

Published in final edited form as:

*Cogn Behav Pract.* 2013 February 1; 20(1): 23–32. doi:10.1016/j.cbpra.2011.08.003.

## Mindfulness-Based Stress Reduction for Low-Income, Predominantly African American Women With PTSD and a History of Intimate Partner Violence

Mary Ann Dutton, Diana Bermudez, Armely Matas, Haseeb Majid, and Neely L. Myers  
Georgetown University Medical Center

### Abstract

In this article, we consider the use of Mindfulness-Based Stress Reduction (MBSR) (Kabat-Zinn, 1991) as a community-based intervention to reduce health disparities for low-income, predominantly African American women with a history of intimate partner violence (IPV) and posttraumatic stress disorder (PTSD). This article presents our rationale for using MBSR as an intervention with this population, the details of its implementation, and a discussion of the feasibility and acceptability of the intervention based on participants' feedback and our observations. We conclude that the use of MBSR programs for low-income, predominantly African American women with PTSD and a history of IPV is both feasible (of initial interest to and completed by most participants) and acceptable (congruent with and relevant to their needs). Replication with larger samples and examination of mechanisms is warranted by these findings.

### Keywords

mindfulness; MBSR; intimate partner violence; low-income; PTSD; chronic trauma

---

In this article, we consider the use of Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1991) as a community-based intervention for posttraumatic stress disorder (PTSD) among low-income, predominantly African American women with a history of intimate partner violence (IPV). The results of a pilot randomized clinical trial (RCT) of MBSR as an intervention for PTSD with this population are forthcoming. In this article, we present our rationale for using MBSR as an intervention for PTSD with this population, describe MBSR and our adaptation of the curriculum and its implementation, and discuss the feasibility and acceptability of the intervention based on participants' feedback and our observations.

Of the women who were randomized to the MBSR arm of the RCT ( $n = 53$ ), all but one provided information about race/ethnicity: 67.3% ( $n = 35$ ) African American, 23.1% ( $n = 12$ ) White, 5.8% ( $n = 3$ ) American Indian, and 3.8% ( $n = 2$ ) "other." A wide range of educational achievement was represented, including: less than high school, 9.4% ( $n = 5$ ); high school, 22.6% ( $n = 12$ ); some education beyond high school, 49% ( $n = 26$ ); and college degree, 18.8% ( $n = 10$ ). Even in the group of employed MBSR participants, 37.7% ( $n = 20$ ),

---

© 2011 Published by Elsevier Ltd on behalf of Association for Behavioral and Cognitive Therapies.

Address correspondence to Mary Ann Dutton, Ph.D., Georgetown University Medical Center, Dept. of Psychiatry, 2115 Wisconsin Ave., Washington, DC 60007; mad27@georgetown.edu.

**Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

73.7% ( $n = 14$ ) reported an income below 150% of federal poverty line (<\$27,465 for a family of 3 as the women cared for, on average, two children). Eight women (15%) in the MBSR arm also reported receiving assistance due to disability. This was, therefore, a largely low-income population.

Low-income women with trauma histories are a particularly vulnerable and underserved population, in part due to other cumulative and enduring life stressors such as poverty, racial discrimination, and family instability that often compound the psychological and physiological burden of trauma experiences (Gold, 2000). For these women, accessing standard exposure-based cognitive therapy PTSD treatments can be difficult, cost-prohibitive, and geographically inaccessible, creating vast health disparities (USDHHS, 2001). Stigma associated with mental health symptoms also leads to decreased use of mental health services (Roeloffs et al., 2003). Internalized stigma has been shown to directly affect treatment-seeking for depression among African Americans (Brown et al., 2010). Cost-effective, community-based interventions offered in non-mental-health settings that are acceptable, less stigmatizing, and accessible for low-income women who have experienced chronic trauma may help overcome some of these barriers to care.

The women in this study were recruited based on lifetime IPV, but all of our participants had experienced multiple traumas across the lifespan. Chronic trauma exposure is associated with a wide range of adverse mental and physical health outcomes (Friedman & McEwen, 2004; McEwen, 2000; Sprang, Katz, & Cooke, 2009). All of our participants had developed one of the most serious mental health outcomes of traumatic stress exposure, PTSD, which is characterized by intrusive thoughts about the traumatic experience, the avoidance of experiences perceived as related to the trauma, sleep problems, poor concentration, and dysfunctional emotional regulation (e.g., extreme states of anger and frustration; American Psychiatric Association, 2000).

Cognitive behavior therapies (CBTs) using exposure techniques that ask participants to directly confront their trauma stories are at the forefront of evidence-based treatments for PTSD (Nemeroff et al., 2006). However, a review of exposure-based gold-standard CBTs for PTSD (Orsillo & Batten, 2005) highlighted a number of limitations, particularly tolerability for patients with chronic trauma exposure. CBTs for PTSD focus primarily on fear and intrusive symptoms, which may not be well tolerated by victims of chronic trauma, rather than a broad spectrum of trauma-related physical and mental health symptoms, functioning and overall well-being (Orsillo & Batten). Further, 20% to 50% of those who complete exposure and cognitive therapies continue to meet diagnostic criteria for PTSD (Resick, Nishith, Weaver, Astin, & Feuer, 2002; Schnurr et al., 2007). Innovative treatments for addressing the multiple clinical needs of chronic trauma victims are essential (Cook, Schnurr, & Foa, 2004). Further, the potential cost-effectiveness of delivering MBSR in a group format offers an additional advantage over individual treatments.

## **Rationale for MBSR With Low-Income Women With PTSD and a Chronic Trauma History**

We propose that mindfulness-based interventions may improve the mental health sequelae of IPV and chronic trauma exposure by decreasing PTSD symptoms and depression for low-income, predominantly African American women. MBSR does not require a mental health professional or a mental health treatment setting for effective delivery, thereby potentially reducing the stigma surrounding its use and making it more accessible to this population. As reported in various meta-analyses and systematic reviews, mindfulness-based approaches have also been associated with improvements in multiple physical and mental health problems simultaneously (Arias, Steinberg, Banga, & Trestman, 2006; Baer, 2003; Bishop,

2002; Bonadonna, 2003; Dakwar & Levin, 2009; Greeson, 2009; Grossman, Niemann, Schmidt, & Walach, 2004; Ludwig & Kabat-Zinn, 2008; Toneatto & Nguyen, 2007). For example, mindfulness-based interventions have shown promise for ameliorating frequent PTSD comorbidities such as depression (Hayes & Feldman, 2004; Ramel, Goldin, Carmona, & McQuaid, 2004; Toneatto & Nguyen, 2007), anxiety (Kabat-Zinn et al., 1992; Roemer, Orsillo, & Salters-Pedneault, 2008), and substance abuse (Dakwar & Levin, 2009; Marlatt et al., 2004), while also enhancing one's ability to cope with physical health problems (Greeson, 2009; Grossman et al., 2004).

One recent published open trial of MBSR for PTSD and depressive symptoms among child abuse survivors (Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010) found significant reductions in PTSD severity. One RCT of a mind-body medicine skills group involving meditation (Gordon, Staples, Blyta, Bytyqi, & Wilson, 2008), delivered to adolescents in Kosovo who met criteria for PTSD, also reduced PTSD symptoms compared to a wait-list control group. However, unlike our work, these studies did not include predominantly African American women and did not assess IPV or other trauma exposure.

Mindfulness-based interventions such as the ones used in these studies teach participants "mindfulness skills" to help them focus their attention on their experience in the present moment in a nonjudgmental or accepting way rather than dwelling on the past or future (Bishop et al., 2004; Kabat-Zinn, 2003). Participants cultivate both awareness and sustained attention to events and experiences as they unfold in the present. In addition, participants are taught to let all mental experiences—whether negative, intrusive, or even positive—pass without holding onto them (Biegel, Brown, Shapiro, & Schubert, 2009; Brown & Ryan, 2003). For example, a key mindfulness practice of "choiceless awareness" encourages individuals to consciously note sensations, emotions, or thoughts as they come and go from moment to moment or breath to breath without reacting or ruminating (Kabat-Zinn, 1991).

Hypothesized therapeutic mechanisms by which mindfulness-based interventions may lead to general symptom reduction and behavior change include exposure to internal experience, cognitive change, self-management, relaxation, and acceptance, all of which are components of more traditional therapies such as prolonged exposure, cognitive processing therapy, and eye movement desensitization and reprocessing therapy (EMDR). Mindfulness practices increase awareness of one's sensory, cognitive, and affective responses as they spontaneously arise, but unlike most traditional therapies for PTSD, mindfulness interventions do not require intentional or explicit exposure to the content or details of the participant's trauma story; rather, they focus on one's moment-to-moment experience.

The nonjudgmental stance toward traumatic experiences that do arise may lead to positive cognitive changes such as desensitization, decreased rumination about traumatic events, and a reduction of perceived stress (Nyklicek & Kuijpers, 2008; Shapiro, Oman, Thoresen, Plante, & Flinders, 2008). Acquired mindfulness skills may additionally promote self-management (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007)—an important element in the treatment of trauma (Courtois & Ford, 2009)—while also increasing self-compassion (Shapiro, Astin, Bishop, & Cordova, 2005), which is related to the severity of avoidance symptoms in PTSD (Thompson & Waltz, 2008). The unintended but relevant relaxation effects of MBSR (Baer, 2003) may counter the physiological stress arousal associated with intrusive symptoms of PTSD (Friedman & McEwen, 2004; McEwen, 2000).

Reduced social support is also a major risk factor for the development and severity of PTSD (Brewin, Andrews, & Valentine, 2000), and a known mediator between inadequate coping and posttraumatic stress for people who experience IPV (Kocot & Goodman, 2003). Mindfulness groups may increase social support for participants. In one study of MBSR,

group effects accounted for 7% of reported changes in global distress among participants (Imel, Baldwin, Bonus, & Maccoon, 2008). Other studies of mindfulness groups reported an increase in social support as participants connected with other members of their training group and their instructors (Bishop, 2002; Witek-Janusek et al., 2008).

Mindfulness interventions are low-cost and sustainable (Miller, Fletcher, & Kabat-Zinn, 1995), can easily be offered in non-mental-health community settings (e.g., social services, primary care facilities, community centers), and can have lasting effects on participants (Bedard et al., 2005; Carlson, Speca, Faris, & Patel, 2007; Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007). Once learned, simple mindfulness techniques can be practiced at any time. The flexibility of mindfulness practice makes it possible to offer this intervention to people with a variety of needs and vulnerabilities.

## **MBSR With Predominantly African American, Low-Income Women With PTSD**

MBSR typically includes 26 hours of instruction in 8, weekly, 2.5-hour sessions, plus a 6-hour retreat. MBSR sessions teach participants: (a) formal mindfulness practices (e.g., body scan, gentle Hatha yoga, seated meditation, walking meditation); (b) mindfulness techniques to apply to everyday experiences (e.g., eating, communication, driving, daily activities); (c) mindful inquiry (curiosity about present-moment experience); and (d) nonjudgmental acceptance of one's own experience (Carmody & Baer, 2008; Kabat-Zinn, 1991).

We gathered information about the potential feasibility and acceptability of MBSR for this population of low-income and predominantly African American women by conducting focus groups and individual interviews with residents and directors of domestic violence and homeless shelters. These interviews revealed concerns that the standard 2.5-hour length of sessions may be too long due to participants' conflicting child care and work demands. Further, sitting still for long periods was thought to be challenging due to difficulty concentrating, agitation, and physical pain. Closing one's eyes during meditation, lying down, and practicing a body scan, which at times emphasizes the pelvic region, could be distressing. In addition, there was some concern that meditation might be perceived to conflict with religious beliefs and that potential participants' level of interest might be low due to possible unfamiliarity and misconceptions.

By addressing these concerns, we hoped to enhance the feasibility and acceptability of MBSR for our population of low-income, predominantly African American women with PTSD and a history of chronic trauma. We did not adapt it based on race or ethnicity per se; rather, our adaptations focused primarily on considerations related to the challenges posed by chronic trauma and to the everyday realities of low-income participants' lives. Our intent was to make the delivery of MBSR culturally suitable for all participants, not to create a culturally specific adaptation of MBSR.

Explicit support to engage in self-regulation throughout all sessions in the standard delivery of MBSR (e.g., keep eyes open during meditations or to sit rather than lie down during the body scan) addresses some potential concerns related to trauma exposure. To address other concerns, we modified both the implementation and content of the standard MBSR curriculum. Modifications to the implementation of MBSR included: (a) pre-meeting orientation sessions with the MBSR instructor;<sup>1</sup> (b) reducing session length and number of sessions; (c) increased logistical support for participants; and (d) ensuring that participation

---

<sup>1</sup>Individual orientation sessions are not always done in standard MBSR classes. They are sometimes conducted in group sessions or not at all.

in MBSR is voluntary (not mandatory part of shelter programming). Adaptations to MBSR content included: (a) modifying the beginning sequence of each session; (b) changing the sequencing of session content; and (3) supplementing standard MBSR with additional mindfulness practices. These adaptations were modeled on those made by Vallejo and Amaro (2009), which is one of the few other published studies addressing the needs of a population of low-income women with trauma exposure. However, unlike our population, their participants were also in early-stage recovery from substance abuse. Additional adaptations were influenced by a more recent study involving child abuse survivors with elevated general psychological distress (Kimbrough et al., 2010), which modified MBSR to include compassion meditation and an emphasis on personal safety and control within the class situation.

## Implementation

Qualified MBSR instructors maintain their own personal mindfulness practice, have received MBSR teacher training and have a graduate degree in a field related to MBSR. For further discussion of teacher qualifications see <http://www.umassmed.edu/cfm/oasis/index.aspx> and McCown, Reibel, and Micozzi (2010). For this study, a trained and experienced female psychiatric nurse (MSN) with teacher-level training in MBSR and mindfulness-based cognitive therapy (MBCT) led all group sessions.

Although some MBSR instructors routinely conduct individual orientation sessions, it may be more common to hold group orientation sessions or contact participants by telephone prior to the start of an MBSR course. In contrast, our instructor held individual, face-to-face orientation sessions prior to the start of group sessions. Specifically, these sessions were intended to shape expectations about MBSR and the group process, as well as to reduce any stigma that may be associated with seeking help for PTSD. The instructor used this time to assure participants that MBSR groups were not focused on retelling stories of past traumas. These individual discussions enabled the instructor to observe participants' openness or resistance to mindfulness practice and to assess each participant's capacity for deliberate silence and stillness. During the meeting, the instructor also clarified possible misconceptions about MBSR, and began establishing a relationship with participants. The establishment of a preliminary relationship seemed to cultivate a sense of trust and safety for participants, and may be especially important for individuals with a chronic trauma history.

In these sessions, the women reported various expectations, for example: that they might learn to relax (e.g., "I just want to relax after a full day."); to cope with stressful situations with less anger (e.g., "I can't get a job, I have poor coping skills. I am so reactive and get angry so easily."); to be more accepting of themselves and others; and to take more time for self-care (e.g., "We are always in a rat race. We need to take care of ourselves."). With a preview of the groups' goals, the instructor could better prepare for group sessions.

MBSR was delivered in 20 hours of group instruction, including 10 weekly, 1.5-hour sessions and a 5-hour retreat (scheduled between Sessions 8 and 9). We held early evening sessions in the shelters where participants lived, and also at a community hospital near public transportation for those not living in the shelters. These non-mental-health settings were selected to both enhance access and reduce stigma often associated with mental health intervention.

Various supports were used to decrease the obstacles and burden associated with attendance for this population. Many women came directly from work or school, were single mothers, and had no alternative child care. To accommodate work schedules, we provided dinner for participants (and their children for sessions held in the shelters) at 5:30 P.M. with sessions starting at 6:00 P.M. We also provided on-site child care for shelter participants. These types



of supports (e.g., child care, group meals) are already routinely provided in some shelter settings as a necessary component of the program. For cohorts where sessions were held at the community hospital, we also provided reimbursement for transportation and assistance with child-care costs.

To maintain engagement, participants received weekly calls and e-mails with reminders to attend the group. Research staff members were available by phone or email to answer questions and concerns, offer logistical support, and provide referrals to community resources as needed. When a participant missed a group session or expressed concern about the group, a research team member contacted the participant to offer help in solving any logistical obstacles and, if indicated, conducted a motivational interviewing style conversation (Carroll et al., 2006) to clarify the participant's interest in continuing. Shelter participants also received care as usual from shelter staff, including support from weekly individual case management, house meetings, and support groups for substance abuse relapse prevention, individual life skills training, and referrals for further social services or mental health care.

### MBSR Curriculum

Our adaptations to the standardized MBSR curriculum were minimal and primarily focused on the session sequence (see Table 1 for session-by-session detail). The session that included the psychoeducational component related to stress reactivity was moved from the sixth session to the second session when participants requested more information on the relevance of mindfulness training to stress and everyday life. We consistently reintroduced the “3-minute breathing space” from MBCT (Segal et al., 2004) and “mindful listening” in dyadic exercises to help participants cope with emotional arousal and restlessness during each MBSR session, as well as to offer easily accessible and concrete tools for use in daily life. Loving-kindness meditation (Salzberg, 1995) was also added to the curriculum to enhance the nurturing aspects of the group experience for this population whose lives had been—and for many, remain—extraordinarily difficult.

In addition, while the standard MBSR format includes 45 minutes of daily home practice, we loosened this expectation. MBSR participants received the standard CD with guided mindfulness sessions of varying lengths and a session-by-session workbook to support at-home and post-session practice. The instructor also encouraged participants to do at-home practice each week. However, no length of practice was specified in order to reduce any burden of failure this expectation might create for these women if they did not do the homework.

After completion of each MBSR group, we offered direction for supporting participants' continued practice. The research team advised shelter staff on ways to support and help participants continue mindfulness practices, such as using mindfulness exercises in group meetings, individual case management sessions, and recreational outings. Program staff were also encouraged to provide participants with facilities (e.g., access to a private area) to practice mindfulness individually or together. The research staff provided community-based participants with written follow-up recommendations for continuing to implement mindfulness skills, such as attending ongoing free meditation or yoga classes, initiating a mindfulness group with other participants, or regularly using materials we gave them (e.g., readings, CDs to guide formal practice) during the intervention. Dissemination of MBSR within existing social service programs would require the training of staff to promote these activities.

## Feasibility and Acceptability of MBSR for Low-Income, Predominantly African American Women With PTSD

In this next section, we report on the feasibility and acceptability of MBSR as an intervention for PTSD with our sample of low-income, predominantly African American women with PTSD and a history of IPV. We refer to *feasibility* as participants' initial interest in participating in MBSR and their continued participation throughout the intervention and to *acceptability* as whether or not the women perceived MBSR as relevant and useful to their lives in some way. As part of a pilot study, we randomized 106 women to either MBSR or to a control condition to test the feasibility, acceptability, and preliminary effectiveness of MBSR for reducing symptoms of PTSD and depression. The MBSR arm of the study included five groups involving 53 participants.

Eligibility criteria for participation in the study were clinically significant symptoms of PTSD and a lifetime history of IPV. Most participants also had clinically significant levels of depression and almost all had experienced chronic lifetime trauma, including childhood abuse, sexual assault or other forms of community violence, in addition to IPV. Women with significant hearing impairment, untreated or unstable bipolar disorder, current or recent suicidal ideation, untreated psychosis and current or recent substance abuse were excluded from the study. Slightly less than half of the participants were living in a domestic violence or homeless shelter during the study.

### Feasibility

Our findings support the feasibility of using MBSR with a primarily low-income, African American female population with PTSD and a history of IPV. Of the 206 women screened, 158 (77%) women were eligible and 153 (97%) of these expressed interest in participating in the study. Of those who expressed interest, 121 women (76%) completed the baseline assessment, after which 106 (51% of those screened) women remained eligible and continued to express interest in participating. As with all clinical trials, these recruitment figures may reflect both an interest in receiving payment for participating in the study as well as an interest in participating in an MBSR group. Participants in both arms of the study were paid \$50 for each major assessment (baseline, endpoint, and 3-month follow-up), \$25 for the midpoint assessment, \$50 bonus for completing all assessments, and \$10 toward transportation and child care costs.

Of the 53 women randomized to the MBSR condition, all but 1 participant attended the first session. However, 10 participants attended only one session. The mean and median number of sessions attended was 6 and 7, respectively, comparable to a mean attendance rate of 7 in a study involving more middle-class participants (Kimbrough et al., 2010). Seventy percent of the women completed five or more sessions (considered treatment completers), compared to the rates of 66% and 61% for attending at least five sessions in two previous studies involving low-income participants from minority groups (Roth & Robbins, 2004; Vallejo & Amaro, 2009). Treatment completers attended a mean of 7.9 sessions; the mode was 8 sessions. The necessity of the retreat component of MBSR has been raised in the literature with some studies of MBSR groups not including it (Biegel, et al., 2009). However, half of all women who began the MBSR group attended the retreat, suggesting that a retreat session is feasible with this population. Our findings of somewhat lower dropout rates compared to other MBSR studies with low-income samples suggest that our strategies may have contributed to greater retention. Logistical support, such as the availability of child care during the group and transportation reimbursement, was considered to be a positive aspect of study participation. Supportive shelter staff encouraged shelter-based participants to attend MBSR groups. Regular reminders for attendance were also regularly sent by research

staff, which many participants reported to be helpful. Many of the women also reported developing a meaningful bond with the instructor, which suggests the potential of a “teacher effect” for this population.

Completing formal at-home practice was often difficult for participants. Finding time in busy schedules, working around their children’s needs, dealing with chronic daily stressors, and a lack of practice space all made formal at-home practice challenging. In contrast, many women reported using informal practices with their children and other family members, while at work, and to relax. Like Vallejo and Amaro (2009), we deemphasized recording logs for at-home practice in order to minimize shame and guilt. Instead, we relied on anecdotal and retrospective reports at the beginning of group sessions.

Feasibility was influenced by accessibility, or participants’ abilities to get to the MBSR groups, as well as the availability of free child care or reimbursement for child-care costs. MBSR sessions were held at the participants’ shelter programs or in the community neighborhoods with easy access to public transportation. Child care, dinner, and transportation costs were also widely regarded by participants as important for attendance. Although not specific to MBSR, these supports were important for making participation in the MBSR groups feasible. Participants missed sessions typically for reasons that were unrelated to the nature of the group, such as scheduling conflicts (e.g., work, school, children’s activities), sickness and medical appointments, traveling out of town, and in three instances, conflict with another group member.

Overall, participation in MBSR appeared feasible for our sample of low-income, predominantly African-American women, and 70% completed at least 5 sessions. Although this dropout rate is higher than the average for CBT across 25 controlled studies for PTSD (Hembree et al., 2003) that do not necessarily reflect the demographics characteristics of this population, it remains lower than for other MBSR studies with low-income women from ethnic minority groups (Vallejo & Amaro, 2009).

### Acceptability

The MBSR intervention was also typically well accepted by our low-income, predominantly African American participants. Follow-up interviews provided us with valuable feedback regarding participants’ overall experiences in the intervention group, including positive aspects, suggestions for improvement, and changes in themselves and their relationships. During these interviews, most participants demonstrated a basic working knowledge of mindfulness practices and reported applying them in their daily lives primarily through the use of informal practices. Participants felt that the mindfulness practices they had learned promoted healing from trauma and reduced their everyday stress. Many also appreciated that the group was not focused on processing or talking about the trauma, although a few wanted to discuss the details of their stressors.

The most frequently reported positive benefits were a sense of increased awareness, self-acceptance, self-empowerment, nonreactivity, and self-care, as well as decreased distress. Some participants also reported an increased sense of belonging and compassion. These benefits are described below.

**Awareness**—Participants described becoming increasingly more aware of themselves, others, their surroundings, and appropriate boundaries with others. They felt that their avoidance of internal experience (e.g., thoughts and feelings) decreased. They were more able to focus, concentrate, and center themselves. “I enjoy being in the present because the trauma is not happening now. It is over. I’d rather think about how good the coffee smells.”



Other comments include, “I am more aware of surroundings ... take time to appreciate sounds of birds chirping and tasting food.”

**Acceptance**—Acceptance was expressed in the form of accepting aspects of the self, feeling accepted by others, tolerating others, letting go of events, living in the present moment, and suspending judgments about the self, others and situations. “I am more patient as a parent because of not judging myself when not being a good parent. I am not letting my feelings about parenting get in the way. I am able to step back from what is happening, to not get caught up in baggage.” Another woman reported that she can now “tolerate other women, reach out more ... be empathetic and compassionate.”

**Self-Empowerment**—Some participants reported becoming more assertive, confident, and open to taking chances and trying new experiences, which led to increased self-efficacy. “I am easier and gentler with myself, less perfectionistic, more confident and effective ... I was victimized, but I do not want to be a victim.” Another woman’s empowerment led to important changes: “I tried to break up with [him] twice, but kept going back. This caused me to have low self-esteem and feel I would never be able to leave. I was finally able to break up with him. The group helped me get through my problems and believe in myself. I accepted my fears and became more empowered.” One woman stated that she felt she could now “put my mind to anything ... feeling I can accomplish things ... I put work into meditation and stuck with it.”

**Nonreactivity**—Participants felt more capable of listening, communicating with others, and controlling their impulses and emotions—especially anger. Increased awareness of emotions and breathing exercises helped them to pause in stressful situations and respond in healthy ways rather than reproduce unhealthy patterns. “I am more tolerant with things that used to be irritating, and can refrain from displays of anger and other feelings.” Another woman: “It was hard because I was depressed about a lot of things ... learned how to sit still and listen rather than out-talking people ... more patience rather than cutting people off. ... I recognize what I do. ... You have to learn how to talk as a way of respecting people. I learned how to take criticism.”

**Self-Care**—Participants began taking time to nurture themselves by relaxing through breathing and yoga, forgiving and not blaming themselves for events (including traumatic events), and practicing self-compassion. “It taught me to love myself and not let others put me down or make me feel bad. No relationship or anything else should come before me. It’s me first.” Another woman who was recovering at home from a “nervous breakdown” reported that “having a weekly self-nurturing activity helped to uplift me.”

**Decreased Arousal/Distress**—Decreased arousal and distress were expressed through statements about feeling calmer, less stressed, less anxious and depressed, and having fewer difficulties with sleep and pain. “My anxiety attacks have gotten less severe by using breathing. I notice when I am starting to get anxious I calm down with the breathing and stay present in the moment.” Another woman explained: “It was a challenge to get here but I enjoyed going as it was a stress reliever. I looked forward to going each week although I still felt refreshed after leaving. At the end I was able to sleep better and my stress was gone too.”

**Compassion**—Compassion involved sympathizing with the suffering of others and having the desire to alleviate it. “It made me look at this differently ... that other people go through things too and I should be more considerate. I notice homeless people now and want to help them.” Another woman commented that the group “helped me to become more tolerant of

others. The breathing is the #1 thing that I think about every day ... being more aware of what I do and how it affects others ... more than just helping them.”

**Belonging**—One of the benefits of the group was gaining a sense of belonging to a community of women and supporting each other in healing. “It made me aware that I am not the only person with problems and I can solve them without getting physical.” Another woman was moved by “knowing that all of us women could be in the group together and be mindful and respectful of each other and why we [all were] there and respect what each person got out of it.”

**Daily Living**—Many participants began to embed mindfulness practices in their daily activities. “The group introduced me to very simple yoga, which I would have never done before. Now it is an integral part of my life.” Another woman commented that she is “more conscientious about the awareness practice. I incorporate it into my daily life.”

Notwithstanding the positive response by most participants to the MBSR intervention, some participants raised concerns. Two participants stated that they would have liked a greater connection to an ongoing program for “emotional assistance” and feelings about past painful memories brought up in the interviews.” Another woman reported being unable to do home practice, especially the body scan, because it “triggered panic attacks,” although she attended 8 sessions, including the retreat. She also reported dissociating at times during the sessions and was offered additional support after the session by the instructor.

Two participants dropped the group early in the sequence, stating they perceived themselves as less distressed than other participants and therefore less in need of a mindfulness skills course (e.g., “I could teach this class”). Several women requested clearer expectations and guidelines about the group. For example, some stated that they did not want to hear about other women’s trauma stories or “the personal discussion about why one is there.” Separately, interpersonal conflict between group members became an issue on a couple of occasions. One instance emanated from interactions that occurred outside the group and another from a verbal comment made in the group by another member. Interestingly, one woman reported the instructor’s handling of the conflict was useful because it helped to “increase personal awareness.” Finally, one participant dropped out of the group because she experienced conflict between mindfulness practices in the MBSR group and her personal religious values.

Some participants suggested more emphasis on daily problem solving and a few shared their perception that the intervention was not helpful to them. However, participants who attended group sessions regularly requested more frequent groups and were open to groups that lasted longer. Some women also wanted to continue practicing mindfulness together beyond the 10 weeks of the intervention, suggesting that, for the most part, participants accepted MBSR as a valuable part of their daily lives.

## Conclusion

We conclude that the use of an MBSR program as an intervention for PTSD with low-income, predominantly African American women who have a history of IPV and chronic trauma is both feasible (of initial interest to and completed by most participants) and acceptable (congruent with and relevant to their needs). By appealing to an underserved population that is unlikely to seek out or receive traditional mental health services, MBSR raises awareness and acceptance within a group of women with trauma-related symptoms. Based on this pilot study, however, a number of considerations are important for delivering MBSR to this population.

Implementation of MBSR with this population should involve continual input and feedback from both participants and the social service providers who serve them. Collaboration helps address participant concerns and facilitates their continuing engagement in the MBSR course. Maintaining this engagement throughout the intervention is paramount.

Participants in this study were from a low-income, predominantly African American background with enormous health disparities and stigma surrounding mainstream mental health services, as is true of many clinical trials. Participants were also recruited to participate in the study, which involved mindfulness training, and so the initial understanding and perception of the benefits of mindfulness practice might have been generally lower than for people who self-initiated yoga or meditation classes. Establishing a relationship between the instructor and participant through a one-on-one orientation to mindfulness practices from the beginning was critical to clarify participants' expectations and to review the potential benefits of mindfulness early in the group. This session was also used to clarify that MBSR is a secular practice, and is not intended to conflict with any religious practice. We encourage the repeated use of exercises (e.g., "mindful listening" and the "three breaths break") that enable participants to utilize mindfulness skills in their daily lives as part of each group session. To support MBSR session attendance, we also recommend providing logistical support with child care, food, and transportation. We also recommend that people engage participants with weekly reminders and offers of assistance to encourage attendance.

One limitation of this study was that we did not assess changes in participants' use of traditional or complementary and alternative mental health services based on their experience in our group. Future research may consider investigating how participation in MBSR groups may facilitate help-seeking and reduce the stigma surrounding traditional and complementary mental health treatments, and how this kind of intervention may work towards reducing mental health disparities in this population. As with all interventions research, the current findings of acceptability and feasibility are situated within the context of a research study and, accordingly, may reflect a selection bias. For example, some women chose not to participate in the study, but otherwise would have been interested in participating in an MBSR group.

Next steps in this research include an evaluation of the effectiveness of MBSR with this population in a larger RCT. Additional research may also help better elicit the contexts in which MBSR can be effectively delivered. Expanding mindfulness training to include staff members and other employees in the community settings where MBSR is offered would likely enhance the longer-term effectiveness of MBSR for the clients within those community settings. Helping women integrate mindfulness practice into their daily lives would be more easily accomplished if staff members could encourage women in their continued practice through their own use of everyday mindfulness skills. Additional research is also needed to identify ways in which formal home practice can be integrated into women's daily lives without adding to their daily stressors any burden of perceived failure. Continued research on the application of MBSR with traumatized and underserved populations, including with different racial and ethnic groups, has promise to aid in the reduction of mental health disparities.

## Acknowledgments

This research project was made possible by grant R34MH077066 from the National Institutes of Mental Health. This publication was also made possible, in part, by Grant 5-T32-AT000052 from the National Center for Complementary and Alternative Medicine (NCCAM) at the National Institutes of Health. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIMH or NCCAM. The authors would also like to thank Christel Nichols for her help with the planning and development of this study; Jon

Kabat-Zinn for his inspiration and support and Trish Magyari for her consultation on the grant, for training instructors, and providing materials; and both Trish Magyari and Elizabeth Kimbrough for their pioneering work on MBSR with child abuse survivors.

## References

- American Psychiatric Association. Diagnostic and statistical manual. 4th ed. Author; Washington, DC: 2000. text revision
- Arias AJ, Steinberg K, Banga A, Trestman RL. Systematic review of the efficacy of meditation techniques as treatments for medical illness. *Journal of Alternative and Complementary Medicine*. 2006; 12:817–832.
- Baer RA. Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science & Practice*. 2003; 10:125–143.
- Bedard M, Felteau M, Gibbons C, Klein R, Mazmanian D, Fedyk K, Mack G. A mindfulness-based intervention to improve quality of life among individuals who sustained traumatic brain injuries: One-year follow-up. *Journal of Cognitive Rehabilitation*. 2005; 23:8–13.
- Biegel GM, Brown KW, Shapiro SL, Schubert CM. Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*. 2009; 77:855–866. [PubMed: 19803566]
- Bishop SR. What do we really know about mindfulness-based stress reduction? *Psychosomatic medicine*. 2002; 64:71–83. [PubMed: 11818588]
- Bishop SR, Lau M, Shapiro SL, Carlson L, Anderson ND, Carmody J, Devins G. Mindfulness: A proposed operational definition. *Clinical Psychology: Science & Practice*. 2004; 11:230–241.
- Bonadonna R. Meditation's impact on chronic illness. *Holistic Nursing Practice*. 2003; 17:309–319. [PubMed: 14650573]
- Brewin CR, Andrews B, Valentine JD. Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*. 2000; 68:748–766. [PubMed: 11068961]
- Brown C, Conner KO, Copeland VC, Grote N, Beach S, Battista D, Reynolds CF. Depression stigma, race, and treatment seeking behavior and attitudes. *Journal of Community Psychology*. 2010; 38:350–368. [PubMed: 21274407]
- Brown KW, Ryan RM. The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality & Social Psychology*. 2003; 84:822–848. [PubMed: 12703651]
- Carlson LE, Speca M, Faris P, Patel KD. One year pre-post intervention follow-up of psychological, immune, endocrine and blood pressure outcomes of mindfulness-based stress reduction (MBSR) in breast and prostate cancer outpatients. *Brain, Behavior and Immunity*. 2007; 21:1038–1049.
- Carmody J, Baer RA. Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine*. 2008; 31:23–33. [PubMed: 17899351]
- Carroll KM, Ball SA, Nich C, Martino S, Frankforter TL, Farentinos C, Woody GE. Motivational interviewing to improve treatment engagement and outcome in individuals seeking treatment for substance abuse: A multisite effectiveness study. *Drug Alcohol Depend*. 2006; 81:301–312. [PubMed: 16169159]
- Cook JM, Schnurr PP, Foa EB. Bridging the gap between posttraumatic stress disorder research and clinical practice: The example of exposure therapy. *Psychotherapy: Theory, Research, Practice, Training*. 2004; 41:374–387.
- Courtois, CA.; Ford, JD. *Treating complex traumatic stress disorders: An evidence-based guide*. Guilford Press; New York: 2009.
- Dakwar E, Levin FR. The emerging role of meditation in addressing psychiatric illness, with a focus on substance use disorders. *Harvard Review of Psychiatry*. 2009; 17:254–267. [PubMed: 19637074]
- Friedman, M.; McEwen, B. Posttraumatic stress disorder, allostatic load, and medical illness. In: Schnurr, PP.; Green, BL., editors. *Trauma and health: Physical consequences of exposure to extreme stress*. American Psychological Association; Washington, DC: 2004. p. 157-188.

- Gold, SN. Not trauma alone: Therapy for child abuse survivors in family and social context. Brunner-Routledge; New York: 2000.
- Gordon JS, Staples JK, Blyta A, Bytyqi M, Wilson AT. Treatment of posttraumatic stress disorder in postwar Kosovar adolescents using mind-body skills groups: a randomized controlled trial. *Journal of Clinical Psychiatry*. 2008; 69:1469–1476. [PubMed: 18945398]
- Greeson JM. Mindfulness research update: 2008. *Complementary Health Practice Review*. 2009; 14:10–18. [PubMed: 20047019]
- Gregg JA, Callaghan GM, Hayes SC, Glenn-Lawson JL. Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*. 2007; 75:336–343. [PubMed: 17469891]
- Grossman P, Niemann L, Schmidt S, Walach H. Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*. 2004; 57:35–43. [PubMed: 15256293]
- Grossman P, Tiefenthaler-Gilmer U, Raysz A, Kesper U. Mindfulness training as an intervention for fibromyalgia: Evidence of postintervention and 3-year follow-up benefits in well-being. *Psychotherapy and Psychosomatics*. 2007; 76:226–233. [PubMed: 17570961]
- Hayes AM, Feldman G. Clarifying the construct of mindfulness in the context of emotion regulation and the process of change in therapy. *Clinical Psychology: Science & Practice*. 2004; 11:255–262.
- Hembree EA, Foa EB, Dorfan NM, Street GP, Kowalski J, Tu X. Do patients drop out prematurely from exposure therapy for PTSD? *Journal of Traumatic Stress*. 2003; 16:555–562. [PubMed: 14690352]
- Imel Z, Baldwin S, Bonus K, Maccoun D. Beyond the individual: Group effects in mindfulness-based stress reduction. *Psychotherapy Research*. 2008; 18:735–742. [PubMed: 18815948]
- Kabat-Zinn, J. *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. Delta; New York: 1991.
- Kabat-Zinn J. Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science & Practice*. 2003; 10:144–156.
- Kabat-Zinn J, Massion AO, Kristeller J, Peterson LG, Fletcher KE, Pbert L, Santorelli SF. Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry*. 1992; 149:936–943. [PubMed: 1609875]
- Kimbrough E, Magyari T, Langenberg P, Chesney M, Berman B. Mindfulness intervention for child abuse survivors. *Journal of Clinical Psychology*. 2010; 66:17–33. [PubMed: 19998425]
- Kocot T, Goodman L. The roles of coping and social support in battered women's mental health. *Violence Against Women*. 2003; 9:323–346.
- Ludwig DS, Kabat-Zinn J. Mindfulness in medicine. *Journal of the American Medical Association*. 2008; 300:1350–1352. [PubMed: 18799450]
- Marlatt, GA.; Witkiewitz, K.; Dillworth, TM.; Bowen, SW.; Parks, GA.; Macpherson, LM.; Crutcher, R. Vipassana meditation as a treatment for alcohol and drug use disorders. In: Hayes, SC.; Follette, VM.; Linehan, MM., editors. *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition*. Guilford Press; New York: 2004. p. 261-287.
- McCown, D.; Reibel, DK.; Micozzi, MS. *Teaching mindfulness*. Springer; New York: 2010.
- McEwen BS. Allostasis and allostatic load: Implications for neuropsychopharmacology. *Neuropsychopharmacology*. 2000; 22:108–124. [PubMed: 10649824]
- Miller J, Fletcher K, Kabat-Zinn J. Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders. *General Hospital Psychiatry*. 1995; 17:192–200. [PubMed: 7649463]
- Nemeroff CB, Bremner JD, Foa EB, Mayberg HS, North CS, Stein MB. Posttraumatic stress disorder: A state-of-the-science review. *Journal of psychiatric research*. 2006; 40:1–21. [PubMed: 16242154]
- Nyklicek I, Kuijpers KF. Effects of mindfulness-based stress reduction intervention on psychological well-being and quality of life: Is increased mindfulness indeed the mechanism? *Annals of Behavioral Medicine*. 2008; 35:331–340. [PubMed: 18535870]
- Orsillo SM, Batten SV. Acceptance and commitment therapy in the treatment of posttraumatic stress disorder. *Behavior Modification*. 2005; 29:95–129. [PubMed: 15557480]



- Ramel W, Goldin PR, Carmona PE, McQuaid JR. The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy & Research*. 2004; 28:433–455.
- Resick PA, Nishith P, Weaver TL, Astin MC, Feuer CA. A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting & Clinical Psychology*. 2002; 70:867–879. [PubMed: 12182270]
- Roeloffs C, Sherbourne C, Unutzer J, Fink A, Tang L, Wells KB. Stigma and depression among primary care patients. *General Hospital Psychiatry*. 2003; 25:311–315. [PubMed: 12972221]
- Roemer L, Orsillo SM, Salters-Pedneault K. Efficacy of an acceptance-based behavior therapy for generalized anxiety disorder: evaluation in a randomized controlled trial. *Journal of Consulting and Clinical Psychology*. 2008; 76:1083–1089. [PubMed: 19045976]
- Roth B, Robbins D. Mindfulness-based stress reduction and health-related quality of life: Findings from a bilingual inner-city patient population. *Psychosomatic Medicine*. 2004; 66:113–123. [PubMed: 14747645]
- Salzberg, S. *Lovingkindness: The revolutionary art of happiness*. Shambhala; Boston: 1995.
- Schnurr PP, Friedman MJ, Engel CC, Foa EB, Shea MT, Chow BK, Bernardy N. Cognitive behavioral therapy for posttraumatic stress disorder in women: A randomized controlled trial. *JAMA*. 2007; 297:820–830. [PubMed: 17327524]
- Segal, ZV.; Teasdale, JD.; Williams, JMG.; Hayes, SC.; Follette, VM.; Linehan, MM. *Mindfulness-Based Cognitive Therapy: Theoretical rationale and empirical status*. In: Hayes, SC.; Follette, VM.; Linehan, MM., editors. *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition*. Guilford Press; New York: 2004. p. 45-65.
- Shapiro SL, Astin JA, Bishop SR, Cordova M. Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*. 2005; 12:164–176.
- Shapiro SL, Oman D, Thoresen CE, Plante TG, Flinders T. Cultivating mindfulness: Effects on well-being. *Journal of Clinical Psychology*. 2008; 64:840–862. [PubMed: 18484600]
- Sprang G, Katz D, Cooke C. Allostatic load: Considering the burden of cumulative trauma on children in foster care. *Journal of Child and Adolescent Trauma*. 2009; 2:242–252.
- Thompson B, Waltz J. Self-compassion and PTSD symptom severity. *Journal of Traumatic Stress*. 2008; 21:556–558. [PubMed: 19107727]
- Toneatto T, Nguyen L. Does mindfulness meditation improve anxiety and mood symptoms? A review of the controlled research. *Canadian Journal of Psychiatry*. 2007; 52:260–266.
- USDHHS. *Mental health, culture, race, and ethnicity—A supplement to mental health: A report of the surgeon general*. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services; Washington, DC: 2001.
- Vallejo Z, Amaro H. Adaptation of a mindfulness-based stress reduction program for addiction relapse prevention. *The Humanistic Psychologist*. 2009; 37:192–206.
- Witek-Janusek L, Albuquerque K, Chroniak KR, Chroniak C, Durazo-Arvizu R, Mathews HL. Effect of mindfulness based stress reduction on immune function, quality of life and coping in women newly diagnosed with early stage breast cancer. *Brain, Behavior and Immunity*. 2008; 22:969–981.

Table 1

## Session-by-Session MBSR Curriculum

Session Number	Session Outline
1	<ul style="list-style-type: none"> <li>•Opening sequence<sup>a</sup> <ul style="list-style-type: none"> <li>•Mindful movements with soft music<sup>b</sup></li> <li>•Sit in silence</li> <li>•Brief check-in exercise</li> <li>•Orientation to group</li> </ul> </li> <li>•Awareness of breath</li> <li>•Group introduction exercise</li> <li>•Closing sequence<sup>c</sup> <ul style="list-style-type: none"> <li>•Meditation and poem</li> <li>•Brief check-in</li> </ul> </li> <li>•Review of home practice, question-and-answer session</li> </ul>
2	<ul style="list-style-type: none"> <li>•Opening sequence<sup>d</sup></li> <li>•Stress reactivity psychoeducation<sup>e</sup></li> <li>•Brief body scan</li> <li>•Loving-kindness meditation<sup>f</sup></li> <li>•Closing sequence<sup>g</sup></li> </ul>
3	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Integration of mindful practice and self-awareness</li> <li>•Mindful eating</li> <li>•Dyadic mindful listening exercise</li> <li>•Closing sequence</li> </ul>
4	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Integration of mindful practice and self-awareness</li> <li>•Body scan</li> <li>•Loving-kindness meditation</li> <li>•Closing sequence</li> </ul>
5	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Review of pleasant events</li> <li>•Introduction to yoga (lying down)</li> <li>•Loving-kindness meditation</li> <li>•Closing sequence</li> </ul>
6	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Review of unpleasant event</li> <li>•Introduction to formal walking meditation</li> <li>•Closing sequence</li> </ul>
7	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Halfway check-in</li> <li>•Walking meditation</li> <li>•Closing sequence</li> </ul>
8	<ul style="list-style-type: none"> <li>•Integration of mindfulness practice and self-awareness</li> <li>•Yoga (seated)</li> <li>•Mindful communication</li> <li>•3-minute breathing space<sup>h</sup></li> <li>•Closing sequence</li> </ul>
Retreat	<ul style="list-style-type: none"> <li>•Integrating all mindfulness</li> </ul>
9	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Integration of mindfulness practice with self-awareness</li> <li>•Yoga</li> <li>•Mindful planning</li> <li>•Closing sequence</li> </ul>
10	<ul style="list-style-type: none"> <li>•Opening sequence</li> <li>•Integration of mindfulness practice with self-awareness</li> <li>•Celebrating accomplishments</li> <li>•Looking forward</li> <li>•Closing sequence</li> </ul>

<sup>a</sup>Each session began with same introductory sequence.

<sup>b</sup>Each opening sequence began with mindful movement and soft music to ease the transition from a busy day.

<sup>c</sup>Each sessions ended with same closing sequence

<sup>d</sup>See Session 1 for more detail

<sup>e</sup>Moved from session #6

<sup>f</sup>Added to curriculum

<sup>g</sup>Closing sequence from Session 2-10 included check-in about home practice

<sup>h</sup>Adapted from Mindfulness Based Cognitive Therapy