Development and Assessment of a Cultural Competency Curriculum

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Abstract: The recent intense attention given to the existence of racial and ethnic health care disparities in the United States has resulted in an enhanced focus on the problem and a call to integrate cultural competence training into health professions curricula. While most dental schools have formally integrated cultural competence into their curricula, the professional literature contains little information regarding the specific types of curriculum modifications necessary to prepare culturally competent dentists. The purpose of this article is to communicate the process and materials used to develop and present didactic curriculum content incorporating cultural competence and to report early data regarding its effectiveness in improving students' knowledge and self-awareness regarding cultural competence. The preliminary observation of differences between pre-test and post-test scores suggests that the curriculum content may have contributed to developing students' cultural knowledge and self-awareness. Students' reflection papers also provided qualitative evidence that experience with the curriculum modules was transformational for some. Recommendations for future curriculum modifications and follow-up research studies to validate the instrument are discussed.

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The population in the United States is increasingly becoming more racially and ethnically diverse. The U.S. Census Bureau[1] has predicted that the population of persons of color will reach numerical majority some time between the years 2030 and 2050. In some states such as California, members of racial and ethnic groups have already reached the numerical majority and are predicted to represent two-thirds of the population by 2025.[2] However, despite intense efforts to diversify the health care workforce, persons of racial and ethnic groups other than non-Hispanic white remain dramatically underrepresented in the health professions, a problem that is not expected to change significantly in the near future.[3]

A seminal report by the Institute of Medicine (IOM) documented the existence of widespread and ubiquitous racial and ethnic disparities in health care quality and outcomes unrelated to factors of access, health insurance availability, clinical need, appropriateness of intervention, or patient preference.[4] The U.S. surgeon general's report on oral health in America provided evidence of racial and ethnic disparities in dental care as well as a lack of diversity in the professional workforce.[5] The disparities have continued to persist despite intense national scrutiny and extensive research.[6,7] There is an implicit assumption that underrepresentation of members of racial and ethnic groups in the health professions is related to the existence of health care disparities, but that assumption remains untested. While it is clear that the causes of health care disparities are complex, there is evidence that increasing the diversity of the health care workforce is associated with improved patient-provider communication, greater choice and satisfaction for patients, and improved access to care among patients of racial and ethnic minority groups.[3] The IOM report included an extensive list of nineteen recommendations for addressing the problem of health care disparities. Two of these addressed educational needs—namely, increasing health care providers' awareness of the disparities, and integrating cross-cultural education into the training of all current and future health care professionals to develop cultural competence. Additionally, a recent survey of academic and public health leaders highlighted perceptions that dental education programs need to graduate dentists who are more culturally sensitive, socially aware, and community-oriented.[8]

The literature contains many definitions of cultural competence as variations of a widely cited definition crafted by Cross et al.[9] Cross et al. defined cultural competence as "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or amongst professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations." This definition is pertinent to dental health professionals

and applies well to this study. Many health care professionals and institutions have developed cultural competence initiatives to deliver high-quality health care to all patients regardless of culture or language proficiency. Cultural competence has evolved from a marginal to a mainstream issue, but reports in the literature indicate that consistency and quality of training vary.[10,11]

Few dental students and practicing dentists believe that their education prepared them well to treat patients from cultural backgrounds different from their own.[12-14] Students and dentists who did receive cultural competence education were more likely to report having intentions to treat patients from other cultures.[14] Among those who were satisfied with the cultural competence content of their curriculum, there was a strong association between dental schools that promoted inclusion and respect of multiple cultures and students' perceptions regarding their preparedness to treat ethnically and culturally diverse patients.[12] There is also some evidence to suggest that exposure to patients from diverse ethnic and cultural backgrounds during extramural rotations better prepares students to treat these patients beyond graduation.[15]

Culturally based beliefs and practices influence dental care and oral health outcomes. Culturally based conceptualizations of disease and illness may complicate patient understanding and acceptance of concepts such as prevention. Western biomedical models define disease by measured deviations from a norm such as pocket depths in periodontal disease, whereas illness is a personal conceptualization of what it means to not feel well that is defined differently across cultures. For example, patients may have a Western-defined disease and still feel well and therefore lack motivation to engage in prevention practices. Historically, dental prevention and plaque prevention have been viewed less positively among certain ethnic cultures than among whites.[16] Diverse cultures may also have beliefs about tooth loss that vary from the Western biomedical norm. For example, there is an acceptance of a folk belief among some Latin American cultures that tooth loss beginning in early adulthood is normal and accepted.[17] Among other cultures (United Kingdom,[18] Scotland,[19] and the United States[20]), there exists a belief that tooth loss is expected with each pregnancy because the baby leeches calcium from the mother's bones. It is essential, therefore, that cultural competence education include the topics of subjective perceptions of illness and other culturally based belief systems that are specific to dental medicine for the ethnic and cultural groups served by the dental school.

There is evidence to suggest that students' communication skills are less effective when working with patients from different ethnic or cultural backgrounds than with patients of their own background.[21] This underscores the importance of addressing cross-cultural communication skills. Inclusion of cultural competence content in dental education has been shown to affect students' attitudes about treating patients from diverse ethnic and cultural backgrounds. Increasing exposure to patients from racial and ethnic groups during dental school has been shown to correlate well with an increased willingness among dentists to treat patients from diverse ethnic and cultural groups.[22,23]

The dental education literature has identified a number of efforts by dental schools to integrate cultural competency training into existing curricula. Most dental schools (82 percent) formally integrated cultural competence into their curricula as a component of existing courses rather than as stand-alone courses.[24] A majority of programs taught cultural competence only during the first year, but only 39 percent integrated cultural competence content into all four years.[11] The lecture/seminar format was used most frequently, but many schools employed multiple pedagogical methods to augment classroom instruction. Although dental schools used a wide variety of evaluation methods, written examination of the students was the most common method reported. Most teachers were white female dentists.[24] Few schools required faculty to complete cultural competence training.[24]

A study by Betancourt et al.[25] reported that barriers to culturally competent dental care were a lack of diversity in the health care leadership and workforce, poorly designed systems of care, and poor communication between providers and patients. Formicola et al.[26] recommended 1) strengthening the accreditation standards to include cultural competency, 2) learning from existing training programs in medical educational programs, 3) incorporating cultural competency training into the curriculum, and 4) providing students with experience in treating patients in culturally diverse communities. Others have also advocated for collaboration between dentistry and medicine to improve the cultural competence of the workforce.[27] In its report on the future of dentistry, the American Dental Association[28] articulated thirty recommendations regarding educational reform, including two on cultural competency. Education

recommendation nine stated, "Dental schools should develop programs in which students, residents, and faculty provide care for members of the underserved populations in community clinics and practices." Education recommendation ten stated, "Dental education curriculum(a) should include training in cultural competency, as well as the necessary knowledge and skills to deal with diverse populations."

The Commission on Dental Accreditation[29] recently amended its accreditation standards to require dental education programs to ensure that "graduates are competent in managing a diverse patient population and have the interpersonal and communication skills to function successfully in a multicultural work environment." In response, the dental faculty at the Medical University of South Carolina initiated a complex process to accomplish that goal. An advisory group was formed to identify specific needs and to provide guidance to curriculum development and selection of assessment tools. An online knowledge and awareness survey was developed and administered to D1 and D2 students pre- and post-delivery of cultural competence content.

The need for incorporating cultural competence into dental curricula has been well documented.[3,4,8,26,28,29] However, there is little information in the literature specific to dental medicine regarding the types of curriculum modifications needed to prepare culturally competent dentists. The purpose of this article is thus threefold. The first purpose is to communicate in detail the process and materials used to develop a cultural competence curriculum. The second purpose is to present the preliminary findings regarding its potential to improve students' cultural knowledge and self-awareness. The final purpose is to share lessons learned from the process.

Materials and Methods

We mapped the existing curriculum to identify where and how cultural competence had been addressed previously. No didactic content was found, but several clinical experiences provided students with opportunities to interact with diverse cultural groups. These experiences included a two-day community clinic that all students attend, community-based assignments in the public health course, and volunteer opportunities in free community clinics. Students also had the opportunity to take an elective course, "Volunteers in Medicine."[30] Based on this assessment, it was decided that curriculum modification was needed to integrate didactic content into the D1 and D2 years and to develop additional opportunities in extramural internships for students to treat diverse patients.

We considered Cross et al.'s definition of cultural competence[9] in designing curriculum modifications to achieve the following objectives:

1. Identify individual cultural biases, and examine the effects of personal biases and stereotypes on the clinical encounter.
2. Define cultural competence.
3. Demonstrate value for the importance of diversity in health care.
4. Demonstrate knowledge of cultural differences in the patient populations encountered in the local community.
5. Access community resources to improve knowledge of cultural differences.
6. Identify the need for interpreter services and communicate effectively using medical interpreters.
7. Demonstrate understanding and respect for patients' cultural beliefs.

Insertion of this content was a challenge in an already crowded dental curriculum. Time was identified within existing courses in the D1 and D2 curricula based on faculty interest and availability. Three two-hour blocks were selected in the D1 curriculum, and one four-hour block was identified in the D2 curriculum. The classes were scheduled to coincide with the beginning of the didactic curriculum for the D1 students and the end of preclinical classes for D2 students. The content of the D1 curriculum was designed to consider the minimal clinical experience of new students. The timing and content of the D2 curriculum considered the additional clinical experience and focus of students preparing to enter the clinical years.

The scarcity of dentistry-specific information regarding cultural competence training has prompted some dental educators to advocate looking to the medical literature for examples of successful initiatives.[26] Curriculum development for our study began with an examination of didactic and experiential materials developed for cultural competence education of medical and allied health students already in use on campus. An exhaustive search of the written literature and web-based resources provided access to only one media-based teaching tool specific to dentistry,[31] which focused on a single ethnic group in great clinical detail. Time limitations precluded the use of this particular video in the D2 curriculum, and lack of

clinical experience among D1 students limited its usefulness with that group. We plan to introduce the media in the D2 curriculum in the coming academic year for the D1 students described in this study. The lack of other suitable dental media made it necessary to use media from the medical literature.

Table 1 illustrates the curricula prepared for the D1 and D2 students. Students enrolled in the D1 year each received a copy of *Multicultural Communication in the Dental Office*[32] as resource material. The first hour of the D1 curriculum included didactic presentations on intercultural communication and cultural competence. The intercultural communication presentation included the rationale for teaching cultural competence, citing the IOM report on health care disparities,[3] the surgeon general's oral health report,[7] and U.S. Census Bureau statistics.[1] The presentation also included definitions of race, ethnicity, and culture, introduced common cultural variations, and explored the constructs of belief systems, explanatory models relating to the concepts of health and illness, and folk illnesses and practices. The cultural competence presentation offered an expanded definition of the construct, including a discussion of two conceptual models.[33-35]

The second hour of the D1 curriculum offered a presentation on working with interpreters and Spanish-speaking patients by an invited lecturer from the hospital's interpreter services. The third session began with a discussion of a self-awareness homework assignment, adapted from Hetherington[36] and Parker et al.,[37] designed to explore students' personal experiences with diverse groups of people. Students then viewed *Patient Diversity: Beyond the Vital Signs,*[38] a film featuring clinical scenarios of health care provider interactions with African American, Asian, and Latino patients. An accompanying facilitator's guide provided questions for guided discussion.

An invited educator from the local African American community presented health problems and belief systems commonly found in his community during the fourth session. The fifth hour of the curriculum included a discussion of the L.E.A.R.N.[39] and Kleinman's Questions[40] models for eliciting patient's health beliefs in a respectful and caring manner. The L.E.A.R.N.[39] model is an acronym for "Listen, Explain, Acknowledge, Recommend, and Negotiate." Kleinman's Questions[40] are a series of nine questions developed from anthropologic and cross-cultural research designed to elicit patients' culturally based explanatory models or belief systems about the cause, nature, course, and treatment of illnesses. Students were given the models to consider while watching *Worlds Apart: Mohammad Kochi's Story,*[41] a video featuring a Muslim Afghani man with stomach cancer who had refused chemotherapy. An accompanying *Worlds Apart Facilitator's Guide*[42] provided questions to stimulate discussion.

In the sixth and final hour of the D1 curriculum, a panel of D3 and D4 students presented their experiences with intercultural communication in health care as members of an ethnic or cultural group new to the United States or in working with culturally diverse groups of patients. D1 students also completed an evaluation of the curriculum as a component of their formal course evaluation.

The D2 curriculum differed slightly from that presented to the D1 students in order to include more clinical content. The first two-hour session presented the intercultural communication and

Table 1. D1 and D2 cultural competence curricula

Hour	D1 Content	D2 Content
1	Intercultural Communication Cultural Competence	Intercultural Communication
2	Working with an Interpreter	Cultural Competence, *Patient Diversity* Video, and Discussion
3	Self-Awareness Assignment, *Patient Diversity* Video, and Discussion	L.E.A.R.N. and Kleinman's Questions Models
4	Health Problems and Belief Systems in the African American Community	*Worlds Apart* Video and Discussion
5	L.E.A.R.N. and Kleinman's Questions Models, *Worlds Apart* Video, and Discussion	
6	Student Panel Discussion	

cultural competence modules. The expanded materials prepared for this session included information regarding the values, common health problems, and folk beliefs of local African Americans and Latinos. Students used these resources to discuss the *Patient Diversity: Beyond the Vital Signs*[38] video. Handout materials included additional web references and a resource list.

The second two-hour session opened with a discussion of the L.E.A.R.N.[39] and Kleinman's Questions[40] models for eliciting patients' health beliefs. The second hour of the second session presented the *Worlds Apart: Mohammad Kochi's Story* video,[41] followed by a guided discussion using questions from the *Worlds Apart Facilitator's Guide*.[42]

Several assessment tools from the literature were considered for the project but found inappropriate for this study because they were not pertinent to dentistry,[43,44] were inappropriate for students,[45,46] measured self-reported data,[47,48] or were cost-prohibitive.[49,50] Because the investigators were primarily interested in assessing knowledge acquisition, a twenty-one-item survey of true/false and multiple choice questions was adapted from a quiz of cultural knowledge developed by Management Sciences for Health.[51] Four self-report questions were added. Two of these assessed students' knowledge of world views of multiple cultures and biological variation among cultural groups. The other two assessed students' self-awareness of the cultural limitations of assessment and culture specific diseases. The twenty-five-item survey was adapted for online administration[52] as separate pre-test and post-test databases. Copies of the survey are available from the authors upon request.

Survey studies are considered exempt research, but the protocol for the study was placed on file with the university's Institutional Review Board. Students completed the pre-test prior to the first class and the post-test upon completion of the instruction modules. The students were also assigned a self-reflection exercise as a capstone experience. Reflective learning has been shown to stimulate critical thinking, develop problem-solving skills, and encourage a strong service ethic.[43,53] Reflection as experiential learning has also been shown to enhance dental student learning.[54,55]

Pre- and post-exposure scores on the surveys to determine students' levels of cultural competency content knowledge acquisition are revealed for information. Ideally, some of the students would have acted as controls (i.e., would not have been exposed to the information). However, it was not practical to delay or preclude the intervention to any part of the classes due to time, scheduling, and faculty limitations. The primary reason for the pre- and post-surveys was to assess the level of knowledge in these areas before and after the content presentation. We were interested in determining whether the selected materials would successfully convey the desired information to the students.

Results

The students were asked to complete an online survey before and after exposure to the cultural competence content. The resulting database contained forty-three paired responses (pre-test and post-test) for the D1 class and fifty-five paired responses for the D2 class. The N for each class was fifty-five. The data were downloaded from the online survey to a Microsoft Office Excel spreadsheet, and statistical analysis was completed using the Statistical Package for the Social Sciences.[56] The first twenty-one questions tested knowledge acquisition of elements of various cultures and were analyzed separately from the final four questions that were designed to elicit self-report data relating to knowledge and awareness of elements of culture. The first twenty-one knowledge items were multiple choice or true/false items scored "4" for a correct response and "0" for an incorrect answer for a total of 84 points. The last four items measuring self-report of cultural knowledge and awareness were scored on 4-point scales. Two items used a 4-point scale of "not knowledgeable" to "very knowledgeable." Two items used a 4-point scale ranging from "not aware" to "very aware."

For the D1 class, there were forty-three pairs of data with an average score (of a possible 84) on the first twenty-one items of 38.60 on the pre-test and 59.81 on the post-test and an average awareness score (of a possible 16) of 9.05 on the pre-test and 10.58 on the post-test. Correlations of the paired pre-test and post-test scores were .421 for the first twenty-one items and .613 for the last four self-report items.

For the D2 class, there were fifty-five pairs of data with an average score (of a possible 84) on the first twenty-one items of 43.42 on the pre-test and 57.09 on the post-test and an average awareness score (of a possible 16) of 8.62 on the pre-test and 10.05 on the post-test. Correlations for the paired pre-test–post-test scores were .458 for the first twenty-one test items and .708 for the four awareness items.

Students completed reflection papers relating their experience with the curriculum modules. The majority of responses (ninety-six of 102) were positive, with some providing evidence that the experience had a profound effect. For example, one student wrote, "Cultural competency is a lifelong journey that never ends, because one can never fully know and experience every facet of every culture in a lifetime. Just when I become competent in one area, another new one opens up. It's up to me as a health care professional and human being to pursue that mission of discovery and understanding wholeheartedly." Another wrote, "Understanding cultural differences can bridge a potential communication gap in patient acceptance of diagnosis and compliance with recommended treatment. . . . I believe if the patient from a different culture believes you truly care, and is willing to understand where they are coming from, then finding common ground to discuss medical issues becomes easier and rewarding for all parties involved."

Studies have shown that students tend to overestimate the level of their own cultural competence.[57] Therefore, comments such as the following from students' reflection papers would suggest that the curriculum content made them more aware of the true level of their cultural competence: "Before the course, I was unaware of how harmful stereotyping was, but I now understand the value of taking the time to get to know each of my patients on a personal level in order to help treat them better"; "I realized there was a lot that I didn't know about other cultures, and a lot of what I thought I knew was only inaccurate stereotyping"; "I always thought that I was fairly culturally competent, but . . . I need to learn more about other cultures that I will have experience with. I feel that this lecture series has taught me several things that should make a difference in my future as a clinician"; "The videos were great examples of how things can be misinterpreted and taught me that not only do I need to be competent, but so does my staff"; "Sometimes you don't know how to be respectful to a person's culture when you know nothing about it . . . this class has given me the idea of making my staff complete a course like this one day"; "My favorite part of the class was when the upper classmen [*sic*] came in and shared their multicultural experiences . . . it really made an impact to hear our peers speak first-hand of their experiences."

We have learned from previous experience that the messages inherent in intercultural communication and cultural competence can evoke strong emotional reactions in some participants as evidenced in the following comments from students' reflection papers: "While I understand it is crucial for practitioners to be aware of cultural differences, I would like to know what can be done to make patients more aware of Western culture/medicine"; "I am torn because we are forced to pay to accommodate people who are coming to America and not learning our language"; "I was a bit offended by a few of the comments . . . about stereotypes"; "I have a hard time trying to relate to other cultures because I feel that other cultures should accommodate to the dominant culture in the region in which they live"; "Some of the comments made . . . during the course were offensive and inappropriate." However, sentiments such as these may have an adverse effect on course evaluation outcomes and should be considered with respect to the nature of the topic.

Other comments made by D2 students indicated that a single four-hour session was too long. The D1 students did not have any comment on the length or timing of the series; therefore, conducting three two-hour sessions appears to be the preferable mode of delivery.

Course evaluations for the D1 curriculum content were positive. Sixty-four percent (N=36) of respondents rated the importance of presenting cultural competency training in the classroom as moderately or very important. Seventy-eight percent of students rated as moderately or very important the importance of having exposure to individuals of different racial and ethnic backgrounds as it related to their ability to provide dental care in a multicultural society. Fifty-three percent reported that the curriculum had increased their self-awareness of how multicultural their lives had been.

Discussion

Preliminary results from this study suggest that the curriculum as delivered produced changes in students' knowledge levels and self-awareness relating to cultural competence. The students' reflection papers indicated an overall positive response to the experience, with preference for the interactive learning sessions. These are important observations because active learning in combination with reflective journaling has been shown to enhance cultural awareness and encourage the development of critical thinking skills, particularly in the affective domains of trust, communication, and building rapport.[58]

This is a presentation of data from the first use of this measure intended for timely communication of preliminary findings. Interpretation of the results is limited by the need for further study to control for the internal and external validity of the instrument.

Previous experience with delivering this type of curriculum programming has shown that sensitive subjects such as these can evoke strong emotional reactions in some students as evidenced in some of the reflection papers. Some responses were very positive, but some were very negative. Each represented an individual student's emotional response that is not necessarily reflective of the effectiveness of curriculum changes or the value of the experience. Negative emotions can arise when preconceived notions are challenged or stereotypical beliefs are discovered, but the experience of these emotions should not preclude discussion of these issues. Care should be taken, therefore, in the interpretation of subjective assessment tools.

Future longitudinal research into the sustainability of these knowledge gains will be informative in determining whether cultural competence curriculum content translates into changes in clinical practice that lead to a reduction of health disparities. Future research should also include ongoing curriculum evaluation and modification to identify additional opportunities to incorporate intercultural communication content. The literature search for this project also highlighted the need to develop instructional materials, including media that are specific to dental medicine.

Faculty members at this dental school plan to teach the current D1 cultural competence curriculum to incoming students yearly. Future plans include modification of the D2 curriculum module to include use of clinical videos specific to dental medicine.[31] Other plans include mapping the D3 and D4 curricula to identify additional multicultural clinical experiences. It will also be important to continue to identify resources and media that are specific to cultural competency in dental medicine to increase the relevance and pertinence of the experience. Future curriculum modifications will be developed to increase the number of opportunities for externships in settings that serve diverse patient populations because there is evidence to suggest that dental students who complete such experiences are more likely to serve underserved communities in their clinical practices.[59,60] While developing cultural competence is an ongoing developmental process,[10] the ultimate goal of developing curriculum content around cultural competence will be to begin to reduce racial and ethnic health disparities, to teach students to develop culturally effective treatment plans, and to improve patient collaboration in and compliance with treatment plans.

These preliminary data suggest that future research initiatives should include longitudinal studies and explore the use of a validated instrument. Securing funding to develop additional multimedia materials specific to dental medicine is also needed.

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