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Perceptions about mindfulness-based interventions among individuals recovering from opioid and alcohol use disorders: Findings from focus groups

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ABSTRACT

Objectives: Mindfulness-based interventions (MBIs) have been used as an intervention to support recovery from alcohol use disorder (AUD) and opioid use disorder (OUD). We sought to identify attitudes and experiences toward standardized MBIs among individuals recovering from these substance abuse disorders (SUD) through a qualitative approach.

Design: We conducted three 60-minute focus groups among people with history of SUD (6-months to 3 years in recovery): two groups with those with alcohol use disorder (AUD) history and one with individuals with history of opioid use disorder (OUD). Each group had eight participants.

Results: Most participants of the OUD focus group had tried some variations on mindfulness training or meditation-like therapies during treatment. Participants expressed perceived benefits for MBIs' non-pharmacological property, while expressing concerns related to perceived barriers of cost, scheduling conflicts with work and child/family care needs, and possible lack of provider empathy. Gift cards and other rewards were recognized as useful participation and retention incentives for completing the described program; the training itself was perceived as an "incentive" if able to deliver significant benefits related to supporting continued recovery from SUD. An overarching theme across all groups was that participants reported their own altruistic behavior and social connectedness as important motivators to help them maintain recovery.

Conclusion: The importance of perceived provider empathy and the patient's social connectedness in SUD interventions was underscored as incentives for participation and retention, providing valuable information for the implementation of MBIs among patients recovering from SUD.

1. Introduction

Mindfulness-based interventions (MBIs) such as Mindfulness-oriented recovery enhancement (MORE),[1] when applied to substance use disorder (SUD) recovery, utilize techniques including mindfulness, reappraisal, and savoring positive experiences.[2–4] Mindfulness training has been shown as a potentially effective adjunctive therapy to prevent alcohol dependence relapse[1,5] and opioid dependence relapse[2,6]; these initial findings merit further investigation and testing.

Similar to the delivery structure of mindfulness-based cognitive therapy (MBCT),[7] MORE is typically conducted as an eight-week long, one-session-per-week training program, where participants learn how to address challenges associated with SUD recovery. MORE combines mindfulness training and cognitive-behavioral therapy to enhance the recovery process of patients who have addiction and mental health issues. MORE is usually offered as a manualized 10-session group intervention, whereas mindfulness-based stress reduction (MBSR) is typically offered at a pace of one session per week for eight weeks. In addition to mindfulness training, MORE uses techniques from positive psychology to foster a sense of meaningfulness in life and to train

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participants to savor pleasant events and emotions.

MORE is a non-pharmacological, non-invasive intervention with documented evidence to reduce addictive behavior.[8] In prior research, MORE has been found to be a useful non-pharmacological treatment for pain and hedonic deficits among chronic pain patients at risk for opioid use disorder (OUD).[6,9] Its non-invasive, non-pharmacological, lifestyle-oriented nature holds promise for contributing to efforts to manage the current opioid epidemic[7] and other widespread substance misuse challenges in the United States. Specifically, individuals who have undergone treatment for opioid and other forms of SUD and who are seeking methods to enhance and support successful recovery may be especially likely to be looking for ways to address behavioral, psychological, and social needs.

To date, few qualitative studies have examined attitudes, beliefs, and practices related to adopting a standardized mindfulness training such as MORE as a recovery enhancement intervention among those recovering from SUD. The current study aims to employ a qualitative focus group methodology to begin to identify and describe perceptions and beliefs related to perceived facilitators and barriers to the adoption of MORE among individuals who have completed treatment and are currently in recovery for opioid and/or alcohol misuse. A secondary aim of the study is to document potential feasibility and challenges of implementing MORE programs among these groups to inform future planned randomized controlled trials with these populations.

The theoretical framework that guided the study is the Health Belief Model (HBM), a theory that has been applied in public health research and practice for more than 50 years.[10] The model's primary assumption is based on the understanding that behavior change will occur only when sufficient benefits outweigh perceived costs of performing the behavior, with two over-arching constructs, perceived threat (a combination of perceived susceptibility and perceived severity) and expected net gain impacting the likelihood of adoption. The model also accounts for the impact of modifying factors such as knowledge and socioeconomic factors, and cues to action, such as education, on perceptions of threat. Due to these key constructs and variables, we determined this model to be an appropriate fit to meet our needs related to the kinds of questions we wanted to explore based on our study aims.

2. Material and methods

The study's methods and findings are reported according to COREQ guidelines.[11] We conducted three 60-minute focus groups among people with history of SUD (6-months to 3 years in recovery); two groups were held with participants in recovery for alcohol use disorder (AUD) and one group included participants in recovery for opioid use disorder (OUD). The OUD group participants were recruited from those actively participating in a medically-assisted treatment (MAT) program. Participants were recruited from a substance abuse treatment and recovery center in a mid-sized city in the Southeastern United States, after being identified as eligible by the center director based on current known recovery status. Each focus group discussion included eight participants, for a total of 24 (16 in AUD and 8 in OUD recovery). The first, second, and last authors of this manuscript conducted the three groups; our credentials include Associate Professors/PhDs (one Caucasian-Asian female and one Asian American male facilitator) and a doctoral student/MS (one Asian-Indian female facilitator). None of the moderators had personal relationships with any of the research participants prior to the study.

The lead author, who has over ten years' experience in conducting qualitative health research, developed the moderator guide with input from additional members of the research team, who have expertise in clinical psychology (HZ), health behavior change (LC and LZ), and mindfulness training (LS) interventions. The moderators (KJ and LS) reviewed the moderator guide and discussed priority topics and questions and how to problem solve if any issues arose during the groups prior to the discussions. In the OUD group, the recovery facility's MAT program case manager (black/African American female) also participated in the discussion.

Table 1
Participant Demographic Data.

Sex, Race	AUD group	OUD group	Total
Male, Black	6	0	6
Male, Caucasian	6	2	8
Female, Black	1	1	2
Female, Caucasian	3	5	8
Total	16	8	24

The goals and purpose of the study were reviewed with each group, and voluntary, informed consent was obtained from all participants prior to the study, with IRB approval from the University and medical center overseeing the study. Each moderator shared any personal experiences related to the discussion topics at the beginning of each session. All focus groups were held in meeting rooms at the recovery/treatment center during the participants' scheduled weekly group meeting times. Each participant received a $20 gift card as an incentive for participating in the focus group discussions. The discussions were audio recorded to assist in data analysis and coding.

The focus groups were conducted during October and November, 2018. The sample size was determined by available participants that met the inclusion criteria for our study, and was determined to be sufficient as saturation (in qualitative research, this is also referred to as "redundancy") was clearly reached in examining the data. Table 1 provides demographic data regarding age and race by group. In addition to basic demographic data, we asked participants to voluntarily provide information related to age, time in recovery, household income, and occupation. Three AUD recovery participants, and all eight of the OUD participants, agreed to participate in the sessions, but did not provide personal data beyond sex, race, and length of time spent in recovery. Among those who provided additional data, AUD participants' ages ranged from 25 to 56 years of age (mean = 39.77, SD = 10.1). AUD participants' reported incomes (several declined to answer or provided illegible answers in this section) included none (2); $750/month (1); $1,400/month (1); less than $30,000/year (1); $40,000/year (2); $50,000/year (2); and $120,000 (1). Of those who listed a response for the "occupation" category, responses were given in the following categories: none or not working outside the home (3), medical/behavioral (2), part time (1), professional (1), skilled worker (2), retail (1). Other answers were either missing or illegible for this item. Among the 16 participants in the AUD groups, reported time spent in recovery ranged from "a few weeks" to "over two years" in recovery. Among the eight participants in the OUD group, reported time in recovery ranged from "five months" to "two years." None of the participants in the AUD group volunteered to provide additional personal information related to income, occupation, or age. Participants who declined to provide some of the additional requested demographic information did so despite having reviewed and signed the informed consent documents and the moderators' assurances that any information they provided would remain confidential, which is meaningful in that it underscores the perceived vulnerability among these participants in providing such information, even for confidential research purposes and when provided in a familiar setting. Given that participants were being asked to discuss their experiences related to drug and alcohol recovery during the sessions, these participants may have felt wary in providing any information that might have been personally linked to them, even though their names were not collected on any of the data forms.

In the focus groups, we first asked fairly broad questions about any non-drug therapies or interventions they had tried in the past, to provide a general context and background to introduce the discussions. Then, to gain information related to individuals' perceptions of "mindfulness" in general, we asked, "Are you familiar with the concept

Table 2
Themes Related to Perceived Benefits, Barriers, and Cues to Action.

Theme/Construct	Example
1a Perceived Benefits, individual: coping and recovery management/ impact of program in helping achieve goals	the appeal of a non-drug behavioral approach to "avoiding triggers" for relapse; mindfulness training being able to "retrain the brain" and "find peace"
1b Perceived Benefits, training in general: e.g., non-judgmental nature of MORE	The "non-judgmental" nature of MORE was frequently cited as a general benefit of the mindfulness approach
1c Perceived Benefits, Social: altruism, ability to help others in recovery, accountability to others	"facing others" also in recovery on a regular basis through training; "helping others helps yourself" through group participation in training
2a Perceived Barriers, practical issues: e.g., time, cost, travel	possible lack of immediate benefits observed in an eight-week program, potential costs associated with attendance (e.g., daycare expense and transportation), and scheduling conflicts with work shifts and child duty.
2b Perceived Barriers, provider issues: lack of empathy, lack of trust in provider	"How you gonna relate if you ain't never used?… What got me into recovery in the first place was being able to talk to people who have been through what I've been."
2c Perceived Barriers, program effectiveness: concerns MORE may not work, or interfere with MAT, other treatments	Participants expressed importance of any new therapy being a non-drug approach: "otherwise you are just trading one drug for another;" "we are on other things that medication might interfere with"
3a Cues to action, individual: desirable "incentives" for recruitment/ retention, including program effectiveness	Grocery store or discount chain store gift cards, gym memberships (could be interpreted as both individual and social), movie passes, money or gift cards ("addicts are poor"), if the training works to support recovery "that will be the biggest incentive of all"
3 b Cues to action, social: enhanced social/group engagement and relationships	Participation in MORE training would enhance and enable interactions and relationships with others who are committed to recovery rather than those who might be negative influences (individuals who were described as "bad influences" or "triggers" for relapse), provide additional motivation in "tackling problems as a group"

of 'mindfulness'? What does that term mean to you?" After allowing participants to explain in their own words what "mindfulness" meant to them, to assist participants in further refining their ideas, we provided the following definition: "*Mindfulness* is a state of active, open and non-judgmental awareness of the present moment. Therapies based on mindfulness have shown benefits on physical and psychological well-being." After further discussing their perceptions about mindfulness in general based on this definition, participants were probed to provide additional information and details according to HBM constructs. Finally, participants were provided with a description of a typical MORE training, and were asked specific questions related to the feasibility of recruiting and retaining participation in the described MORE program for those in recovery for SUD.

After the focus groups were completed, the audio recordings were independently reviewed and compared with field notes by the first and second author to inductively identify overarching themes and illustrative statements related to the study's aims. The recordings were partially transcribed, and the transcribed verbatim comments were used along with researcher notes generated by reviewing the audio recordings (each coder listened to the entire recording at least twice). The recordings were saved on a password protected file that could only be accessed by members of the research team with appropriate login credentials. No real names were used during the sessions to protect anonymity of participants.

The coders' independent observations were combined into one table for each group by the second author, and the three tables were then combined and summarized by the lead author according to the study's theoretical and procedural questions, focusing on areas where redundancy or saturation, demonstrated through the identification of main or overarching themes within and across groups, was achieved. After the initial coding and analysis was completed, the rest of the research team (all contributing authors) reviewed the summary tables, and found no discrepancies with coding, adding notes where clarifications could be added. Transcripts were not provided to participants for review after the discussions.

3. Results

3.1. Experience with mindfulness and meditation

Most AUD participants had not done any guided or independent mindfulness training per se, although when prompted, mentioned practicing activities that they would consider "mindful," such as prayer, studying astrology, reading, hiking and other outdoor activities, spending time with children, using meditation to "find the positives in life," being alone or taking "me time," breathing exercises, and sitting in a quiet spot. In the OUD group, most participants reported having tried meditation or mindfulness exercises in the past, specifically noting they were introduced to the concept of "mindfulness" and meditation techniques as guided exercises provided as part of their recovery program through a local rehabilitation facility.

To illustrate, one participant in the AUD group said he had begun regularly sitting quietly by the river and listening to the waterfalls, and that doing so was helping him to relax by taking him "out of that stressful moment." One participant in the OUD group mentioned that she began watching "peaceful videos" and doing meditation using an app recommended by her partner, who was also in OUD recovery, to help with her process: "Mindfulness really helps and can make you feel better in just five minutes." Participants referred to strategies such as "paying it forward" by helping others and "letting go" of negative emotions in response to prompts about strategies that they would consider part of adopting mindfulness in their approaches to recovery. None of the study participants had completed a standardized mindfulness training program such as MORE.

3.2. Perceived benefits

The overarching themes that emerged related to findings related to HBM constructs of perceived benefits, barriers/threats, and facilitators/ cues to action are summarized in Table 2. All participants across both groups, when prompted, generally acknowledged positive health benefits of meditation and mindfulness exercises, with overarching themes pointing to both individual and social aspects of such benefits. For example, participants mentioned the appeal of a non-drug behavioral approach to "avoiding triggers" for relapse and in a mindfulness training being able to "retrain the brain" and focus on enjoying the lifestyle of being in recovery, as opposed to living in "the abnormal state" of being an addict. Participants discussed learning how to deal with stress more positively and "find peace" through mindfulness and meditation and improving one's motivation to remain in recovery as other important benefits. In all three groups, the social aspect of participating in a MORE program was highlighted and reinforced as a perceived benefit, as "facing others" also in recovery on a regular basis was something mentioned repeatedly as a key support need.

The perceived "non-judgmental" nature of mindfulness training was mentioned as another specific perceived benefit related to social

support needs, as well as the ability for mindfulness training such as MORE to enable participants to provide social support to other participants through encouragement and fellowship. Indeed, one of the most dominant recurring themes across all three groups was the benefit of adopting altruistic behaviors, i.e., for the purpose of recovery they need to feel needed by others and helpful toward others, that they saw a program such as MORE as helping to facilitate. In both the AUD and OUD groups, participants expressed that being accountable and assisting others in recovery was a significant motivator in helping them manage their own struggles with addiction and improve their sense of self-worth.

3.3. Perceived barriers

People with SUD history reported a number of perceived barriers related to attending a mindfulness program such as MORE. The most frequently cited perceived barrier or concern that was a theme across all three groups involved a general concern that the MORE trainer may have a lack of empathy unless s/he had a personal substance use history as well as an existing relationship with participants. Participants in all three groups shared these concerns, and when asked to elaborate, explained issues such as the trainer not having credibility with participants and possibly being able to be "manipulated" or fooled by participants without this personal history. For example, participants in one of the AUD groups described a recent experience where a "substitute" counselor was brought in to facilitate a recent group therapy session, and they generally described the experience as a very negative, "worthless" activity because the facilitator did not have any personal SUD history. As one participant emphasized, "How you gonna relate if you ain't never used?… What got me into recovery in the first place was being able to talk to people who have been through what I've been."

In the OUD group, participants discussed at some length the difference in effectiveness and support provided by the physician overseeing their MAT program, who has personal history and long-standing relationships with the participants, as compared to "typical" medical practitioners without such history and relationships. Participants complained that other practitioners had made inappropriate recommendations related to their recovery efforts, i.e. recommending "a glass of wine a day" to a patient recovering from AUD or opioids to treat pain in someone in OUD recovery, and noted that such practitioners made them feel "judged."

In contrast, participants in both groups cited the practitioners who could empathize through shared experiences and relationships "know what suffering means" and were better at making connections on a personal, rather than strictly professional, level. For example, when describing "Dr. X.," who oversees the MAT program, one OUD patient noted, "he's not scared to tell you what you really need," while another noted, "he can't be manipulated—you can't lie to him." Another participant, in describing the closeness of all of the participants' relationships with this physician, said, "he supports by walking with you" and "comfort is not his objective," but rather, his patients' successful recovery is the goal.

Other perceived barriers noted by participants included possible lack of immediate benefits observed in an eight-week program, potential costs associated with attendance (e.g., daycare expense and transportation), and scheduling conflicts with work shifts and child duty. Participants in both the AUD and OUD groups expressed concerns that if they do not feel like the mindfulness training is going to be effective in the beginning, committing to an eight-week program would in fact result in adding more stress to their recovery.

3.4. Perceived facilitators/feasibility and "cues to action"

When asked to discuss potential facilitators or incentives for recruitment and retention in a standardized mindfulness training program, participants provided a wide range of suggestions. Grocery store or discount chain store gift cards were recommended by all three groups as incremental participation incentives for class attendance and survey completion. As one AUD participant noted, "addicts are poor—we all have money problems, so every little bit helps." Other suggested participation incentives or rewards included gym memberships (to 'try to get activity back"), and free movie tickets. Gym memberships and movie tickets were specifically noted in relation to providing meaningful activities and ways to "stay busy" to help participants avoid triggers such as boredom or socializing with people who would not support their recovery.

Participants were open to the idea of mindfulness apps, and some had already started using popular mindfulness apps for managing mental health concerns. The apps' built-in time frame (reminder) was reported as a good feature for facilitating meditation. Most participants were supportive of the idea of a group app that involves everyone's participation, noting that a virtual collaborative environment could be helpful especially "when no one is at home." However, most also agreed that these app-based interventions cannot be used to replace a face-to-face intervention.

The concerns raised related to the perceived barrier of a trainer who could not empathize and support participants' recovery was discussed here at some length as well, in the reverse—in other words, while having a trainer who did not have perceived empathy or shared experiences would be considered a barrier, having one deliver the intervention who could effectively empathize and support without judgment was perceived by all three groups to be a strong potential motivator. As one AUD group participant summarized, "You have to show people that you care about their situation."

Most participants found the 8-week format of MORE feasible and observed that attending one such program could also help develop relationships and build accountability among the participants. Participants in all three groups emphasized face-to-face, group training sessions would be far preferable to individualized, computer or app-assisted training methods. Attending a retreat in a quiet and scenic place, when described by the moderators as often being offered by MORE programs, was viewed favorably as a motivating facilitator of attending mindfulness training. A retreat was perceived by the OUD participants especially as an incentive, as several in the group indicated this would be seen as "pampering" and, if held at the conclusion of the training, would also be considered to be a celebration of participants' successful completion of the program. Participants also recommended awarding certificates for completion as part of the "celebration" of the retreat setting. Participants recommended transportation assistance for those who could not drive for the retreat event, and suggested a central, easily accessible, familiar location to maximize attendance.

In sum, an interesting finding that emerged from these discussions was that participants in both the AUD and OUD recovery groups perceived that the MORE training, if successful, would be an "incentive" in and of itself. In other words, when the moderators asked for incentives that could help participants to be recruited and then remain in the training, in each group, in response, participants mentioned the personal skills to control their own thoughts and behaviors they could obtain from the described training as part of that list. To illustrate, as one participant in one of the AUD groups noted, "if the program works, that will be the biggest incentive of all."

4. Discussion

Our study was conducted to provide a baseline for a future planned intervention to provide MORE training to those in recovery for SUD and OUD in a mid-size southeastern city, where such programs have yet to be widely implemented or adopted within the community. It is important to identify factors that would improve treatment adherence and engagement in order to ensure optimal outcomes among those in recovery for AUD and OUD prior to undertaking this innovative approach to supporting traditional treatments typically used to enhance recovery.

As our study shows, our focus group participants in recovery from alcohol and opioid use disorders are receptive to MORE, as one of the non-pharmacologic recovery programs for meeting their needs, provided perceived financial and logistic barriers are minimized. In particular, the non-judgmental "experiential acceptance" is one feature about mindfulness training that these individuals found very appealing. These results are logical when considering the environment of the overwhelmingly traditional, conservative culture that our participants work and reside within.

Our findings highlight the feasibility and desirability to engender group effects and altruistic behaviors during a standardized, multi-week mindfulness training program such as MORE. That participants emphasized these needs as both perceived benefits and potential facilitators or cues to action is consistent with prior documented evidence in mindfulness interventions,[12,13] and seems to provide preliminary support for the likelihood of successful adoption of a standardized mindfulness training in meeting the unique needs of those in recovery for SUD. Providers' empathy[14] and therapeutic alliance with the trainers are also mentioned as important cues to action, or facilitators for the success of mindfulness programs, consistent with prior research.

Our findings further point even more directly to the patients' perceived need for care providers to develop a strong rapport with participants, particularly for those who may lack a personal substance use history. Trust is clearly an important factor to consider with these groups, as evidenced not only by the concerns raised by participants regarding the trustworthiness of the training professionals, but also by the observation that several participants were hesitant to provide information such as age, household income, and occupation, even though they were assured verbally and in writing that this information would be kept confidential and would be used for statistical purposes only, in accordance with IRB protocols.

In addition, the expressed need to relate to others in recovery is worth noting for practitioners developing mindfulness protocols aimed at patients with SUD, as mindfulness practice historically includes fostering altruistic attitudes, such as "loving kindness meditation" that has been shown to increase social connectedness and decrease anger, pain, distress and depression,[15–17] or "metta." The perceived barrier related to financial cost merits further consideration, particularly when evaluating potential issues related to sustainability and broader dissemination of community-based mindfulness training interventions.

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