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Research Paper

A curriculum on care for people with disabilities: Effects on medical student self-reported attitudes and comfort level

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Abstract

Background: Early, frequent encounters with people with disabilities may improve medical students' knowledge, attitudes and skills regarding their care. We developed and implemented a longitudinal four-year curriculum addressing caring for people with disabilities.

Objectives/hypothesis: To test differences in mean scores between intervention and control groups on individual post-survey items regarding attitudes toward people with disabilities, and to conduct exploratory procedures to examine individual factors that may account for group differences.

Methods: Students at two U.S. medical schools, one with the new curriculum, and one with no specific disabilities curriculum, were surveyed in Year 1 of medical school, prior to curriculum introduction, and again at the end of Year 3, using a validated 30-item instrument measuring medical students' self-reported attitudes and comfort toward people with disabilities. We compared mean item ratings between the two groups using χ^2 and ANOVA. Principal components analysis was then used to construct linear composite variables that were then regressed on potential predictors of attitudes and comfort level.

Results: The intervention led to significant or near-significant improvement in several factors. However, male students in the intervention group, particularly those who encountered people with disabilities in a clinical context, had a tendency to more frequently agree with negative statements ($\beta = .628$, $p = .005$).

Conclusions: Exposure of medical students to a longitudinal curriculum for caring for people with disabilities led to significant improvement in several factors related to comfort and attitudes. The gender-related reinforcement of some negative attitudes merits further investigation and caution when implementing the curriculum in the future.

Keywords: Disability; Medical education; Medical students; Evaluation; Curriculum

The Americans with Disabilities Act defines "disability" as "a physical or mental impairment that substantially limits one or more major life activities."[1] People with disabilities are at increased risk for poor health, unmet health care needs, and barriers to obtaining care.[2–4] According to the 2008 U.S. Census, approximately 12% of the population lives with a significant disability.[5] Lack of physician comfort in caring for people with disabilities may lead to poor outcomes.[6] Physicians in practice as well as those in training have reported lack of comfort in interviewing and examining people with disabilities.[6–9]

People with disabilities have reported physician attitudes as a barrier to receiving health care services.[10,11] There is evidence that when health care providers are placed in a situation where they need to care for people with disabilities they may develop negative attitudes about working with this population because they lack training.[12,13] Negative attitudes on the part of heath care providers, whether overt or subtle, have been shown to result in inadequate

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physical examination and diagnostic testing as well as substandard provision of preventive services.[14–16] Despite all these facts, relatively little attention is devoted to teaching medical students or physicians to care for people with disabilities.[16–19]

Early and frequent encounters with people with disabilities may improve medical students' knowledge, attitudes and skills regarding their care.[12,19,20–22] There have been calls locally, nationally and internationally to develop curricula to teach medical students to care for people with disabilities.[3,4,23–25]

We developed and implemented a longitudinal curriculum to improve medical students' knowledge, attitudes and skills pertaining to patient-centered care of persons with disabilities.[26] This paper examines the effect of this curriculum on medical students' self-reported attitudes and comfort level in caring for people with disabilities.

Methods

Overall study design

The study design is a controlled non-randomized before and after trial. The intervention consisted of the introduction of the disability curriculum. The control consisted of no specific intervention to improve students' attitudes toward disability. We used a validated standardized instrument to measure participants' attitude at each site both before and after the intervention.

Intervention

The curriculum is described in detail in a previous publication.[26] In brief, the curriculum is integrated into existing course curricula in all four years of medical student education. Students in their first year receive a lecture on disability and society from a community agency that provides health and social services for people with disabilities. The presentation is followed by small-group encounters with people with disabilities and their families who discuss both the positive and negative aspects of their interactions with the health care system. Second-year students receive a presentation on aspects of the clinical encounter with people with disabilities. They also participate in a disability-related objective structured clinical encounter for which people with disabilities are trained to portray a patient. Third-year students in the Family Medicine clerkship spend one day in a precepted clinical experience in a facility which provides primary care and ancillary services for people with disabilities. They also participate in a half-day workshop on the socioeconomic and legal context of caring for people with disabilities. During the Internal Medicine clerkship, third-year students participate in a didactic presentation on common medical concerns of people with disabilities. Fourth-year students may choose to participate in a four-week elective on primary care for patients with disabilities. The curriculum was first implemented in 2008 and remains operational.

Participants

Participants in the intervention group consisted of medical students enrolled in a public medical school (the State University of New York at Buffalo, NY). They were specifically the first cohort of students to participate in the entire core curriculum. The entire class participated in all elements of the curriculum. Participants in the control group consisted of medical students at a comparable public medical school in the same region (the State University of New York at Syracuse, NY). The Institutional Review Board of the University at Buffalo approved the study.

Measurement instrument

We specifically developed and validated for this project a four-level, 30-item Likert-scaled instrument to measure medical students' self-reported attitudes and comfort level toward people with disabilities.[27] We developed the instrument by reviewing and adapting existing tools for assessing attitudes toward people with disabilities,[28] as well as from input received from local professionals who work with people with disabilities, medical educators, patients and families. The instrument includes demographics (age and gender), personal and education experience with people with disabilities, 18 attitude/opinion items related to people with disabilities, and reaction to two clinical vignettes (one with a patient with an apparent disability accompanied by a companion, and one with a patient without an apparent disability accompanied by a companion).

Scenario A:

> You enter the exam room. A middle-aged man and woman are there. He tells you he is experiencing chronic abdominal pain.

Scenario B:

> You enter the exam room. A middle-aged man is seated in a wheelchair. Standing behind him is a woman of about the same age. The patient in the wheelchair appears to have spasticity in all four limbs. He greets you by saying "hello." His speech is somewhat garbled, though intelligible. The woman tells you that the patient is here because he is experiencing chronic abdominal pain.

Respondents were asked whether they had experiences similar to each, whether they were comfortable determining the role of the man and the woman, and whether they would be comfortable performing a physical examination and establishing a differential diagnosis in each case. Response choices to each attitude/opinion item and to questions about each vignette included "Strongly Disagree" (1), "Disagree" (2), "Agree" (3), and "Strongly Agree" (4). A full copy of the instrument, including vignettes, was previously published.[27]