviewing training. Some assessed changes in knowledge or attitudes, while others assessed the use of skills, patient satisfaction, patient compliance, or patient distress and anxiety. Specific educational methods have also been studied. Such studies found that active practice with accompanying feedback is more useful in developing these skills than other passive instructional models. Difficult encounters between patients and physicians have been explored, and suggestions for conflict resolution have been evaluated in some studies.

Not surprisingly, a recent survey conducted by the Association of American Medical Colleges found that nearly all U.S. medical schools teach communication skills in some manner. The primary teaching methods are small-group discussions and seminars, lectures and presentations, student interviews with simulated patients, student observation of faculty with real patients, and student interviews with real patients. However, most medical school curricula lack a systematic framework that allows students to learn communication skills in settings of gradually increasing difficulty or in a consistent manner. Learning is more likely to be passive than active. Interdisciplinary training is not common. Rigorous evaluation methods are rarely employed.

As in medicine, cross-sectional studies have reported that effective interpersonal communication in dentistry increases patient satisfaction and patient compliance, at the same time it reduces patient anxiety and the risk of malpractice claims. On the other hand, interventional research has been very limited. There have been no studies of different educational strategies in dental education.

The absence of research on communication skills in dentistry reflects the current lack of emphasis on teaching in the area. Most studies of interpersonal skills teaching and development were published in the 1970s and 1980s. The topics of communication and interviewing have been incorporated into the guidelines for predoctoral accreditation in U.S. dental schools. Specific communication skills are mentioned in the guidelines as follows: “Apply ‘ac-
tive listening” techniques to interactions with patients” and “Utilize ‘feedback’ strategies when interacting with patients” (p. 656). However, little is known about the status of instruction.

The purpose of this study was to describe the teaching of interpersonal communication in U.S. and Canadian dental schools. The specific goals were to determine: 1) the extent to which interpersonal communication skills are taught and where they are taught in the curriculum; 2) what content is taught; 3) what instructional methodology is used; 4) what approaches to evaluation are utilized; and 5) the background of course instructors. We also explored three hypotheses: that schools with multiple communication courses throughout the curriculum were 1) more likely to use active versus passive instructional methods, 2) involve non-dentist communications specialists, and 3) use instructional evaluation technology beyond written exams. The long-term goal of this work is to spark a review and revival of attention to this important curricular topic.

Materials and Methods

All U.S. and Canadian dental schools were surveyed. The electronic mail addresses of the sixty-four U.S. and Canadian dental schools were obtained from the 2000-2001 ADEA Directory of Institutional Members and Association Officers or by telephoning universities directly.

The first email contact was addressed to the associate dean of academic affairs or another appropriate administrator. If this dean failed to respond, an identical message was sent to the chairperson of the department of oral medicine or to another similar department. This initial message requested that the dean (or chairperson) identify the most appropriate faculty member to contact for learning more about communication skills teaching in the predoctoral curriculum.

Letters asking for course descriptions of the courses that included the topic of interpersonal communication were then emailed to the identified individuals. The format of the letters and the design of the survey were developed as a modification of well-established survey methods. The first email to the dean was sent at the end of May 2001. Two weeks after the initial mailing, a follow-up email was sent to those who had not responded. Those who did not reply were emailed a third time, two weeks after the follow-up email. The approach to faculty members was the same as to the dean except that the interval between contacts was one month. Copies of course outlines and syllabi were requested. After review, respondents were questioned further by email or telephone to collect study data where it could not be gleaned from the course outlines or syllabi.

Faculty members teaching interpersonal communication were identified in fifty-five of the sixty-four dental schools (86 percent). Of the nine schools that did not identify a faculty member, two schools responded that they could not provide a contact name because the person who was in charge of communication skills training had left. Four schools could not provide a contact name because they either did not have any courses or their courses were in development. The remaining three schools failed to respond.

Fifteen of the remaining schools were excluded for the following reasons. Faculty members identified in two schools could not provide any information either because their course was not well developed or not offered currently. One additional school provided only the name of the textbook used, and another school did not provide any written materials, with information communicated only over the phone. In the remaining eleven schools, the faculty failed to respond and could not be contacted. The analysis is based on seventy-seven complete course descriptions obtained from forty schools. Of the forty schools, thirty-six were U.S. schools and four were Canadian schools.

Results

Extent of Teaching, Timing or Sequencing, and Content

Fourteen of forty schools (35 percent) had a separate course focusing largely on interpersonal communication. For the remainder, the majority dealt with interpersonal communication as a part of other courses. The number of interpersonal communication courses taught in an individual school ranged from one to six. Fifteen schools (38 percent) taught interpersonal communication only once in the curriculum; eighteen schools (45 percent) had two courses; four schools (10 percent) had three courses; two schools (5 percent) had four courses; and one school had six courses that included this topic. In most schools, communication skills were taught to dental students separately; three schools gave inter-
disciplinary courses in conjunction with a school of medicine.

The initial course in communication skills was given in the first year (seventeen schools), second year (eighteen schools), or third year (five schools). Twenty-four schools offered courses only during the first two years. Five schools offered courses only during the last two years.

Table 1 summarizes the twenty-one topics covered in the courses. The three most common topics were communication skills (88 percent of schools), patient interviewing (75 percent of schools), and patient education/consultation (68 percent of schools). Twenty-three schools (57.5 percent) addressed cultural and diversity issues. Twenty-two schools (55 percent) identified courses addressing anxiety/fear/pain. The principle of communication, which is theory of interpersonal communication, was also addressed in 40 percent of schools.

Teaching Methodology

Table 2 reports the teaching methods used in communication skills courses. The three most frequently used methods were lectures (100 percent of schools), role playing of student-patient interviews with either peers or faculty (45 percent of schools), and videotape/demonstration (40 percent of schools). Of the schools using role playing in their instruction, twenty used students in the role of patients, five used faculty members, and seven used actor-simulated patients. Thirteen schools used actual patients in this instruction. Only one school used all the combinations of students, faculty members, actor-simulated patients, and actual patients in instruction of their exercise.

Interestingly there were three courses described in which the students write a script for their interview. There were also two courses in which students interview a classmate, friend, or a stranger, so that the students may gain better insight into the attitudes or experiences of ordinary people toward dentistry. One of the two courses mentioned above also had students interview a dentist in order to learn about what professional dental practice is like. In two schools, students interviewed the same patients several times over several years. Home visits, which enabled students to understand the patient as a person, were required in two schools.

Evaluation and Faculty

Written examination was used in 89 percent of schools as the primary evaluation tool. Subjective assessment of how well the students participated in class exercises was used in 70 percent of schools. Of the forty courses in twenty-five schools employing roleplaying or practice with real patients, only 53 percent used formal written criteria in their evaluation. Five schools gave a competency examination to evaluate students’ communication skills. Four schools evaluated students’ communication abilities during objective structured clinical evaluation (OSCE). During these OSCEs, standardized patients evaluated the students’ communication skills after being interviewed. Two dental schools had no formal evaluation of students other than attendance.

Seventy faculty members were identified as being involved in the communication courses in the forty schools. Thirty-seven (53 percent) were dentists, and twenty-six (37 percent) had a Ph.D. degree. The majority of the non-dentists had a degree in psychology (58 percent, 15/26). Others had degrees in education, sociology, communication, population health, or economic and political science. One instructor had an M.A. degree. Four instructors in two schools were physicians, and one was a dental hygienist.

Test of Hypotheses

Three hypotheses were evaluated using contingency table analysis. We hypothesized that schools with multiple courses throughout the curriculum were 1) more likely to use active versus passive instruc-

Table 1. The topics covered in communication skills teaching in forty U.S. and Canadian dental schools in 2000

<table>
<thead>
<tr>
<th>Topics</th>
<th>Number of Schools (percent)</th>
</tr>
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<tbody>
<tr>
<td>Communication skills</td>
<td>35 (87.5)</td>
</tr>
<tr>
<td>Patient interviewing</td>
<td>30 (75.0)</td>
</tr>
<tr>
<td>Patient education/consultation</td>
<td>27 (67.5)</td>
</tr>
<tr>
<td>Managing difficult patient</td>
<td>25 (62.5)</td>
</tr>
<tr>
<td>Cultural diversity</td>
<td>23 (57.5)</td>
</tr>
<tr>
<td>Anxiety/fear/pain</td>
<td>22 (55.0)</td>
</tr>
<tr>
<td>Ethical issue</td>
<td>16 (40.0)</td>
</tr>
<tr>
<td>Principles of communication</td>
<td>16 (40.0)</td>
</tr>
<tr>
<td>Treatment planning</td>
<td>15 (37.5)</td>
</tr>
<tr>
<td>Outcome issues</td>
<td>14 (35.0)</td>
</tr>
<tr>
<td>Self-assessment</td>
<td>14 (35.0)</td>
</tr>
<tr>
<td>Stress and its management</td>
<td>14 (35.0)</td>
</tr>
<tr>
<td>Working with staff/colleague</td>
<td>13 (32.5)</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>8 (20.0)</td>
</tr>
<tr>
<td>Child/adolescent</td>
<td>7 (17.5)</td>
</tr>
<tr>
<td>Record writing</td>
<td>7 (17.5)</td>
</tr>
<tr>
<td>Caregivers</td>
<td>4 (10.0)</td>
</tr>
<tr>
<td>Psychiatric disorders</td>
<td>4 (10.0)</td>
</tr>
<tr>
<td>Death and grief</td>
<td>3 (7.5)</td>
</tr>
<tr>
<td>Illness and disease</td>
<td>2 (5.0)</td>
</tr>
<tr>
<td>Employee interviewing</td>
<td>1 (2.5)</td>
</tr>
</tbody>
</table>
tional methods, 2) involve non-dentist communication specialists, and 3) use instructional evaluation technology beyond written exams. The rationale for these hypotheses is that schools with multiple courses represent programs with more highly developed instruction based on well-established educational principles and findings from research. These analyses are regarded as exploratory and suggestive. Consistent with the hypothesis, schools with multiple courses in communications skills were more likely to use active rather than passive instructional methods ($\chi^2=3.546$, df=1, $p<0.06$). Similarly, schools with more than two courses were more likely to use evaluation methods beyond the written examination ($\chi^2=3.569$, df=1, $p<0.06$). On the other hand, there was no association between the type of faculty employed in the courses and whether a single or multiple courses were offered ($p=0.30$).

### Discussion

#### Extent of Teaching, Timing, and Content

Eight of forty U.S. and Canadian schools do not teach interpersonal communication skills even though the subject matter is required for accreditation. This may be an underestimate of the failure to comply with accreditation guidelines as some schools did not provide a response to our request for teaching materials. Nevertheless, only one-third of schools had courses specifically focusing on interpersonal communication. Thirty-eight percent of schools had only one course dealing with interpersonal communication. These results may underestimate teaching in this area as communication may be dealt with when it arises in addressing other topics. Nevertheless, research suggests that effective teaching should be continuous and gradually increase in complexity as students progress through the curriculum. Teaching in preclinical and clinical settings should be complementary. Few schools taught communication throughout the curriculum.

The results of this study are similar to those reported earlier for medical schools. Patient interviewing was the most common topic. In a descriptive study by Kulich, dentists rated interpersonal skills as equally important to manual skills. Graber found that effective patient-provider communication is one of the topic areas that academic deans want to emphasize in their curriculum. Nevertheless, the scope of instruction appears quite narrow.

Many dental schools failed to provide students with a gradual exposure to communication, building from basic principles to complex concepts. Nevertheless, these same schools attempted to teach complex issues such as patient education/consultation and managing difficult patients. Without the foundation

<table>
<thead>
<tr>
<th>Teaching Methods in Use</th>
<th>Number of Courses (percent)</th>
<th>Number of Schools (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>70 (90.9)</td>
<td>40 (100)</td>
</tr>
<tr>
<td>Roleplaying—patient interview with peers/faculty</td>
<td>27 (35.1)</td>
<td>18 (45.0)</td>
</tr>
<tr>
<td>Video/demonstration trigger for discussion/developing responses</td>
<td>20 (26.0)</td>
<td>16 (40.0)</td>
</tr>
<tr>
<td>Case presentation</td>
<td>18 (23.4)</td>
<td>11 (27.5)</td>
</tr>
<tr>
<td>Case study</td>
<td>15 (19.5)</td>
<td>11 (27.5)</td>
</tr>
<tr>
<td>Clinical observation</td>
<td>12 (15.6)</td>
<td>11 (27.5)</td>
</tr>
<tr>
<td>Patient interviews with real patients</td>
<td>12 (15.6)</td>
<td>10 (25.0)</td>
</tr>
<tr>
<td>Presentation of treatment plan/case to real patients</td>
<td>6 (7.8)</td>
<td>5 (12.5)</td>
</tr>
<tr>
<td>Roleplaying—patient interview with simulated patients</td>
<td>6 (7.8)</td>
<td>5 (12.5)</td>
</tr>
<tr>
<td>Roleplaying—present treatment plan/case to peers/faculty</td>
<td>3 (3.9)</td>
<td>3 (7.5)</td>
</tr>
<tr>
<td>Development of case scripts</td>
<td>3 (3.9)</td>
<td>3 (7.5)</td>
</tr>
<tr>
<td>Presents treatment plan/case to simulated patients</td>
<td>3 (3.9)</td>
<td>2 (5.0)</td>
</tr>
<tr>
<td>Patient home visits</td>
<td>3 (3.9)</td>
<td>2 (5.0)</td>
</tr>
<tr>
<td>Interview of strangers/friends</td>
<td>2 (2.6)</td>
<td>2 (5.0)</td>
</tr>
<tr>
<td>Roleplaying—job interview with peers</td>
<td>2 (2.6)</td>
<td>2 (5.0)</td>
</tr>
<tr>
<td>Computerized simulation</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Interview of dentists</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Roleplaying—telephone contact to peers</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Roleplaying—demonstrates relaxation technique to peers</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Team debate</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Write a personal letter</td>
<td>1 (1.3)</td>
<td>1 (2.5)</td>
</tr>
</tbody>
</table>

Number = 77 courses, 40 schools

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of communication theory as well as skills presented in earlier years, it seems unlikely that students in these schools could truly grasp such complex material. The omission of the role of culture and beliefs in seventeen of the forty responding schools is particularly troubling.

Teaching Methodology

A notable finding is that student interviews with simulated patients and other active learning methods are used less in the dental curricula than in the medical schools.15 In active learning a student interactively participates in learning activities. One of the advantages in using this methodology with simulated patients is that the simulated patient can give feedback from the patient’s point of view. Vannatta et al.40 found that simulated patients’ feedback outperformed the faculty’s in effecting changes in students’ interviewing skills. The majority of medical schools use simulated patients.15,41

Another notable point is that a combination of students, faculty members, actor-simulated patients, and actual patients were used in only one school to help students learn communication skills. If the purpose of education is to provide students with appropriate skills, the lecture-only approach used in many schools is not enough. Active practice is necessary to learn communication skills.

Evaluation

The evaluation of student learning in many schools is clearly inadequate and fails to meet accreditation guidelines. In the accreditation standards for dental education programs, dental schools are required to evaluate student competence.42 The stated intent is that schools will assess their students’ abilities to perform skills necessary for entry-level practice. The ability to communicate is clearly necessary for dental practice. More than half of the dental schools surveyed assess students’ communication skills by grading participation in class exercises. However, guidelines or criteria for the assessment of student performance were available in only half of them. It is not clear how the remainder of the courses assess students’ communication skills. Evaluation should be closely related to what students are expected to learn. Without any guidelines, assessment is difficult to achieve with good reliability and validity, especially in the clinic.

Indirect methods, such as written and oral tests, are good ways of evaluating students’ cognitively based skills. On the other hand, direct methods like simulation practice are better methods for evaluating students’ actual behavior or performance. These two methods are not mutually exclusive, but are complementary; therefore, more dental schools should include direct methods of assessment.

A good example of interpersonal communication courses in the forty responding schools is given in Appendix 1. This school offers several courses over years of instruction, employs lectures as well as active practice with accompanying feedback, and uses both indirect and direct evaluation methods with written guidelines.

Background of Faculty

The data on the background of the teachers focuses on those in charge of instruction and does not include guest speakers and group preceptors. About half of those with primary responsibility for instruction are not dentists, demonstrating that a variety of disciplines are involved in the teaching. Psychologists may be employed in the teaching because deans or department chairs may perceive them to have skills not represented in the dental faculty.

Test of Hypotheses

While clearly exploratory, the hypothesis tests suggest that schools with multiple courses offer a curriculum that is richer and more beneficial to students. Interestingly, this development appears independent of the type of instructional staff. The curriculum plans for these schools should be made available to other schools as examples of curriculum development.

Limitations

Our conclusions were drawn from written and oral material provided by faculty. While we made every attempt to obtain all material on communication, we may have missed some relevant course material. Also, it is commonly accepted that students have opportunities to develop communication skills in the clinical environment. These data may not include all such information. Nevertheless, the very lack of formality raises questions about the quality of such systematic instruction. Additionally, the data available did not allow for characterization of the exact amounts of curriculum time devoted to com-
munication, the number of courses being an imperfect proxy. In spite of these limitations, the findings appear to be a reasonable representation of how dental schools teach communication skills.

Conclusions

In many North American dental schools, instruction in interpersonal communication skills appears to be inadequate. It is not well integrated into the four-year curriculum, does not include any theoretical background or foundation, is taught mostly using passive learning techniques, and does not include adequate student evaluation.

Dental schools should strive to build communication skills across the entire curriculum, gradually increasing student exposure to more and more complex issues. Active teaching should be used more frequently in communication instruction, and perform ance-based assessments should be used more often.

REFERENCES

Appendix 1. A good example of interpersonal communication course from Southern Illinois University School of Dental Medicine

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Third Year</th>
<th>Fourth Year</th>
</tr>
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</table>
| **Objective** | “To acquant students with the complexity of the interpersonal interactions in the dental setting.”
  “To assist students to develop effective communication skills and acquire skill in their application to the dental setting.” | “To provide a series of educational experiences that will allow the students to demonstrate competency in the application of communication skills in the provision of patient-centered care.”
  “To provide opportunity to experience from a ‘patient’s perspective’ the communication aspects of addressing a behavioral problem.” |
| **Content** | Basic communication skills
  How to conduct an initial interview
  How to present a treatment plan
  How to prepare a patient for oral surgery | Conduct an initial interview
  Present a treatment plan
  Prepare a patient psychologically for oral surgery |
| **Methodology** | Lecture
  Roleplaying with year 4 student who plays a “problem patient”
  Review the interaction with the year 4 student they interviewed
  Discussion (feedback) | Patient interview/consultation with 3 different actual patients (interview, treatment plan, surgery preparation)
  The students must review and self-assess their own performance prior to the review session
  Review in small groups throughout the year
  Discussion (feedback) | Patient interview/consultation with an actual patient (one of the following procedures: initial diagnostic interview, treatment plan presentation, and psychological preparation for surgery)
  The students must review and self-assess their own performance prior to the review session
  Review in small groups
  Serve as a pseudo-patient of mock interviews for second years |
| **Evaluation** | Completion of a videotaped interview
  Self-assessment (checklist and form)
  Participation in class discussion
  Paper analyzing their videotaped interview with reference to both text and lecture materials
  Quizzes (weekly) | Completion of a videotaped interview
  Self-assessment (checklist and form)
  Participation in class discussion |
|             | Completion of a videotaped interview
  Self-assessment (checklist and form)
  Participation in class discussion | Completion of a videotaped interview
  Self-assessment (checklist and form)
  Participation in class discussion |