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Implementation and Acceptability of Mindful Awareness in Body-Oriented Therapy in Women's Substance Use Disorder Treatment

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Abstract

Objectives: The purpose of this study was to examine the implementation and acceptability of Mindful Awareness in Body-oriented Therapy (MABT), a novel adjunctive approach to substance use disorder (SUD) treatment. The primary aims of the study were to examine implementation of MABT as an adjunct to addiction treatment, and MABT acceptability to study participants and treatment staff.
Methods: MABT was delivered to participants randomly assigned to the intervention in a larger ongoing trial. This study focuses only on the implementation and acceptability of the intervention, as outcomes are not yet available. MABT was delivered once weekly for 8 weeks (1.5-hour sessions) and spanned inpatient and outpatient programs at a women-only treatment facility. Descriptive statistics were used to examine participant recruitment and retention to the intervention. To measure MABT acceptability, survey and written questionnaires were administered; analysis involved descriptive statistics and content analysis using Atlas.ti software.
Results: Thirty-one (31) of the women enrolled in the study were randomized to MABT. Eighteen (18) participants completed 75%–100% of the MABT sessions. Intervention implementation required flexibility on the part of both the researchers and the clinic staff, and minor changes were made to successfully implement MABT as an adjunct to usual care. MABT was perceived to increase emotional awareness and provide new tools to cope with stress, and to positively influence SUD treatment by facilitating emotion regulation.
Conclusions: It was feasible to implement MABT and to recruit and retain women to MABT in women's chemical-dependency treatment. MABT acceptability and perceived benefit was high.

Introduction

As part of a movement toward bridging science to practice gaps in the field of substance use disorder (SUD) treatment, there is a growing literature specific to the implementation and acceptability of clinical trials in community clinical settings.[1,2] This literature highlights a number of issues, including negotiating perceived conflicts between the most internally valid study design and patient treatment needs,[3] the importance of clinical staff perspectives and buy-in,[4] changes in program structure or organization that are necessitated by a particular research design,[5] and the importance of participant satisfaction with treatment.[6]

There has been little written about implementation feasibility and intervention acceptability in alternative and complementary therapy research, even though there have been numerous community-based mind–body studies in SUD treatment with results that suggest positive impacts on treatment retention, appropriation of self-care skills, and substance use reduction.[7,8] In addition, anecdotal reports from SUD treatment programs using mind–body therapies indicate that the experiential focus of these therapies is instrumental in facilitating sensory and emotional awareness through nonverbal processes, management of stress and craving, sense of meaning, and increased satisfaction with SUD treatment.[9–14] This study examined the issues of implementation and acceptability of a novel mind–body intervention Mindful Awareness in Body-oriented Therapy (MABT) in women's substance use disorder treatment. This is the first known study of a mind–body intervention involving a manual (touch-based) therapy as an adjunct to SUD treatment.

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Mindful Awareness in Body-oriented Therapy

MABT combines manual and mind–body approaches, involving massage, interoceptive, and mindfulness training. Developed by the first author over the course of 18 years in clinical practice, multiple prior studies of MABT for women in recovery from sexual trauma have been published with positive results.[15–17] Massage is one of the primary MABT elements and is thought to be clinically useful for increasing awareness of tension, cueing individuals to physical symptoms of stress and habitual patterns of responding to stress that may be important for relapse prevention.[11] Interoception involves accessing and processing sensory input from inside the body, which is important for the development of mindful body awareness, and fundamental for developing an embodied sense-of-self.[18] As with massage, the mindfulness skills of present-moment awareness, observation, and acceptance that are taught in MABT are also thought to be important for reducing stress response patterns such as avoidance and negative affect that are thought to be important for relapse prevention in SUD treatment.[7]

Methods

Design

Based on a larger pilot randomized clinical trial[19] using a two-group repeated-measures design comparing MABT to Treatment as Usual (TAU) (see description below) for women in SUD treatment, this study specifically examined MABT implementation feasibility and acceptability. The study procedures and consent forms were reviewed and approved by the Institutional Review Board of the University of Washington. The setting for this study was a women-only addiction treatment facility in the northwestern United States; a nonprofit facility, it primarily serves individuals with insurance coverage and does not accept patients with diagnosed psychotic disorders. This study examined MABT as an adjunct to TAU. MABT sessions were offered once weekly, each lasting 1.5 hours. Each participant was assigned, based on schedule availability, to receive MABT from 1 of 4 licensed massage therapists who delivered the intervention. All MABT sessions were delivered at the treatment facility. Baseline and post-test (3 months from baseline) assessments were administered. Participants were remunerated with $20.00 grocery store gift certificates for completion of questionnaires at each assessment time-point.

Study aims

The two primary aims were to examine (1) the implementation feasibility, including recruitment of and retention to MABT as an adjunct to SUD treatment; and (2) MABT acceptability to study participants and treatment staff.

Recruitment and eligibility

Patients enrolled in an intensive 3–5-week inpatient women's-only treatment program for chemical dependency were recruited for study involvement. Only inpatients expected to continue in the facility outpatient program were approached by the Research Coordinator, a person with prior massage research coordination experience hired for the project. Recruitment also included the posting in the facility of flyers that described the study, as well as brief presentation of the study at a weekly inpatient meeting; inpatients were encouraged to contact the Research Coordinator directly if interested in participation. The Research Coordinator had an office in the facility, was a nonclinical member of the facility staff, and was easily accessible to patients. Those interested in study participation were screened for eligibility by the Research Coordinator.

To be eligible for study participation, inpatients had to be continuing in the facility's outpatient program, willing to sign a release to contact facility clinical staff in the case of concern regarding safety and well-being, willing to forego nonstudy massage or bodywork (i.e., manual therapy) during the intervention period, able to commit to a regular scheduled time to attend MABT sessions, and willing to accept random assignment to study treatment conditions. Study exclusion criteria included patient report of current domestic violence (DV), and pregnancy over 2 months. The decision to include DV exclusion was due to the concern that current trauma of this sort might preclude the ability to successfully engage in the MABT intervention.

Consent, enrollment, and randomization

If subjects were eligible, the Research Coordinator scheduled the inpatient for an initial appointment to explain the study procedures and to administer the consent form and baseline questionnaires. Sixty-six percent (66%) of the enrollees were assigned to receive MABT based on a 2:1 randomization ratio to ensure adequate numbers in the MABT group to address the study aims. Every attempt was made to complete study enrollment so that the initial MABT session(s) could be scheduled during the participant's inpatient stay. The hope was that by spanning MABT sessions across inpatient and outpatient programs, participants would be introduced to MABT and the MABT therapist prior to their transition home and to the outpatient program, thereby providing some continuity between treatment programs.

SUD treatment (TAU)

All participants continued to receive usual SUD treatment. SUD treatment consisted of a 3–5-week inpatient program and continuation in a 6–8-week follow-up outpatient program at the same facility. The inpatient and outpatient programs had a 12-step abstinence-based approach with group and individual sessions utilizing cognitive-behavioral therapy. The facility had a holistic orientation involving group movement therapy (involving some dance and yoga to facilitate physical expression and awareness) and one massage as integral components of the inpatient program; the staff were thus familiar with alternative therapies in the context of SUD treatment. For patients new to movement therapy or massage, these experiences provided initial exposure to these modalities but were not continued into the outpatient program. There were two outpatient program options: the Intensive Outpatient involving a 3-hour program on 3 days/week, or the Relapse Prevention Program involving a 3-hour program on 2 days/week. The decision for placement in outpatient programs was made by the Inpatient Counselor based on the client's history of treatment experience and relapse.

MABT protocol procedures

A manual-based MABT protocol developed by the primary author and used in prior studies[15,16] was delivered individually with participants clothed. Eight (8) sessions were offered once a week for 1.5 hours. The MABT protocol is divided into three stages to facilitate the development of interoceptive training (Table 1). Each session began with participants seated, with 30 minutes of check-in to identify the participant's current emotional and physical well-being. The next 45 minutes of each session involved the therapeutic elements particular to Stage 1, 2, or 3. The last 15 minutes of each session was conducted with participants seated, and involved session review and identification of body awareness homework for the interim week.

Key elements used in the MABT intervention sessions are detailed below.

1. Check-in involved asking participants questions about their emotional and physical well-being to guide the therapeutic focus of the session; particular attention was given to body awareness in relationship to experiences associated with substance use and treatment.
2. Massage with body literacy involved massage, delivered over clothes, using a standardized protocol used in prior massage therapy research[20] to facilitate relaxation. It was accompanied by body literacy, the practice of identifying and articulating what is noticed in the body, and the best words to describe the sensations. The therapists asked questions such as, "What are you noticing in your body right now?" and, "How would you describe how it feels in this area?"
3. Inner body awareness exercises involved four approaches to teach interoception. Participants were taught to (a) direct their exhale to facilitate movement of breath through the body; (b) use mental intention to release physical tension; (c) enhance awareness of inner bodily processes, particularly in areas associated with physical and emotional difficulty; and (d) bring conscious attention, or presence-moment awareness, to inner bodily experience.
4. Mindful Body Awareness Practice involves (a) interoceptive awareness of a specific area within the body; (b) sustained mindful present-moment awareness in the body; and (c) intermittent attention to specific aspects of sensory awareness (sensation, image, emotion, form), a process guided by the therapist. Attention to inner bodily experience involves accessing multiple sensory modes of processing (visual, kinesthetic, auditory, and emotional). Meaning is derived through the integration of sensory awareness into cognitive processes (e.g., insight derived from associative link between sensation and emotion) that contribute to sense-of-self.[21] Thus, MABT is designed to facilitate embodied self-awareness (versus dissociation and avoidance).
5. Session review involved therapist facilitation of participants' verbal review of session highlights to promote integration of the therapeutic elements in the session. For example, during an exercise in session 3, a participant focused on softening her jaw. She experienced a lessening of muscle tension in this area, became aware of emotions associated with jaw tension, and wanted this exercise to be her daily take-home practice. The therapist suggested that she gently hold her jaw with both hands to increase the focus of her softening intention, to notice her emotions while attending to her jaw, and to compare the tension in her jaw before and after the exercise.
6. Homework consisted of a take-home practice in body awareness. It was developed collaboratively between the participant and the therapist, and was based on the participant's experience in the session.

Table 1. Mindful Awareness in Body-Oriented Therapy Key Elements (Duration in Minutes)

Stage 1 (sessions 1–2)	*Stage 2 (sessions 3–4)*	*Stage 3 (sessions 5–8)*
Check-in (30)	Check-in (30)	Check-in (30)
Massage/body literacy (45)	Massage/body literacy (15)	Massage/body literacy (15)
	Body Awareness Exercises (30)	Mindful Body Awareness Practice (30)
Session Review (15)	Session Review (15)	Session Review (15)
Homework	Homework	Homework

Interventionists: Clinical experience requirements and fidelity

The four research therapists associated with this project were licensed to practice massage in the state of Washington. They all had a minimum of 5 years in practice, experience combining verbal and somatic approaches, and clinical experience addressing mental health concerns. The research therapists received training in the MABT protocol and ongoing supervision from the principal investigator (PI) (first author). To examine compliance with the protocol, all MABT sessions were audio-recorded. These recordings were used by the PI in the supervision process, and the PI also coded 10% of the sessions for each therapist for fidelity to primary MABT elements.

Measurement

Baseline measures were used to describe participant characteristics (Table 2). These included a demographic and health history form to describe socioeconomic status, racial/ethnic identity, trauma history, health history, and current medications. The Eating Disorder Examination Questionnaire (EDE-Q)[22] and the Modified PTSD Symptom Scale (MPSS),[23] both based on the Diagnostic and Statistical Manual of Mental Disorders, 4th edition diagnostic criteria,[24] were used to assess eating disorder and post-traumatic stress disorder symptoms. The EDE-Q and MPSS have demonstrated good internal consistency.[25,26]

At postintervention, two acceptability questionnaires were administered to the participants to describe MABT satisfaction and experience in the intervention. The first was the Satisfaction Survey, a revised version of the Project Match participant satisfaction questionnaire.[6] The survey included four Likert-type questions (each scored individually) specific to satisfaction with the MABT intervention experience,

Table 2. Demographic and Baseline Characteristics ($N=31$)

Category	*Number (%)*
Age, mean (range)	40 (19–57)
Racial identity	
White	29 (94)
Asian	1 (3)
Mixed race	1 (3)
Education	
High School	31 (100)
College	11 (35)
Employed	
No	20 (65)
Yes	11 (35)
Relationship status	
In a committed relationship	18 (42)
Mother with kids at home	11 (35)
Household income	
<$50,000	11 (35)
$50,000–$100,000	17 (55)
>$100,000	3 (10)
Trauma history	
Childhood abuse (sexual and/or physical)	17 (55)
Adult sexual assault	14 (45)
Domestic violence (history of)	12 (39)
PTSD	
MPSS[22] diagnostic cut-off for community sample	22 (71)
Eating disorder	
EDE-Q[21] diagnostic cut-off	9 (30)
Body therapy experience	
None	4 (13)
Minimal (1–10 massages)	13 (42)
Moderate (>10 massages)	14 (45)
Primary substance	
Alcohol	22 (71)
Narcotics	2 (6.5)
Stimulants	2 (6.5)
Opiates	5 (16)
First time in addiction treatment	21 (68)

PTSD, post-traumatic stress disorder; MPSS, Modified PTSD Symptom Scale; EDE-Q, Eating Disorder Examination Questionnaire.

including overall satisfaction, satisfaction with therapist, and number of sessions. The survey also included a set of questions specific to the perceived helpfulness MABT components (check-in, massage, body awareness exercises, mindful practice, session review, and homework) on a scale of 1 "extremely unhelpful" to 5 "extremely helpful." The second questionnaire was a written questionnaire that asked participants to describe what was most important about the MABT experience, what was learned, if MABT was challenging and if so how, if felt "ready" for MABT, and the perceived influence on SUD treatment.

In addition to participant perception of intervention experience, process evaluation of MABT delivery was also collected. A process evaluation form that asked questions specific to each MABT stage was completed by the therapist immediately after each session to self-assess administration of the MABT key elements. For example, therapists were asked whether they were able to complete massage, whether the participant was able to engage in the body awareness exercises and mindful body awareness practice, and to describe the reason for any deviation from the protocol.

Process evaluation was used to determine the ability to deliver the intervention as designed, and to assess negative effects or adverse events associated with delivery of the intervention; it can also be used as a gauge of intervention acceptability.

To gain the perspective of the clinic program counseling staff about MABT acceptability as an adjunct to SUD treatment, the counseling staff were surveyed anonymously using the Staff Survey, a revised version of the Measure of Goal Commitment.[27] This scale included 9 Likert-type questions on a scale from 1 "strongly disagree" to 5 "strongly agree," and each question was scored separately. The survey items covered integrating MABT into the treatment program, whether it caused administrative burden, was helpful to participants, whether randomization was difficult for participants, whether MABT participants had a harder time in treatment, and if they gained awareness skills.

Analyses

Sample descriptive statistics and qualitative analyses were employed. Descriptive statistics were used to examine recruitment, sample characteristics, session attendance, treatment fidelity, and questionnaire responses. Content analysis, along with analytic tools focused on word use and phrasing from discourse analysis, was used to describe the qualitative responses on written questionnaires. Atlas.ti,[28] qualitative analysis software, was used to identify themes related to reasons for study participation on the Initial Questionnaire, and to examine the experience of the intervention as reported on the Post-test Questionnaire. There were two primary steps involved in the qualitative analysis. The initial step involved categorizing types of general response to the questions. The second step involved attention to the use of specific words and meaning in the narrative response. To verify interpretation of meaning, word use and phrasing in response to other questions on the questionnaire were examined.

Results

MABT implementation: Recruitment and retention

Recruitment to MABT. Of the 350 inpatients during a 13-month enrollment period, 156 who were possibly eligible for study participation were approached. Study participation required attendance in the facility's outpatient program as the intervention sessions were offered at the facility; inpatients who lived locally and might be attending the facility's outpatient program were approached. Of these, 61 thought they would be attending the facility outpatient program and were screened for eligibility. Fourteen (14) were ineligible for participation and 7 were not eligible due to a later change in outpatient program plan. Other reasons for ineligibility included the report of current domestic violence by 4 women and intervention scheduling conflicts for 3 women. No study participants reported pregnancy. Thirty-one (31) women were randomized to receive the MABT intervention. No participant declined study participation due to randomization.

MABT retention. During the baseline-post-test period, 2 participants requested withdrawal from study participation. Reasons for requested withdrawal appeared to be related to relapse and not wanting further contact with the treatment facility or related research staff. Six (6) MABT participants (19%) did not respond to scheduling attempts for post-test assessment.

Participant outpatient program attendance was monitored. As an abstinence-based program, the treatment facility policy stated that patients who relapsed or missed three consecutive sessions were discharged early from the outpatient program and were no longer able to attend programs at the facility. Because MABT sessions were offered at the treatment facility, the study was designed to honor this policy, and receipt of the MABT intervention was contingent on continued participation in the outpatient program. Consequently, outpatient program attendance was particularly relevant to the study of MABT implementation feasibility and acceptability. Nine (9; 29%) of the participants assigned to MABT were discharged early from the outpatient program. At the time of early discharge, the 9 MABT participants had to discontinue receipt of MABT sessions.

MABT attendance. Eighteen (18) participants (58%) completed the MABT intervention (completion is receipt of six to eight sessions or a minimum of 75% attendance). Sixteen (16) participants (52%) completed all eight sessions. Thirteen (13) participants (42%) attended between one and four sessions before discontinuing attendance to MABT sessions. Of those who did not complete the intervention, 9 discontinued or were asked to leave the outpatient program due to substance use or lack of outpatient program attendance and could no longer receive the MABT intervention. Of the remaining 4 participants, 3 discontinued due to scheduling conflicts and 1 discontinued due to a chronic and disabling health condition that made participation difficult.

Feasibility of MABT delivery: Barriers, adjustments, and creative solutions

Spanning MABT across inpatient and outpatient programs. Although the study was designed to span the intervention across the inpatient and outpatient programs, it was not always feasible to do so. Eighteen (18) of the 31 participants assigned to MABT (58%) received the first MABT session during the inpatient program. The remaining 13 received their first MABT session during the outpatient program. The primary reason for this was due to clinical staff request that the baseline assessment be administered after the inpatient had completed her "first step" to avoid adding any potential stress to an already emotionally vulnerable time for many inpatients. The first step (in the 12-step treatment model) is the sharing of an inpatient's substance use story. As the first step was usually scheduled in the second week of the inpatient program and inpatient status was often limited to 3 weeks, there was often inadequate time to schedule the first MABT session before the transition to outpatient status. The second barrier to scheduling MABT in inpatients was that participants were often unsure of their outpatient treatment plans until late in the inpatient program. Inpatients often expressed interest in the study toward the end of their inpatient stay; however, it was not always feasible to schedule a MABT session prior to completion of the inpatient stay. Third, the program was scheduled such that inpatients had required classes from 7:00 AM to 8:00 PM, and it was challenging to schedule the baseline assessment and MABT session at times that worked well for the patient, staff, and research therapist. This was particularly the case if the patient expressed interest in the study late in her inpatient stay.

Delivering MABT as an adjunct to TAU. This study was designed to be delivered as an adjunct to TAU. However, to help retain participants who might discontinue MABT due to scheduling conflicts, the design was expanded in the 4th study month to provide participants with the option of attending MABT as an integrated component of the outpatient program. Thus, during the study enrollment process, participants were given the option to attend the once-weekly MABT sessions in addition to the outpatient program *or* to replace a didactic portion (i.e., typically 1 hour of the 3-hour program) of the outpatient program with the MABT sessions.

There was little overall use of the integrative option as only 3 participants chose it, and only 1 participant completed the intervention using this option. This was due to a subsequent change to the additive option for 1 participant who did not want to miss any component of the outpatient program, and for another participant due to early discharge from the outpatient program for lack of attendance. The 1 participant who completed the MABT sessions using the integrative option chose this because she had children and lived a distance from the treatment facility; this option greatly facilitated her ability to attend MABT sessions.

MABT acceptability

Twenty-five (25) of the 31 participants assigned to MABT (81%) completed the post-test assessment and acceptability questionnaires. Eight (8) of the respondents were participants who did not complete the intervention (57% of the MABT noncompleters).

Treatment satisfaction. In response to the general satisfaction survey (scale range 1 "extremely dissatisfied" to 8 "extremely satisfied," all participants indicated high overall satisfaction with the MABT experience (mean score = 7; standard deviation [SD] = 1.4) and with the MABT therapist (mean score = 7; SD = 1.4). Participants were asked to indicate level of satisfaction with the number of sessions received; 21 (84%) of the respondents were satisfied with the total number of sessions. The 4 participants who were dissatisfied (16% of the respondents) indicated that this was due to wanting more sessions (these 4 participants ended MABT early: 3 due to early discharge from outpatient treatment and 1 due to time conflicts). Participants were also asked to indicate how helpful they found the seven primary MABT elements (see MABT description). The survey responses showed that each of these elements was perceived to be very helpful by the vast majority of participants. On a 5-point scale ranging from 1 to 5, the mean response was between 4.0 and 5.0 for each MABT element. Last, in response to a question about whether they would want to receive MABT if enrolled in a future substance abuse treatment program, 24 of 25 indicated "yes" and 1 indicated "maybe."

MABT experience: Perceived benefit, challenge, and readiness. The written questionnaire asked two questions specific to the experience of MABT, important for assessing acceptability of the intervention. The first question asked women what was most important about the MABT experience. The primary theme that emerged from their responses was the experience of increased mind—body awareness (example quotes are given in Table 3).

The second question asked if they learned something new, and if so, what was important about what they learned. All of the respondents who completed the intervention, and half of the respondents who had not completed the intervention, indicated that they learned something new. The primary theme that emerged from their responses was learning tools for emotional awareness and stress reduction (see example quotes in Table 3).

The written questionnaire included a question specific to participant perception of MABT influence on SUD treatment. Eighty-four percent (84%) of the respondents indicated that MABT positively impacted SUD treatment; 100% of those who responded affirmatively completed the MABT intervention. One (1) consistent and primary theme emerged across all participant written responses about MABT influence in SUD treatment. This theme was that MABT facilitated emotional regulation (see example quotes in Table 3).

In addition, participants were asked about the challenge associated with receiving the intervention. Ten (10) of the respondents indicated that MABT was not challenging, 14 indicated that it was challenging, and 1 respondent was not sure. Of those who experienced MABT as challenging, the majority (71%) had completed the intervention. The primary theme that emerged from those challenged by the intervention was that it was difficult to maintain a concentrated focus on inner body experience. A number of respondents wrote that the challenge was due to inexperience with this approach, and that it became easier with practice.

To assess the appropriateness of MABT in early SUD treatment, participants were also asked if they were "ready for the body therapy intervention—was MABT appropriate and therapeutic for you at this time?" Twenty-one (21) of the 25 respondents (84%) said "yes;" and an *example* response was "a great time to start [MABT] when I was fresh from doing so much self work in treatment and in the mode to do more." Three (3) were "not sure," 2 of whom indicated that they were not sure due to relapse (they did not complete the intervention), and the one who did complete the intervention wrote that while MABT was "very helpful" she nonetheless did not "realize what was entailed," suggesting that she might not have felt "ready" if she'd understood the focus of the intervention ahead of time. One (1) participant (who did not complete the intervention) indicated that she was not ready; she wrote "would've been better for me after 90 days of sobriety."

Protocol engagement, fidelity, and safety. The interventionists evaluated their ability to deliver the key MABT elements on process evaluation forms at the completion of each MABT session. Without exception, the interventionists were able to administer the protocol as designed, and participants engaged in the exercises and mind–body awareness practice. Fidelity coding showed that across all therapists there was 95% compliance, another indication that the therapists were able to successfully deliver the protocol.

The process evaluation forms were also used to identify possible adverse events specific to delivery of the intervention. Assessment of negative or adverse events was through report at check-in, in response to therapist query about prior session experience, therapist observation, or direct report by the participant to a research team member. None of the participants reported side-effects or adverse events. In addition, there was no mention of negative or adverse events on any of the postintervention questionnaires specific to MABT experience.

Adherence to homework practice. Integral to MABT is body awareness homework, and all participants were asked

Table 3. Primary Themes from Post-Test Written Questionnaire on Mindful Awareness in Body-oriented Therapy (MABT) Experience

Theme: most important MABT experience	*Examples from participants' quotes*
Increased awareness of mind–body connection	"Connecting emotions with sensations—It is still difficult for me to identify emotions sometimes but I can now look to my body for cues."
	"The most important was learning to be in touch with my body, breathing and mind as a whole. To use this information to know how I am feeling at any given time."
Tools for emotional awareness and stress reduction	"My emotions are connected to my body physically, i.e., I feel the anger physically in my body now or sadness when I'm sad. It has helped me to recognize how I'm feeling and to think before I react."
	"This is something I can use to relax and see what is going on inside me—I can release pain, I can release stress and anxiety."
Theme: MABT influence on recovery	
Facilitated emotional regulation	"I feel a sense of calm unlike before; I am able to become aware of my feelings before I react on them. I am able to calm myself in situations which in the past would set me off."
	"This approach allows me to check myself during the day—to emotionally gauge how I am doing and to respond to myself in a caring way."

to keep a weekly log of the number of times and duration of homework practice. To judge homework acceptability, adherence to the homework practice as indicated in the weekly logs was examined. Twenty-four (24) participants (77%) turned in weekly logs indicating an average of 5.7 body awareness practice days/week for an average of 11 minutes/day. There was great variation in types of homework practice; for some it involved short but frequent body awareness moments spread throughout the day, and for others their practice was a longer one-time event in the day.

Chemical dependency treatment staff perceptions. The treatment counselors were anonymously surveyed after all MABT sessions were complete to gain their perception of MABT acceptability. Of the 16 staff counselors, 11 responded. Four (4) were exclusively inpatient counselors, 4 were exclusively outpatient counselors, and 3 had worked with both inpatients and outpatients over the course of the study. Seven (7) of the respondents indicated they had patients enrolled in the study; of these, 5 indicated that they learned about the MABT experience from patients participating in the study; the other 6 did not. The majority of staff respondents, 8 of 11 (73%), did not perceive that the study generated additional burdens for them. Six (6) of the staff respondents did not think that randomization to MABT or TAU control was particularly difficult for patients; however, 3 indicated a neutral response and 2 indicated that it was somewhat difficult. All of the staff indicated a neutral-to-positive perception of MABT helpfulness and increased awareness skills, and none perceived that participants had a harder time in the program. For neutral responses (midrange on a 5-point scale), the notes from staff indicated that they did not often have adequate information, either from participant contact or from study results (not yet available), on which to inform their response.

Discussion

MABT, while having been employed previously in the treatment of sexual trauma, is a new approach to adjunctive treatment of SUDs, consistent with the increased use of mindfulness based approaches in SUD treatment.[7] The question addressed in the present study is whether MABT could be feasibly implemented into a women's SUD treatment program and whether it would be acceptable to participants. The present results suggest that the answer to both questions is "yes."

With respect to the question of implementation feasibility, it was possible to effectively deliver MABT as an adjunct to SUD treatment in the participating community-based treatment program. As is true in most feasibility studies to examine implementation of a behavioral intervention in SUD treatment,[1–4,29] there was a need to make adjustments to procedures in order to find how and where MABT fit best in the program schedule. The majority of the clinical staff perceived the positive value of MABT, as reflected both in their survey responses and their willingness to suggest alternatives to help accommodate the implementation of MABT and its participants.

Response to the option for participants to either add MABT to their regular treatment activities or to integrate MABT by having it take the place of other treatment activities suggests that the former is preferable, in large part because the women did not want to miss any of their regular treatment components. However, providing the flexibility and availability of these two methods of incorporating MABT into treatment may allow more women the opportunity to access this adjunctive therapy. The fact that many of the women were willing to commit to the increased amount of time involved in treatment with MABT as an add-on, versus as an integrated replacement, speaks to the perceived positive value participants placed in both their standard treatment and in MABT.

With respect to the acceptability of MABT as an adjunct to standard substance abuse treatment, it appears that the female participants found it both acceptable and beneficial. MABT participants were highly satisfied with their overall experience with the intervention, its individual components, and the therapists delivering it. Of particular note is that although more participants perceived the approach to be challenging than not, the vast majority indicated that they would want to receive MABT if enrolled in a future substance abuse treatment program. The reported satisfaction appears to be related to the perceived benefit derived from MABT. Consistent with the theoretical rationale and with the purported mechanisms of action of the approach, women reported that they increased their mind–body awareness, became more emotionally aware, gained new tools for stress reduction, and were better able to regulate their emotions as a result. These findings are consistent with the large percentage of the participants who indicated that MABT positively impacted their recovery from SUDs.

Despite the majority of sessions being conducted in the outpatient setting following transition from residential care, the fact that many of the women were employed and had busy schedules, and that the approach was considered challenging by many, over half the sample (58%) of women assigned to the MABT condition completed 75%–100% (six to eight sessions) of the intervention, with 52% of participants attending all eight sessions. It is of note that over two thirds of those who viewed MABT as challenging were actually able to complete it. While the overall completion rate appears initially to be relatively low, it should be viewed in the context of other multisession behavioral interventions in the addictions. The clinic in which the present study was conducted also served as a site within the National Institute for Drug Abuse Clinical Trials Network (CTN) that evaluated a behavioral intervention focusing on women and trauma that was delivered twice per week for 6 weeks.[30] The treatment exposure rate for the program in that trial was 47%; the average treatment exposure rate across the seven participating sites in the CTN women and trauma protocol was 54%. Thus, the attendance in the present study of MABT is consistent with that found in the CTN trial both in the present clinic as well as across community-based treatment programs.

In addition to attendance, there was a very high rate of compliance with the assigned out-of-session body awareness practice, with over three quarters of the MABT participants turning in weekly logs and indicating relatively frequent use of these practices between sessions. This finding is of importance in that in addition to addressing issues of compliance, previous research with behavioral interventions has demonstrated that higher rates of completion of therapeutic

"homework" assignments was associated with enhanced treatment retention and greater skill acquisition.[31,32]

In summary, MABT appears to be a highly acceptable intervention that can be feasibly implemented into standard SUD treatment. The high session attendance among participants who were not discharged early from treatment, in combination with the overall satisfaction with the MABT intervention experience, indicates MABT acceptability. Furthermore, participants described reducing stress and gaining greater emotional awareness and self-regulatory coping skills. These qualitative findings were confirmed in the results of the randomized clinical trial.[19] The successful implementation of the study points to the importance of support of the intervention by the clinical staff, and to flexibility in research design and understanding of clinical issues by the research team. These are important issues to address in future studies examining the feasibility and implementation of alternative and complementary therapies in community clinic settings.

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Disclosure Statement

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