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It Can Be Done! A Skills-Based Elective in Implicit Bias Recognition and Management for Preclinical Medical Students

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Abstract

Purpose—Students perceive bias in learning environments. Curricula targeting implicit bias recognition and management increase student awareness and achieve strategy identification, but fall short of actual skill development to address bias. In light of this gap, the authors developed and evaluated a skills-based elective to recognize and manage implicit bias in the learning environment.

Method—Nine 1.5-hour sessions were delivered to 15 first-year medical students from 2017-2019. An evidence-based conceptual framework and transformative learning theory informed the instructional design; it incorporated active learning exercises. Skills assessment occurred through direct observation of student performances in role-play exercises. Using thematic analysis, the authors conducted a program evaluation based on focus groups with students and data from notes taken by the investigative team.

Results—Students engaged with all aspects of instruction, including role-plays. Authors identified three themes from the program evaluation: (1) Student engagement can be enhanced, (2)

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Instruction is empowering, and (3) It (addressing bias in one's own and witnessed encounters) can be done! Analysis additionally highlighted opportunities for improvement and lessons learned.

Conclusions—This innovative course achieved skill development and practice for medical students in implicit bias recognition and management as it pertains to 3 facets of clinical care present at every stage of a health professional's career. These include interpersonal encounters, advocating for patients when bias is perceived in witnessed encounters with peers and supervisors, and addressing comments made by others within the learning environment. Outcomes could inform novel, skills-based curricula across the spectrum of health professions training and practice.

"*None of us said anything, it felt terrible.*" Two students sat anxiously after recounting biased comments made by a lecturer. It was especially dismaying that they encountered this challenge after a health disparities elective we taught in 2016[1]; even though the elective included 2 sessions on implicit bias, neither student felt empowered to address bias in the learning environment. This was not an isolated incident. In our previous work, students described biased statements made during preclinical case conferences and in clinical settings.[2] These statements exemplify important aspects of the learning environment, "the tone of the educational climate or culture, and the routine way people interact."[3] Hearing disparaging remarks about Black patients by attending physicians has been associated with an increase in medical students' implicit racial bias.[4] In prior studies, we have elucidated students' desires for skills development to address biases perceived while observing patient care and within the learning environment.[2,5]

Undergraduate medical curricula increase awareness of implicit bias, with some successfully identifying strategies to manage these incidents through reflection and discussion.[1,6-8] While strategy identification is important, to our knowledge no published curricula provide opportunities for skills development and practice. Increasing awareness without providing the opportunity for skills development and practice can yield unintended consequences, such as avoidance of persons against whom one is biased.[9] Until we design curricula with opportunities for skills development and practice, we as educators may engender these unintended consequences. To address this gap, we developed an elective for first-year medical students in implicit bias recognition and management (IBRM) that provides multiple opportunities for skills development and practice. We constructed skills-based learning objectives for the course relevant to students' early stage of training:

1. Recognize when implicit bias may be influencing one's own communication with a patient or peer;
2. Advocate on behalf of patients when perceiving bias in a witnessed encounter; and
3. Address biased comments made within the learning environment.

We describe the curriculum and its outcomes, following guidelines adapted from a checklist proposed for graduate medical education.[10] We report our program evaluation, which results from focus groups of participants, soliciting their feedback on positive components of the

curriculum, and those requiring revision; the program evaluation additionally includes analysis of notes taken by the investigative team during each session.

Method

Program description

Approach.—Each spring, the Albert Einstein College of Medicine, an urban medical school in Bronx, New York, offers several electives to first-year medical students, with course information sent through an email from the Office of Medical Education. Approximately 80 students (44% of a class of 183 students) participate in an elective each spring. Most, therefore, have small enrollments (2-10 students), with one exception: Medical Spanish, which attracts approximately 50 students each year. Three, eight, and four first-year medical students participated in our course during the spring of, respectively, 2017, 2018, and 2019, for a total of 15 students. The students chose to participate based on an interest in this topic; they were drawn from the entire class, all of whom had participated in a workshop during orientation week that introduced the concept of implicit bias. Our course comprises nine 1.5-hour instructional sessions.

We utilized the conceptual framework developed by Teal and colleagues in our instructional design.[11] This framework explains individuals' progression through various stages related to IBRM, from absolute denial, through defense, minimization, and acceptance of implicit bias in themselves and its potential influence on clinical care.[11] The final two stages are adaptation of existing behaviors and integration of skills into (non)clinical encounters.[11] Individual sessions were informed by Transformative Learning Theory,[12] the four main components of which include: an experience (a "disorienting dilemma"), critical reflection, dialogue, and action.[13]

The course was conceptually divided into two sections. Section 1, which included Sessions 1 through the first portion of Session 6, focused on students directly participating in an interpersonal encounter (inclusive of encounters with patients and peers). Section 2 included the second portion of Sessions 6 through Session 9 and focused on perceived bias in the learning environment. Tables 1 and 2 detail session names, learning objectives, and instructional strategies for, respectively, sections 1 and 2; detailed session materials are available upon request from the corresponding author. Salient to our approach was a focus on skills development in implicit bias as a professionalism issue relevant to all physicians.[2,14,15]

Section 1: Addressing bias in one's own interpersonal encounters.—Students wrote reflections about encounters when their own or another's bias may have been activated. To explore the etiologies and existence of our individual biases, students observed video clips from popular television shows, wrote personal narratives, and reflected on their experience taking the Race Implicit Association Test.[16] Given our previous findings that patients' lived experience with prior bias and discrimination may potentially sensitize them to perceive bias in a clinical encounter,[17] we conducted formal perspective-taking exercises through video observation and debrief. Subsequently, during the first part of Session 6,

students practiced making statements in order to restore patient rapport within an encounter in which they are the provider should bias be perceived by the patient.

Section 2: Addressing perceived bias during witnessed encounters.—During the sixth session, instruction transitioned to addressing bias that students perceive during witnessed encounters. In order to prepare students to actively participate in the upcoming role-plays, instructors first performed a scenario in which attendings, residents, and students behave in a biased fashion toward patients. Students brainstormed together and individually made statements to the group that safely and respectfully addressed the bias demonstrated during the scripted scenario. Following this initial practice, students participated in role-play exercises in Sessions 7 through Session 9.

We designed 3 role-plays during which a student experienced or witnessed bias on the part of a faculty member and/or peer during teaching and clinical encounters. This unscripted role required students to develop and practice new skills to address bias in the learning environment. This allowed for a realistic and educationally relevant experience, while simultaneously providing the safeguard of a structured, supportive debrief. Role-plays were video recorded and debriefed following the Stanford Faculty Development Center model (www.sfdc.stanford.edu. – adapted with permission). Students had the chance to learn from the debrief and immediately practice suggestions for skills during a “do-over” of the role-play. The do-over enabled students to succeed in the role-play, and benefited the observers through the power of a vicarious experience (observing and debriefing the successful do-over) to enhance self-efficacy.[18]

Student assessment.—Student assessment was based on attendance, participation, and completion of three pre-session assignments (completion of an Implicit Associations Test and two reflections). Grading was pass/fail. We formatively assessed students’ attainment of skills to address bias based on direct observation during role-plays. In the debrief following the role-play, students self-assessed first. Those in the role of participants within or observers of the role-play discussed their reactions to the skills employed. Finally, the instructor relayed her assessment, both from the perspective of her character in the role-play (always the role of the faculty member making the biased statements) and in context of a general medical education setting.

Program evaluation

We held 2 focus groups: ne mid-way through the course and one upon completion of all instruction. The faculty instructor was not present in the room during the focus groups. A trained research assistant conducted focus groups following a semi-structured interview guide (see Supplemental Digital Appendix 1). Questions explored students’ perspectives on effective components and suggestions for improvement of the overall course, then followed the same format delving deeper into each individual session. Focus groups were part of the elective in 2017 and 2018. We were unable to conduct focus groups in 2019 due to scheduling constraints. Members of the investigative team took notes contemporaneously during each session to capture emerging skills and to identify session components needing improvement. Similarly, notes were taken during team meetings immediately after each

session. All procedures were approved by the Albert Einstein College of Medicine and its Institutional Review Board. Focus groups were digitally recorded, de-identified, and professionally transcribed. Interpretive thematic analysis methods guided data analysis.[19] Briefly, each transcript was independently coded by at least two investigators, who then met to develop a preliminary codebook. This codebook was then applied to the remaining transcripts, and revised as needed through discussion. Codes and their meanings were discussed in an iterative fashion to develop conceptual themes.

Results

Our program evaluation identified three themes from the thematic analysis of focus group transcripts. We describe themes and include exemplary quotes. We highlight unexpected insights that informed our instructional approach as well as unexpected student-driven skills that emerged from analysis of the notes taken by the investigative team.

Student engagement can be enhanced

Despite volunteering to enroll in this elective, some students were apprehensive about discussing their biases. Students valued instructors' efforts to maintain a safe and respectful tone during instruction. As one said:

> I really appreciate how this class makes a very clear distinction between the implicit bias that no one does on purpose versus something really terrible like really purposeful, racist thoughts that people are doing on purpose to hurt others. I feel that's where a lot of the holdup is in these types of conversations beyond this specific classroom, at least in the ones that I've been a part of.

They deemed facilitator role-modeling instrumental in normalizing and destigmatizing the concept as well as enabling open and honest dialogue. One student commented:

> I feel like she [instructor] always goes out of her way to find examples from her own life where she's like I'm still learning too, and it makes it very real, and also comforting to be like okay, this is something we're all working on.

Students endorsed using videos from popular culture and online representations of actual users' lived experiences. One said, "There was good use of YouTube and people's own recordings, or things that were more pop cultural. It felt more relatable than some of the other videos content that we have in other courses, which is sometimes more outdated." These made content more relatable and demonstrated the impact of implicit bias on both clinical and nonclinical encounters, thereby, facilitating students' ability to actively engage with the content.

Instruction is empowering

Skills development felt empowering for students, but so did the didactic instruction. Said one student: "It's good to have an arsenal of those kind of studies [evidence from the literature] for when you're talking to people who are on the fence." They believed increased knowledge and comfort with relevant vocabulary would enable them to educate their peers and enhance outcomes in conversations related to implicit bias. Reflection activities fostered

student awareness of instances when their biases might have affected previous interactions; one student said:

> The writing assignment that asked us to remember one moment where we noticed implicit bias in ourselves was really helpful. It made me reflect on something that I hadn't thought about in a while. I didn't realize that I could make progress thinking about it the way that I did.

Augmenting their abilities in perspective taking accelerated skill implementation in two areas: first, in acknowledging real or perceived bias; and second, in developing language to apologize and/or demonstrate empathy for the perspective of the other person in the encounter. One student commented:

> The idea of perspective taking and imagining self versus the others. I think the idea was like recognizing that the other person's reaction or perception is influenced by their past experience, and that you need to recognize that, but not necessarily put yourself in their shoes.

This recognition, that the perception of bias is influenced by a patient's lived experience, could help students not get defensive, especially when bias is perceived on routine history-taking questions that students have been taught to ask. Finally, although students were initially reticent to participate in the unscripted role during the role-plays, they were able to appreciate the benefits of our approach. One said:

> Even though it's nerve racking to be in the hot seat, actually that feeling of being observed, and being like 'oh, and I don't want to do the wrong thing,' it's probably very applicable to the emotional experience of being in a situation where you're going to be evaluated. It was nice to have the room to debrief with … [to discuss] what the points were where you might do something.

The debrief helped students formulate their strategies for the do-over, the repeat attempt to implement new skills in the unscripted role in the same role-play; the do-over was described in one focus group as "a gift."

It can be done!

Students were excited to identify and practice skills they could apply immediately to address perceived bias in their own interpersonal encounters and within the learning environment. Regarding their own encounters, one student stated:

> Yeah, it's just a simple fix to a more complex problem. And usually it's just like a simple apology or just the acknowledgement that you messed up, and then you're willing to learn from your problem and then fix the relationship in that way. I think it's very relevant in terms of interactions, not just with patients, but colleagues and everyone else.

They were pleased to develop skills to address perceived bias in encounters involving not only peers but supervisors, such as attendings and residents. Students recognized that, often, they were adapting skills they already use when asking faculty for clarification on clinical or basic science topics. One said:

> I thought the strategies that were discussed, in addition to challenging your instructors, 'here are some ways that you can make yourself look smart, teach your peers, and not put yourself in the way of conflict with an authority figure.' I really appreciated that approach.

They valued gaining versatility in their own approach to drawing attention to perceived biases in interactions while not endangering their relationships, especially with supervisors. "I learned from [instructor] that was really revelatory is that, if your tone and your energy are right, you can ask an attending, 'what is that supposed to mean [referring to potentially biased statements]?' It was really incredible," a student said. For example, students could phrase questions about potentially biased statements or decisions as questions to improve their understanding of the case. They recognized certain strategies could avoid putting the other person on the defensive and enable a positive outcome. These included remembering the importance of tone, maintaining empathy for the other person, and assuming good intentions.

Highlights from notes taken by the investigative team

The analysis of notes taken during each session and discussed in post-session team meetings revealed two major insights. The first improved our ability to facilitate instruction. We realized when discussing potential strategies and practicing making statements, students may have varying levels of comfort with different approaches. We learned to remain flexible and acknowledge divergent opinions and explore with students how to adapt statements into more comfortable phrases when necessary. A big surprise to our team was the instructional value of silence during the role-plays. We were able to debrief silence by stopping the video and asking the student what they were thinking, what they hoped to do, and suggest strategies they could employ in the do-over. The second major insight related to skills that the students developed without prompting. We were particularly struck by two of these skills. The first was planning ahead and taking a moment to think through potential awkward interactions before you interact with another person. They suggested giving "yourself time to process and come up with alternative phrasing before each interaction." Students believed this approach would be effective for recurrent encounters with others who frequently made biased statements.

Finally, another unexpected strategy was a student's adaptation of the way in which one would ask for clarification about one medication choice over another (e.g., "just for my own understanding, why did we pick X medication over Y?"). This can be uncomfortable when asking about perceived bias that may be against a group with whom they identify (e.g., the student identifies as Muslim and the perceived bias is against Muslims). In adapting the strategy to ask about one medication choice over another, one student exclaimed, "Well if my grandmother was taking [medication X], I wouldn't be worried about anyone finding out. So, I will just remember that and inquire respectfully even when it's [a perceived] bias about my group!" In other words, if a student had a personal or a familial connection to a medication, they would still feel comfortable asking about this medication to better understand a patient's care. Remembering this may help them overcome their hesitation when asking about perceived bias against a group with whom they personally identify. These

unexpected, student-initiated approaches enriched the session for both the students and the instructors.

Discussion

Our students developed skills to address bias within their own interpersonal encounters and perceived bias in witnessed encounters involving supervisors and peers. Instructional approaches included reflection and perspective-taking exercises, as well as realistic and relevant role-plays. Our course, and our report of its evaluation, provide an example of how to implement suggestions from published conceptual frameworks for recognition and management of implicit bias.[11,20] To our knowledge, it is the first reported curriculum achieving skill development and practice in IBRM with medical students. In addition, our program evaluation highlights successful components of the curriculum and lessons learned that have potential implications for curriculum development across institutions.

Lessons learned: Implications for curriculum development

We learned several lessons that could inform future curriculum development. There is a tension between reaching the “Aha!” moment organically (as suggested by Transformative Learning Theory), which may evoke counterproductive emotional reactions from students, and providing students with strategies ahead of time. For example, there were long periods of silence at times while students grappled with deciding what statements they should make to address the bias they were witnessing in the role-plays. Self-selected students, such as those choosing to take this elective course, may have higher motivation to succeed in the exercise and manage their discomfort. When delivering instruction to the general student body, this balance must be struck carefully, as students may get frustrated and give up in the face of this discomfort. Role-plays created a “critical incident” that safely revealed to learners what they do not know (and, therefore, provided opportunities for growth);[21] these revelations may also aid in engaging students who discount this instruction as “common sense.”[2,14,21] These and other efforts specifically focused on enhancing student engagement will likely be even more important for instruction within the compulsory curriculum.

Finally, as a team, we learned a lot from our students. Trainings for faculty and other facilitators may benefit from incorporating Freire’s theory of Problem Posing Education, during which the teacher becomes the teacher-student and the student becomes the student-teacher, thus jointly becoming responsible for the instructional process.[22(pg. 80)] This approach could relieve some of the pressures we previously reported faculty perceive in implicit bias instruction,[23] enrich discussions during critical reflection and dialogue, and respect the lived experience and contributions of our learners to the instruction.

Limitations

Our study has several limitations including, but not limited to, small sample size, single institution setting, and self-selected students. In addition, although focus groups can yield rich insights by capitalizing on the collective experience of participants, there may have been aspects of the course that students did not feel comfortable describing in a group setting. Finally, we were unable to observe students in actual interpersonal and clinical encounters to

determine if they used the skills they developed and practiced during the role-plays. Despite these limitations, we believe our innovative approach has several strengths that can inform next steps for integration of content into existing compulsory curricula.

Conclusions

Students demonstrated they already have foundational skills that required only minor adjustments to be applicable to addressing bias in the learning environment. Integrating implicit bias instruction into the compulsory curriculum can build on existing communication skills, reflection, perspective-taking, and role-play exercises, and additionally incorporate dedicated exercises. Our program evaluation highlights both successful components of the course and lessons learned. Our innovative course achieves skills-based instruction for medical students in IBRM as it pertains to three facets of clinical care present at every stage of a health professional's career: (1) interpersonal interactions, (2) advocating for patients when bias is perceived in witnessed encounters with peers and supervisors, and (3) addressing comments within the learning environment. Additional next steps therefore, include adapting this course to develop novel, skills-based curricula in IBRM relevant to learners across the spectrum of health professions training and practice, as well as when learning and working in interprofessional groups.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Section 1. Addressing Bias in One's Own Interpersonal Encounters[a]

Session	Learning objectives: By the end of the session students will…	Instructional strategy
1. Course introduction and background	• Define implicit bias in their own words • Distinguish between implicit and explicit bias • List examples of the evidence of the influence of implicit bias on clinical decision-making	• Interactive discussion using PowerPoint (PP) slides of course goals, learning objectives, purpose and relevance to clinical care • Define health care disparities in context of race and implicit bias • Examine examples of effects of implicit bias in clinical medicine
2. Observations of behaviors and introduction to the patient perspective	• Identify behaviors that may result from the activation of implicit bias • Recognize the influence of the patient perspective on clinical encounters	• Introduce Transformative Learning Theory, a conceptual framework for management of implicit bias in the clinic setting, using PP slides • Examine behaviors influenced by implicit bias and reactions of persons in each encounter using videos from popular culture
3. Reflections of personal bias in non-clinical encounters	• Recognize the influence of their own implicit bias on a clinical or non-clinical experience they have had • Describe the potential impact of provider's implicit bias on medical decision making	• Through critical reflection and guided dialogue, students discuss two-paragraph reflections identifying a situation in which they noticed an assumption they made based on someone's gender, age, race, or other physical characteristics and whether or not they acted upon this assumption
4. Personal narratives, examples of bias, influence of lay-media sources	• Identify three etiologies of implicit bias relevant to their unique lived experience • Value the importance of implicit bias instruction in the education of a physician	• Interactive discussion on the effects of media representations of minority groups on minority group members, members of other groups, and on physicians seeing patients from minority groups and patients seeing physicians from minority groups • Reflective discussion on students' own lived experience and our own implicit biases based off the results of the Implicit Association Test.16
5. Patient-lived experience and perspective-taking exercises	• Describe the influence of the patient lived experience on their perceptions of bias in the clinical encounter • List two strategies to connect with patients while recognizing that there is the potential for a very different lived experience and resulting patient perspective	• Interactive discussion regarding the definitions of empathy and perspective taking using a PP presentation • Exploration of the benefits of perspective taking on patient/physician interactions through previous research and personal experiences • Video observation and debrief, critical reflective and guided dialogue based on reactions to video observations
6. Interventions and strategy development (first portion)	• Design one strategy to remain patient centered when a clinical encounter has been influenced by perceived bias • Value the importance of implicit bias instruction in the education of a physician	• Brainstorm strategies as a group to establish/maintain the patient-physician relationship in the context of discordant lived experiences. • Develop and practicr statements to restore rapport when patients perceive bias.

[a]Session names, learning objectives, and instructional strategies for the first section of an elective course for first year medical students in implicit bias recognition and management in New York, offered in the spring of 2017-2019. Each session lasted 1.5 hours.

Table 2

Section 2. Addressing Perceived Bias During Witnessed Encounters[a]

Session	Learning objectives: By the end of the session students will…	Instructional strategy
6. Interventions and strategy development (second portion)	• Value the importance of implicit bias instruction in the education of a physician • Articulate statements to address perceived bias in witnessed encounters	• Bystander training utilizing the CPR method[24] • Guided dialogue on prepared critical reflections through the lens of bystander education • Provide opportunities to practice bystander intervention during multiple role-play sessions.
7-9. Role plays with structured debrief	• Identify and implement one strategy to debrief with supervisors or peers in clinical encounters when implicit bias may have been playing a role. • Identify and implement one strategy to debrief with supervisors or peers in teaching encounters when implicit bias may have been playing a role • Identify and implement one strategy to recognize and manage their own implicit biases while communicating with patients • Apply the concepts of a safe, structured, debrief to role-plays with peers	• Students participate in role-plays with structured debriefs, followed by opportunities to repeat the role-play ("do-over") in order to incorporate lessons learned from the first role play and debrief.

Abbreviation: CPR, Confronting Prejudiced Response

[a]Session names, learning objectives, and instructional strategies for the second portion of an elective course for first year medical students in implicit bias recognition and management in New York, offered in the spring of 2017-2019. Each session lasted 1.5 hours.