Evaluating the Effect of Cultural Competency Training on Medical Student Attitudes

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Background and Objectives: Developing skills for taking care of patients from a wide variety of backgrounds is a growing area of importance in medical education. Incorporating cultural competency training into undergraduate medical education is an accreditation requirement. Although there are an increasing number of such curricula reported in the literature, there has been little evaluation of their effectiveness. We describe a new undergraduate cultural competency curriculum, the reliability of an instrument for assessing student attitudes in this area, and the effects of our curriculum on student attitudes. Methods: Two introductory clinical medicine courses focused on the importance of providing culturally competent care to all patients. The courses used problem-based learning and a history-taking mnemonic to teach students to assess patients’ perspectives. The authors verified the reliability of the Health Beliefs Attitudes Survey (HBAS) and used it to determine changes in students’ attitudes on issues relating to cultural competency. Results: The HBAS reliably measured four cultural competency concepts. Student attitudes regarding the importance of assessing patient opinions and determining health beliefs improved significantly following the courses. Conclusions: The method used here to teach students cultural competency skills early in medical school positively affects student attitudes on cultural competency issues.

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The US Census Bureau projects that by 2050 the proportion of the population classified as non-Hispanic white will drop from 71% to 53%, resulting in a diverse cultural environment in which today’s medical students will practice.1 In recognition of the increasing diversity of the US population, the most recent accreditation standards from the Liaison Committee on Medical Education (LCME) require that all students develop “an understanding of the manner in which people of diverse cultures and belief systems perceive health and illness.”2 To meet this requirement, medical schools must develop curricula that teach students to assess and appreciate the cultural sources of each patient’s health beliefs. Failure to develop these skills and attitudes may limit access to health care resources for some patients, pose risks to patient safety, and may contribute to the continuation of health disparities.

In recent years, curricula and guidelines have been developed for both undergraduate and graduate medical education to meet the need for cross-cultural training of health professionals.3-5 However, there are relatively few published studies evaluating the effectiveness of these approaches.6-12 We describe and evaluate a method of cultural competency training that focuses on assessing health beliefs. We integrated this focus into existing medical school courses that introduce students to issues in clinical care and teach basic history taking and physical examination skills. The courses used problem-based learning and history-taking mnemonics to encourage students to assess patients’ perspectives on their problems and to improve students’ use of interpreters in patient care settings. To evaluate the effect of this new curriculum, we used the Health Beliefs Attitudes Survey developed by Dobbie et al.13 We report on the reliability of this instrument and the effect that the curriculum had on student attitudes toward assessing patients’ health beliefs and other aspects of cultural competency.

Methods

We revised two existing required courses on introduction to clinical medicine so that they now include a focus on the importance of providing culturally com-
petent care. A total of 175 first-year medical students took the revised courses during the 2001–2002 academic year at New Jersey Medical School. Students taking the courses completed a 15-item survey before and after the courses to determine the importance that they placed on assessing patients’ health beliefs. We examined the reliability and factor structure of the instrument. We also compared pre- and post-course scores on four factors relating to cultural competence to determine the effect of the courses on students’ attitudes.

Curriculum

The students in this study were all first-year medical students at UMDNJ-New Jersey Medical School. At New Jersey Medical School, two courses in the first year introduce students to clinical medicine: the Art of Medicine (AOM) and the History and Physical Examination (H&P) courses. Prior to the start of the 2001–2002 academic year, we revised these two courses with two goals in mind. First, we wanted to focus on the importance of providing culturally competent care to all patients. The second goal was to reinforce key concepts related to culturally competent medical care by developing a more cohesive curriculum.

A faculty committee in the family medicine department and a separate committee convened by the Office of Education worked on incorporating cultural competency instruction into these introductory courses and developed new course materials to accomplish these goals. The committees determined that students should gain knowledge about how cultural differences between providers and patients could affect health care. The committees also determined that students should gain history-taking skills to assess cultural differences and develop attitudes that accept the importance of assessing patients’ beliefs and psychosocial-cultural context for providing good health care.

AOM Course

The first of these courses, AOM, uses the problem-based learning method to introduce students to some basic concepts of clinical medicine. Groups of seven or eight students work through a series of written patient cases with a faculty facilitator. The course director and the case authors set learning objectives for each case, which were included in a facilitator handbook and discussed at regular facilitator meetings. Since others have found that using a problem-based learning approach is successful in teaching humanistic attitudes and behaviors,14 we revised this course to provide students with an understanding of the influence of cultural and psychosocial factors on health beliefs and practices as well as to help students develop strategies likely to enhance communication with patients from a variety of backgrounds.

The revised course used six cases depicting three generations of a multiracial/multiethnic family. These cases include issues relating to cultural and linguistic differences between family members and health care providers. For example, one of the cases depicts a patient who does not speak English and has a family member serving as an interpreter. Another case involves an elderly patient who uses a folk remedy to treat a serious medical condition. As part of their investigations and discussions in this course, students learn to construct history-taking questions that elicit patients’ perspectives on their problems. In addition, students discuss how to deal with situations where the perspective and values of the patient differ from their own. The facilitator handbook instructed faculty members in ways to challenge students to discuss how their own preconceptions and prejudices about particular patients could affect patient care.

H&P Course

The revised H&P course has groups of 12 to 14 students who work with a clinical faculty member to learn how to take a complete history and perform a physical examination on a patient who has no significant abnormal findings. The overall goal of the revised course was for students to gain competencies in performing the history and physical examination in a professional manner while meeting the needs of diverse populations. To teach students how to elicit the patients’ perspective on their problems as a formal component of history taking, we used a portion of the ETHNIC mnemonic developed by Levin et al.15 Using this mnemonic, students elicit patients’ perspectives on their problems by determining their Explanation of the problem, the Treatments that they have sought or would like, and the Healers that they have consulted. Since developing a plan based on the history is a more advanced skill, students learn the remainder of the mnemonic involving Negotiation, Intervention, and Collaboration in the second and third years. Additionally, students watched an instructional videotape designed to improve their ability to work with an interpreter in health care settings.16 After viewing the videotape, students learned to use a new history-taking mnemonic designed to aid in the use of interpreters.17 Clinical faculty members teaching this course also viewed the videotape and received training in the use of these mnemonics.

At the same time that students are taking the H&P course, they also participate in a primary care preceptorship. This preceptorship provides students with the opportunity to observe the practice of general internal medicine, general pediatrics, and family medicine in ambulatory clinical settings. In these settings, students also have the opportunity to practice the physical examination and history-taking skills that they are beginning to develop in the H&P course. To reinforce in the clinical setting the skills learned in the course, preceptors receive regular updates about the H&P curriculum along with a copy of the mnemonics used in the course.
Survey Instrument

A literature search for survey instruments we could use to assess students’ attitudes toward cultural competency issues found no published instruments suited to our purposes. We obtained permission to use a new instrument developed by Dobbie et al, the Health Beliefs Attitudes Survey (HBAS). This survey was constructed by a group of nationally recognized experts in the field of cultural competency and was targeted at the areas that we wanted to assess. The HBAS consists of 15 items, scored on a 6-point Likert-type scale, assessing various aspects of students’ attitudes toward how cultural competency relates to health care quality (see Table 1 for survey items). Questions 3, 5, 7, and 15 were worded negatively to help ensure data quality. Since reports on the reliability of the instrument have not been published, we undertook additional analyses to verify the reliability of the HBAS.

Data Collection

After we obtained approval from our Institutional Review Board, faculty facilitators distributed surveys in February 2002, at the beginning of the AOM course. Out of 175 first-year students, 114 completed the initial HBAS, for a response rate of 65%. In May 2002, as part of the evaluation process at the end of the H&P course, 151 students completed the survey again for a response rate at follow-up of 86%. Complete data was available for 91 students, representing 80% of baseline respondents and 52% of all first-year students.

Data Analysis

To assess the reliability of the HBAS, we computed Cronbach’s α for students’ survey responses both before and after the intervention. We identified the constructs measured by the instrument through principal components analysis with varimax rotation of the pre-intervention survey responses. After reverse coding items that were negatively worded on the instrument, we used principal axis factor analysis with oblique rotation to verify the presence of the factors identified through the principal components analysis. Component or factor loadings of 0.4 or greater were used to identify the main components or factors. We then averaged the responses to questions associated with each particular component or factor to construct component scores. In cases where items loaded onto more than one component, they were only included in the component with the highest loading.

Using only those cases with complete data, we examined the component scores using paired samples t tests to determine the relationship of the courses to students’ attitudes. In addition, we used independent samples t tests to compare the attitudes of different

Table 1

| Importance of assessing patients’ perspectives and opinions (Opinion): (α=.7620)* |
|-----------------|-----------------------------------|
| 1-1             | Physicians should ask patients for their opinions about their illnesses |
| 1-3‡            | Patients may lose confidence in physician if physician asks their opinion about their illness or problem |
| 1-6             | Understanding patients’ opinions about their illnesses helps physicians provide better care |
| 1-10            | Physicians can learn from their patients’ perspectives on their illnesses |
| 1-13            | Physicians should make empathic statements about their patients’ illnesses |

| Importance of determining patients’ beliefs for history taking and treatment (Belief): (α=.6670)* |
|-----------------|-----------------------------------|
| 1-2             | It is important to know patients’ points of view for the purpose of diagnosis |
| 1-4             | Understanding patients’ opinions about their illnesses helps physicians reach correct diagnosis |
| 1-8             | Physicians should ask their patients what they believe is the cause of their illness |
| 1-11            | Physicians should ask their patients why they think their illness has occurred |
| 1-9             | Physicians should learn about their patients’ cultural perspective |
| 1-12            | Physicians should ask about how an illness is impacting a patient’s life |
| 1-14            | Physicians should ask patients for their feelings about their illnesses |

| Importance of assessing patients’ psychosocial and cultural contexts (Context): (α=.6362)* |
|-----------------|-----------------------------------|
| 1-5‡            | Physicians can give excellent care without knowing patients’ opinions on their illnesses or problems |
| 1-7‡            | Physicians can give excellent health care without knowing patients’ understanding of their illness |
| 1-13‡           | Physicians do not need to ask about patients’ personal lives or relationships to provide good health care |

* Cronbach’s alpha for the subscale
† Factor loadings > .4 retained
‡ Items reverse coded when constructing component scores so that strong agreement=1, strong disagreement=6
demographic groups. To examine the relationship between the components of the survey and student age, we used bivariate correlation. To test for possible response bias, we compared the demographic characteristics of those who completed either the baseline or follow-up surveys with those who completed both surveys, using Pearson chi-square. In addition, we compared the responses to the survey items of these two groups using independent samples t tests.

**Results**

For those students with complete data (n=91), 45% were women, which is identical to the gender breakdown of the class as a whole. Further, 50% identified themselves as white, 32% as Asian American, 9% Hispanic, 3% African American, with the remainder (7%) identifying other racial/ethnic backgrounds. The registrar’s office reported that for the class as a whole, 47% were white, 31% Asian, 12% Hispanic, and 10% African American. The mean age of respondents was 24 years and ranged from 21 to 35 compared to a mean age for the class of 23 with a range of 19 to 35. The sample includes fewer African American and Hispanic students than in the class as a whole.

Cronbach’s α for the pre-intervention survey was .785 and .859 for the post-intervention survey. Previous uses of the survey had found similar reliability coefficients.13

The principal components analysis of students’ responses to the HBAS before the intervention revealed a four-component structure (see Table 1). The four constructs were (1) Opinion: assessing patients’ perspectives and opinions is important, (2) Belief: determining patients’ beliefs is an important part of history taking and treatment, (3) Context: understanding psychosocial and cultural contexts is important, and (4) Quality: knowing the patient perspective is important in providing quality health care. The principal axis factor analysis with oblique rotation confirmed this four-construct structure.

At baseline, women had significantly higher scores on several of the questions (5, 9, 12, and 14, P<.05) and on two of the four components: context (P=.001) and quality (P=.019). At follow-up, women had significantly higher scores on some of the survey items (5, 6, 7, and 9, P<.04) and on the quality (P<.001) and opinion (P=.022) components. Age was correlated significantly with responses to item 8 (r=.226, P=.03) on the baseline survey, indicating that older students were more in agreement with the importance of asking about what patients believe to be the cause of their illness at baseline. In addition, older students agreed more on the follow-up survey with the importance of asking about the relationships and personal lives of their patients for delivering good quality care following the courses (question 15, r=.247, P=.018). There were no other significant age-related differences. There were no significant differences at either baseline or follow-up relating to ethnicity. Compared to those responding to only one of the surveys, the respondents to both surveys were more likely to identify themselves as white (50% versus 34.4%, P=.007) or Asian (32.2% versus 22.2%, P=.007). However, those responding to only one of the surveys did not differ significantly on any of the components at baseline or follow-up from those who responded to both surveys.

Comparison of pre- and post-intervention scores on the above four components showed statistically significant improvement in two of the four constructs: opinion (P=.016) and belief (P<.001). Student scores also improved on the remaining components but did not reach statistical significance (Table 2).

**Discussion**

The curricular methods used here contributed to an improvement in students’ attitudes toward the importance of assessing patients’ health beliefs. Women were more likely to see the value of knowing the patient’s perspective for providing good quality health care both before and after the intervention. Further, while older students were somewhat more likely to agree with some of the survey items both before and after the intervention, this differ-

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| Table 2 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| **Health Beliefs Attitudes Survey Component Scores** | **Pre Intervention** | **Post Intervention** | **t Statistic** | **P Value** |
| **Factors** | **(February 2002)** | **(May 2002)** | | |
| Opinion (1) | 4.88 | 5.10 | 2.552 | .012 |
| Belief (2) | 4.49 | 5.08 | 4.850 | .000 |
| Context (3) | 5.44 | 5.45 | .977 | .323 |
| Quality (4) | 4.38 | 4.62 | 2.291 | .088 |

Note: n=91

SD—standard deviation

(1) Importance of assessing patients’ perspectives and opinions
(2) Importance of determining patients’ beliefs for history taking and treatment
(3) Importance of assessing patients’ psychosocial and cultural contexts
(4) Importance of knowing the patient’s perspective for providing good health care

* Component scores are the mean of responses to items scored on a 6-point scale (1=strongly disagree to 6=strongly agree)
ence was not evident in the component scores, indicating that age is not a significant determinant of cultural competency attitudes measured by the survey. The lack of significant differences in attitudes when comparing minority students to other students may be the result of the relatively small number of students from minority groups participating in the study.

Although we did find a significant change in students’ self-reported attitudes after these two courses, we do not know the extent to which this learning will improve the history-taking practices of students in clinical encounters. Further, we do not know how long the change in attitudes observed here will persist, and others have found that such attitudes are likely to fade over time.\textsuperscript{18} Future research will focus on determining whether these improvements in student attitudes toward assessing patients’ health beliefs persist throughout their education and the extent to which they translate into different clinical behaviors. As part of these efforts, we plan to reassess student attitudes later in their experience and to add the assessment of health beliefs and other cultural competency skills to the graduation objective structured clinical examination currently required at our institution.

\textbf{Limitations}

Although we did get high response rates on both the baseline and follow-up surveys, because different students were nonrespondents to the two surveys, we had complete data for only 52\% of the class. While this may have introduced some response bias, our examination of those students who responded to only one of the surveys showed that their attitudes were not significantly different, at either baseline or follow-up, from those who responded to both surveys. The relatively high baseline scores on the context component may have contributed to the lack of significant improvement in this area and may suggest a need for further refinement of questions in this area.

Finally, although we did not see statistically significant improvement on the quality component, this could be the result of student inexperience with regard to what determines quality health care. As students gain clinical experience using the techniques learned in these beginning courses, they may come to value more highly the understanding of cultural context and the relationship of cultural competency to the quality of health care.

\textbf{Conclusions}

The effective teaching of cultural competency attitudes and skills such as those targeted in our intervention is increasingly important in undergraduate medical education. Teaching the importance of assessing patients’ understanding of their problems early in the medical school curriculum can have a positive influence on the importance that students assign to this as-

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Training Residents in Problem-solving Treatment of Depression: A Pilot Feasibility and Impact Study

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Background and Objectives Primary care patients with depression may prefer or require a non-pharmacological treatment such as counseling. We investigated the feasibility of teaching family medicine residents an evidence-based brief counseling intervention for depression (Problem-solving Treatment of Depression for Primary Care [PST-PC]). Methods: Eleven residents over 3 consecutive years were provided a brief training program in PST-PC. Residents were evaluated for skill acquisition, changes in self-efficacy, intentions to improve their care for depression, and post-residency integration of PST-PC into their daily practice. Results: Trainees met established criteria for competency to administer PST-PC. They improved to moderate-to-high levels of self-efficacy for treating depression, including for their counseling skills, and in their intentions to improve their depression management. At up to 3 years post-residency, 90% indicated they were using PST-PC, often in a modified form, and also for illnesses other than depression. They indicated they would recommend the training to new residents. Conclusions: The PST-PC training program evaluated in this study is feasible in residency training and appears to influence practice post residency. These findings warrant continued investigation of this training program with a larger sample of residents and evaluation of outcomes with depressed patients treated with PST-PC in real-world practice settings.

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Depression is one of the most prevalent illnesses seen in primary care practice, but patients may refuse or not respond to antidepressant medication and may be unwilling to accept referral to mental health professionals. Evidence-based counseling interventions exist, but due to their length and complexity, family physicians are not often trained to use them. Family physicians regularly provide pragmatic supportive counseling, such as planning pleasant activities, and are receptive to learning evidence-based counseling methods, but feasible treatment methods and training models are needed.

Problem-solving Treatment of Depression for Primary Care (PST-PC) is a brief intervention specifically designed for primary care that is effective for reducing depressive symptoms and increasing function among patients with major depression and possibly minor depression and dysthymia. PST-PC has been shown to be equally effective when provided by nurses and primary care physicians as by mental health professionals. PST-PC is comprised of seven treatment steps that are outlined in Appendix 1 and have been thoroughly described elsewhere. The full seven-step PST-PC treatment program is typically conducted in four to six 30-minute office visits. However, the capacity to deliver more brief modules makes it feasible for visits as short as 10–15 minutes.

The PST-PC training program used for research is time consuming. If PST-PC is to have an influence in family medicine, then a more feasible training model must be developed. We redesigned the PST-PC training model (Table 1) to be more suitable for a residency program and examined its feasibility and effect in terms of acquired skills, self-efficacy in depression management, and reported routine use after training.

Methods

Study Design

Three consecutive classes of residents (n=11) were provided training by the first author during their second year of residency. Evaluation of residents’ performance included videotape reviews of the two PST-PC role-play sessions, self-report questionnaires completed...