



Patient Education and Counseling

Volume 100, Issue 2, February 2017, Pages 372-376

Discussion

Mindfulness practice: A promising approach to reducing the effects of clinician implicit bias on patients

Diana J. Burgess PhD^{a b}  , Mary Catherine Beach MD, MPH^c, Somnath Saha MD, MPH^{d e}

[Show more](#) 

 Share  Cite

<https://doi.org/10.1016/j.pec.2016.09.005> 

[Get rights and content](#) 

Abstract

Like the population at large, health care providers hold implicit racial and ethnic biases that may contribute to health care disparities. Little progress has been made in identifying and implementing effective strategies to address these normal but potentially harmful unconscious cognitive processes. We propose that meditation training designed to increase healthcare providers' mindfulness skills is a promising and potentially sustainable way to address this problem. Emerging evidence suggests that mindfulness practice can reduce the provider contribution to healthcare disparities through several mechanisms including: reducing the likelihood that implicit biases will be activated in the mind, increasing providers' awareness of and ability to control responses to implicit biases once activated, increasing self-compassion and compassion toward patients, and reducing internal sources of cognitive load (e.g., stress, burnout, and compassion fatigue). Mindfulness training may also have advantages over current approaches to addressing implicit bias because it focuses on the development of skills through practice, promotes a nonjudgmental approach, can

circumvent resistance some providers feel when directly confronted with evidence of racism, and constitutes a holistic approach to promoting providers' well-being. We close with suggestions for how a mindfulness approach can be practically implemented and identify potential challenges and research gaps to be addressed.

Introduction

There is increasing evidence that healthcare providers, like the population at large, hold *implicit stereotypes and prejudices* against members of socially stigmatized groups (racial/ethnic minorities, gay and lesbian, obese, lower social class), which can contribute to healthcare disparities [1], [2], [3], [4], [5], [6]. These unconscious biases are “habits of mind,” learned over time through repeated personal experiences and cultural socialization, which can be activated unintentionally, often outside one's own awareness, and are difficult to control. They can occur despite nonprejudiced intentions and are hard to break [6], [7], [8], [9]. Implicit biases affect behavior through a two-phase process: biases are *activated* in the presence of a member of a social group and then are *applied* so that they affect the individual's behavior related to that group member. In the healthcare context, for instance, implicit biases may be activated when a provider is interacting with an African American patient, particularly under conditions that tax her cognitive capacity (e.g., stress, time-pressure, fatigue, competing demands), and can then influence how she communicates with and makes decisions about her patient [10]. Most of this research has been conducted on implicit racial and ethnic biases, which have been shown to affect the quality of patient-provider interactions, treatment decisions, treatment adherence, and patient health outcomes [1], [4], [11], with the strongest evidence for its effect on patient-provider interactions (e.g., less patient centered communication, warmth, friendliness, collaboration) [4]. There is also ample documentation that minority patients perceive discrimination within the healthcare system [2], to which providers' implicit racial bias may contribute, as there is evidence that racial minority group members can detect implicit racial bias [12]. To date, little progress has been made in identifying and implementing effective strategies to reduce the negative impact of clinician implicit bias on patients [1], [4]. We propose that meditation training designed to increase clinicians' mindfulness skills is a promising and potentially sustainable way to address this problem.

In this article, we conceptualize mindfulness as a metacognitive skill involving attentional control (including paying attention to one's experience in the present moment), emotional regulation, self-awareness and a nonjudgmental and curious orientation toward one's experiences [13], [14]. In this way mindfulness is a “mode of awareness” that can be enacted in different situations, including those which are emotionally challenging [14]. Although

mindfulness can be conceptualized as a trait, or disposition, we focus primarily on mindfulness as a set of skills acquired through meditative practice [13] (e.g., Mindfulness-Based Stress Reduction (MBSR), programs specifically designed for providers such as the Mindfulness-Based Medical Practice program) [15], [16], [17]. In our review, we also include studies examining the effects of lovingkindness meditation, a Buddhist meditation often practiced in the context of mindfulness, aimed at cultivating compassion and warm feelings toward the self and others [18].

In recent laboratory experiments conducted with non-clinicians, meditation was shown to reduce implicit bias, assessed by Implicit Association Test (IAT), a widely-used computer-based measure of unconscious bias [19]. In one study, non-black community-dwelling adults randomly assigned to participate in a lovingkindness meditation training program (6h-long weekly sessions with home practice) showed significant decreases in implicit bias toward blacks and the homeless, compared to control group participants [20]. In another study, white college students randomly assigned to participate in a 7-min lovingkindness intervention, which included 3 min of lovingkindness meditation directed towards a black person depicted in a photograph, showed lower levels of implicit bias against blacks compared to an active control [21]. In another experiment, students who were assigned to 8 min of lovingkindness meditation with either a stranger or a homeless person showed lower levels of intergroup anxiety toward and greater intentions of future contact with homeless people than control participants did [22]. Additionally, white college students randomly assigned to practice mindfulness using a 10-min guided recording showed lower levels of implicit age and race bias relative to attention controls [23], and showed less racial discrimination in a simulation trust game [24]. While promising, these studies have important limitations including the use of non-clinicians as participants; an intermediate outcome measure, IAT scores (although IAT scores are associated with discriminatory behaviors) [19]; and the fact that outcomes were assessed closely after study completion, so it is unknown whether these effects persist.

Converging evidence comes from neuroimaging studies, which have identified neural structures underlying the activation of prejudice [25] that mindfulness meditation has been shown to modulate [13]. The *prejudice network*, which underlies activation of implicit prejudicial responses, involves the activation of the amygdala, which is integral to activating threat responses, including in the presence of racial cues (e.g., white subjects viewing images of black faces) [26] and reduced activity in the ventromedial prefrontal cortex (involved in empathy and “humanizing”) in the presence of members of low-status groups [25]. A recent review of functional and structural MRI studies of changes in core brain regions after mindfulness meditation shows changes conducive to prejudice reduction in

the prejudice network (decreased amygdala activation in response to emotional images and increased activation of ventromedial PFC) [13]. These results should be interpreted cautiously, however, as this research is in its early stages and the quality of these studies is uneven [13].

Becoming aware of and being able to regulate one's stereotypic and prejudicial biases once they are activated is a key part of reducing the impact of implicit biases on behavior [5]. Negative emotion is a common part of the activation of implicit bias [5]. Mindfulness meditation promotes early awareness of emotions, so one is better able to engage in regulation before the emotional responses become intense [27]. A systematic review of 29 studies (including 14 RCTs) of MBSR or MBSR-based interventions in health care providers found that MBSR improved providers' self-rated skills on their ability to identify and accept their emotions, as well as to identify others' emotions [16]. In a focus group study of clinicians who completed an MBSR program adapted for health care professionals, participants reported that the course increased their ability to be non-judgmentally aware of their thoughts, sensations and emotions and their ability to regulate their attention and emotions in clinical encounters [28]. Functional and structural MRI studies show consistent changes, following mindfulness meditation training, in core regions associated with self-regulation of awareness, attention, and emotion [13], including neural structures implicated in the control of prejudiced responses (the anterior cingulate cortex; the lateral prefrontal cortex and the medial prefrontal cortex) [25], [13].

Implicit biases are more likely to be activated and applied when individuals experience greater *cognitive load*—the amount of mental activity imposed on working memory [29], [30]. Although most of this evidence comes from laboratory experiments, a recent study of resident physicians in a pediatric emergency department found increases in implicit racial bias from pre-shift to post-shift, when the emergency department was more overcrowded and when patient load was greater [31]. Unfortunately, many sources of cognitive load (time pressure, competing task demands, lack of resources) are endemic to the clinical environment and are more likely to be present in facilities in which racial minority patients receive care [30], [32]. An increasing number of studies have found, however, that internal sources of cognitive load, such as burnout, compassion fatigue, stress, anxiety, and depression, among clinicians and trainees, can be reduced through mindfulness meditation [15], [16], [23], [33], [34], [35], [36]. There is evidence that these effects persist post-intervention at 9 [37] and 15 months [15]. A pilot RCT (N=32) with surgical intensive care unit personnel found that an 8-week group mindfulness based intervention reduced participants reactivity to stress, with levels of salivary amylase reduced by 40% in the intervention group [38]. Mindfulness and lovingkindness meditation have also been found

to increase self-compassion [16], [18], [35], [39], which may protect against burnout and compassion fatigue.

Empathy has a cognitive dimension (the ability to take others' perspectives) and an affective dimension (one's emotional response). Empathic responses to another's suffering can have either beneficial or detrimental consequences depending upon whether one experiences vicarious stress, leading to burnout and compassion fatigue, versus non-distressed empathic responses, leading to positive emotions and compassionate responding (wanting to relieve another's suffering) [47]. Studies conducted with clinicians found that mindfulness meditation increases cognitive and affective dimensions of empathy [34], [48], [16]. Moreover, in studies with non-clinicians, mindfulness, lovingkindness, and compassion meditation increased empathy [49], compassionate responding to suffering [50], [51], feelings of social connectedness [52], and emotional regulation [49] and decreased emotional distress [53]. In one study, meditators assigned to 3 months of intensive meditation training experienced emotional responses to suffering reflecting greater sympathetic concern (more displays of sadness) and fewer displays of rejection emotions like anger, contempt, and disgust [53]. Additionally, studies suggest that compassion and lovingkindness meditation training can activate neural patterns associated with non-distressed empathic responses involving emotional regulation, as well as those associated with empathy [47], [54].

Recommendations for reducing the effects of provider implicit bias on patient care stress the importance of promoting individuation, a mode of cognitive processing in which attention is focused on the patient's individual characteristics rather than his or her group membership [1], [7], [10], [55]. Hence, patient-centered communication is seen as a promising strategy for reducing the effects of implicit bias on care [56]. A longitudinal study with 27 clinicians in an MBSR course found an increase in patients' perceptions of clinicians' patient-centered communication skills, although it did not find changes using objective ratings of the audiotaped encounters [36]. Similarly physicians who completed the Mindful Communication [15] program reported improvements in their ability to listen attentively and be present in their communication with patients [57]. These findings are consistent with an observational study of 45 clinicians caring for patients with HIV/AIDS, in which higher self-rated mindfulness was associated with more patient-centered communication as assessed by ratings of audio-recorded encounters [58].

The following example illustrates how mindfulness meditation may reduce the effects of implicit bias on care. Consider a situation which is particularly conducive to implicit stereotyping: an overcrowded clinic in which a patient, who is a member of a racial or ethnic minority group, is demanding pain medication [31]. Evidence suggests that the

provider who has a regular mindfulness meditation practice will be less likely than her non-meditating counterpart to be experiencing burnout and other internal sources of cognitive load, so that implicit biases will be less likely to arise [16]. If implicit biases do arise, she is more likely to become *aware* of those emotions (perhaps tension, anger, judgment or frustration) arising in her body and the immediate stereotypic beliefs that enter her mind (“why is this patient drug-seeking?”), and accept those feelings (however antithetical those feelings might be to her own explicit values), as she has practiced taking a non-judgmental, curious stance in meditation, and has cultivated self-compassion [16], [28], [35], [39]. At that moment she can pause and take a breath, re-attune her own behavior, taking a moment to reconnect with the patient, and perhaps listen more carefully to his story, or ask him about the events in his life. This could reverse the negative course of the situation, ensuring that the automatic stereotype that was activated did not adversely affect the therapeutic relationship and the clinical decision-making process.

Developing interventions to reduce implicit bias among healthcare providers is challenging. Despite repeated entreaties from professional organizations, few interventions have been published and evaluated. Within this literature, interventions tend to be single-session, classroom-based, and aimed at increasing learners’ awareness about existence of implicit bias through the use of the Implicit Association Test (IAT), with an opportunity for reflection [1], [59], [60], [61].

One drawback with these types of interventions is that they focus more on declarative knowledge—what one knows—than on procedural knowledge – knowing how to do something [62]. One can know that implicit bias exists at a societal level and within oneself but not know how to actually address it as a clinician. Because procedural knowledge occurs when a skill is developed through repeated practice, “one-shot” approaches that focus on declarative knowledge would not be expected to be effective [9], [63]. By contrast, when conceptualized as a skill that is developed through meditation practice [14], mindfulness meditation is expected to reduce implicit bias through the automatic development of awareness, sustained attention, a focus on the present moment, nonjudgmental acceptance, enhanced emotional regulation, increased compassion, and reduced stress [64].

Understanding implicit bias as a score on the IAT also may engender the view of implicit bias as a fixed trait that one can do little about. A different approach conceptualizes bias as the experience of thoughts and feelings that emerge in consciousness, in various situations, which may be accessible through close attention to the body and the mind. This process is illustrated by a quote from social psychologist Thomas Pettigrew: “Many Southerners have confessed to me, for instance, that even though in their minds they no longer feel prejudice against blacks, they still feel squeamish when they shake hands with a black. The feelings

are left over from what they learned in their families as children” [65] (p. 817). Mindfulness meditation, which trains the practitioner to focus on sensations in the body, provides a portal into the visceral experience of prejudice, and practices such as lovingkindness meditation can engender new automatic processes that lead to compassion and more effective communication.

Another challenge in developing bias-reduction interventions is that issues of race and racism are emotionally fraught and politically charged. The idea that healthcare providers may contribute to racial disparities may contradict their core beliefs and values, including beliefs that they treat everyone equally [66] and that racial inequality is a thing of the past [67]. Even individuals who acknowledge the existence of racial inequality may feel threatened and/or experience guilt and shame at the idea that they harbor biases, even though implicit bias curricula attempt to normalize such feelings. Mindfulness practice is explicitly designed to foster non-judgmental awareness through meditation practice, wherein individuals learn to accept all feelings that come up in the present moment, with the knowledge that these feelings are “visitors” that come unbidden and will pass. This can help providers accept even prejudiced feelings and beliefs, without pushing them away, so they can be examined. Mindfulness programs may also be an “easier sell” as they directly focus on giving providers tools to combat the many stressors they face on a daily basis, and to promote resilience and well-being.

A mindfulness program aimed at reducing effects of provider implicit bias on patients could be modeled on effective programs aimed at developing mindfulness and mindful communication skills for providers [15], [16], [17]. It could also incorporate lovingkindness meditation and training on applying these skills with patients from stigmatized groups. In testing the effectiveness of this type of program, researchers should examine measures of bias reduction that are clinically meaningful and externally valid (e.g., patient and observer ratings of differences in communication quality for stigmatized and non-stigmatized groups) [4], as well as more traditional measures of implicit bias such as the IAT. Further research is needed on how to optimally frame and tailor programs to particular organizational contexts and groups of providers. Organizationally-sponsored mindfulness courses could backfire if they are perceived as an organization’s attempt to “fix” providers or if it is at odds with the organizational climate (e.g. compassion meditation in a non-compassionate environment) [68]. Other considerations include the extent to which the goals of the program should focus on caring for oneself, improving care for all patients, or improving care specifically for patients from marginalized groups, and whether courses should focus explicitly on unconscious bias, and incorporate aspects of existing unconscious bias interventions (e.g., raising awareness and reflection of one’s own biases) [1], [59], [60], [61].

There remains a lack of evidence as to how much mindfulness is needed to be effective and what the optimal dose and format is [17], although there is evidence that regular practice is a key component [28], [69] and that providers experience benefits from group support [28], [57]. Researchers are experimenting with very brief meditations that providers can employ throughout their day as well as those that are delivered through a variety of modalities (e.g., online, hybrids of online meditation with peer support) [70], [71], [51]. Programs may need to accommodate individuals at different levels of commitment, from those willing to do a 5-min exercise to those willing to commit to the full MBSR curriculum (8 weekly 2.5 h sessions and a full-day silent retreat), or one of the briefer adaptations that have also been shown to be effective [16], [37], [72], [73]. If interventions prove successful, mindfulness may best be introduced during clinical training, where it can become part of the informal and formal curricula

Research on mindfulness is rapidly proliferating, and there is growing enthusiasm among the general public [74] and among those seeking to reduce worrisome levels of stress, burnout, and “compassion fatigue” among healthcare professionals [16], [68]. At the same time, progress on reducing the impact of provider unconscious bias, specifically, and on reducing the provider contribution to disparities more broadly, seems to have less traction, and there is indication that such programs may encounter resistance [59], [70]. By drawing attention to the linkages between mindfulness practice and bias reduction, we hope to stimulate new research and encourage collaboration between those working in the domains of mindfulness and healthcare disparities.

Access through your organization

Check access to the full text by signing in through your organization.

Access through **your organization**

Section snippets

Conflicts of interest

To the best of our knowledge, no conflict of interest, financial or other, exists. ...

Disclosure

The contents do not represent the views of the U.S. Department of Veterans Affairs or the United States Government. ...

Funding

This material is the result of work supported with resources and use of facilities at the Minneapolis Veterans Affairs Health Care System. ...

Contributors

All authors have approved the final article. ...

[Recommended articles](#)

References (74)

P.G. Devine *et al.*

[Long-term reduction in implicit race bias: a prejudice habit-breaking intervention](#)

J. Exp. Soc. Psychol. (2012)

M. Lamothe *et al.*

[Outcomes of MBSR or MBSR-based interventions in health care providers: a systematic review with a focus on empathy and emotional competencies](#)

Complement. Ther. Med. (2016)

M. Inzlicht *et al.*

[Mimicry reduces racial prejudice](#)

J. Exp. Soc. Psychol. (2012)

T. Gauthier *et al.*

[An on-the-job mindfulness-based intervention for pediatric ICU nurses: a pilot](#)

J. Pediatr. Nurs. (2015)

C.S. Mackenzie *et al.*

[A brief mindfulness-based stress reduction intervention for nurses and nurse aides](#)

Appl. Nurs. Res. (2006)

C.A. Zestcott *et al.*

Examining the presence, consequences, and reduction of implicit bias in health care: a narrative review

Group Process. Intergr. Relat. (2016)

Y. Paradies *et al.*

A systematic review of the extent and measurement of healthcare provider racism

J. Gen. Intern. Med. (2014)

J.A. Sabin *et al.*

Health care providers' implicit and explicit attitudes toward lesbian women and gay men

Am. J. Public Health (2015)

W.J. Hall *et al.*

Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: a systematic review

Am. J. Public Health (2015)

J.F. Dovidio *et al.*

Under the radar: how unexamined biases in decision-making processes in clinical interactions can contribute to health care disparities

Am. J. Public Health (2012)



[View more references](#)

Cited by (136)

[Information and power: Women of color's experiences interacting with health care providers in pregnancy and birth](#)

2019, Social Science and Medicine

[Show abstract](#) ✓

[A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test](#)

2018, Social Science and Medicine

[Show abstract](#) ✓

[Addressing microaggressions in racially charged patient-provider interactions: A pilot randomized trial ↗](#)

2020, BMC Medical Education

[The impact of mindfulness-based interventions on doctors' well-being and performance: A systematic review ↗](#)

2020, Medical Education

[CE: Addressing Implicit Bias in Nursing: A Review ↗](#)

2019, American Journal of Nursing

[Reduction of peripartum racial and ethnic disparities: A conceptual framework and maternal safety consensus bundle ↗](#)

2018, Obstetrics and Gynecology



[View all citing articles on Scopus ↗](#)

[View full text](#)

Published by Elsevier Ireland Ltd.

