Methods

Tailoring Trauma-Sensitive Yoga for High-Risk Populations in Public-Sector Settings

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Abstract

Low-income, racial-minority, high-risk populations have limited access to evidence-based treatments for posttraumatic stress disorder (PTSD), and their acceptance of complementary interventions is unknown. Trauma Center Trauma-Sensitive Yoga (TC-TSY), which has demonstrated efficacy in community samples, has not yet been widely used with ethnic minority low-income individuals. This article presents a culturally tailored version of a TC-TSY intervention delivered as a drop-in service in a public hospital–based clinic to patients with histories of interpersonal violence and suicide attempts. TC-TSY was iteratively tailored to meet the unique clinical needs of individuals within this setting. Group facilitator observations are summarized; they describe a successful initial implementation and culturally informed adaptation of the group intervention. The facilitators' observations illustrated that group members accepted the integration of this structured, gentle yoga practice into outpatient behavioral health programming and identified site-specific modifications to inform formal study. The process by which TC-TSY was adapted and implemented for Black individuals with a history of interpersonal trauma at risk for suicidal behavior can serve as a guide for tailoring other complementary, integrative interventions to meet the needs of unique clinical settings. This process is offered as a foundation for future systematic testing of this complementary, integrated, culturally adapted trauma therapy in high-risk clinical populations. *Cattie et al. Int J Yoga Therapy 2021(31). doi: 10.17761/2021-D-20-00035.*

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Interpersonal trauma (e.g., intimate-partner violence, childhood maltreatment) adversely affects mental and physical health throughout the lifespan.[1–3] Trauma survivors are more likely to seek treatment for somatic complaints (e.g., pain, preoccupation with multisystemic physical complaints) than for psychological concerns like posttraumatic stress disorder (PTSD),[4,5] in part because of heightened focus on body appraisal common in survivors of trauma[5] and resistance to cognitive-based interventions.[6] Recommendations for treatment of interpersonal trauma include a range of evidence-based therapies, many of which are cognitive-behavioral in nature and effective when a full course is completed.[7] However, outcome studies reveal high dropout and nonresponse rates[8] and limited alleviation of somatic concerns.[2] Although few interventions address psychological and somatic symptoms in an integrated manner by targeting dysregulated physiological processes, recommendations increasingly include innovative, complementary approaches that attend to somatic symptoms of PTSD.[7]

Interoception (i.e., detection and interpretation of internal states) is a transdiagnostic mechanism for maintaining homeostatic functioning, autonomic function, and emotion regulation.[9,10] Using body-focused interventions to treat underlying mechanisms for a range of trauma-related symptoms, such as impaired interoception and autonomic dysfunction, could improve health outcomes and quality of life for traumatized individuals reporting somatic concerns. Mindfulness-based interventions that teach nonjudgmental, present-moment awareness may be uniquely suited as the basis of body-focused interventions for trauma.[11] Indeed, mindfulness-based yoga practices involving present-moment attention, breathing, and physical postures may decrease autonomic sympathetic activation, muscle tension, and blood pressure and improve neuroendocrine and hormonal activity.[12,13] Other mindfulness-based interventions

appear to enhance interoceptive and autonomic nervous system function,[14,15] suggesting mindfulness as a key component to body-based interventions.

Novel yoga interventions have gained empirical support, but little research has addressed their application in vulnerable populations. For example, individuals from low-income, ethnic-minority, urban communities are at high risk for trauma exposure[16] and often present with somatic complaints.[17] They have limited access to behavioral health treatment and barriers to treatment engagement and success.[18] Treatments for interpersonal violence survivors from these backgrounds, therefore, may be most effective when integrated into the settings in which these individuals most commonly seek care.[19] However, alternative trauma approaches are rarely tested in public-sector settings, the primary service providers for low-income, urban individuals. Incorporating resource-efficient, acceptable, somatically focused therapies into public medical settings is a critical step in engaging and effectively treating this population.

One such promising intervention is the Trauma Center's Trauma-Sensitive Yoga (TC-TSY),[13] developed by a team of trauma-informed clinicians and yoga teachers. An adjunctive PTSD intervention, TC-TSY addresses physiological symptoms through enhanced interoceptive awareness and regulation. TC-TSY combines principles of trauma theory, attachment theory, and neuroscience and emphasizes present-moment awareness, interoception, and building agency by making effective self-care choices about one's body. It was designed to target historical experiences of abuse and trauma, chronic lack of power in relationships, and unmet basic needs. It uses invitational, reflective prompts to create opportunities for observing and tolerating physical sensations and responding to them with effective choices. In TC-TSY, healthy recovery involves rebuilding, restoring, or developing physical and psychological capacities and competencies that may have been derailed, delayed, or underdeveloped due to maltreatment, violence, neglect, and other adversity.[20] In contrast to vigorous, athletic yoga practices, TC-TSY is more often chair-based and prioritizes noticing internal experiences while exploring gentle movements; observing any associated physical sensations; and making choices about pacing, duration, and intensity to maximize self-care.

Research support for TC-TSY has been favorable. A narrative review[21] included two randomized controlled trials, one for TC-TSY alone,[22] with follow-up,[23] and the other for TC-TSY combined with Kripalu Yoga.[24] It also included a quasiexperimental study[19] and a qualitative study.[25] This review found support for TC-TSY reducing symptoms of PTSD, depression, and anxiety in women with PTSD largely secondary to interpersonal trauma. More recent qualitative analyses found TC-TSY to be an effective adjunct to group psychotherapy for survivors of intimate-partner violence.[26] There is relatively little data on optimal dose of TC-TSY within this population. A quasiexperimental study with trauma survivors found 20 weeks of TC-TSY to be associated with greater reductions in PTSD and dissociative symptoms than similar interventions of shorter duration.[27] Based on the findings, the authors recommended a longer duration of intervention, optimally with intentional assignments of home practice.[27] Of note, the only follow-up study found no differences in long-term outcomes between TC-TSY and a women's health seminar.[23] However, the investigation revealed that frequency of practice predicted reduced symptom severity (PTSD, depression) and amelioration of disorders (PTSD),[23] again highlighting the importance of home practice. Despite these promising preliminary findings, TC-TSY has not been widely studied or disseminated in public-service settings in which many vulnerable, unserved and underserved, and minority populations regularly seek care.

This article summarizes an iterative process to adapt and implement TC-TSY within an outpatient clinic with an urban, diverse, low-income population of adults with a history of interpersonal trauma. We delineate a process of assessing and optimizing effectiveness and fit within this specific population and setting. This includes facilitator observations and iterative changes to structure and content informed by group members' experiences. We conclude with recommendations about design, recruitment, and intervention for future studies to test efficacy and effectiveness studies in public-sector settings. The information presented reflects a program evaluation including facilitator observations (in aggregate) to inform the clinical service; no experimental or quasiexperimental data were collected. Our goal is to share lessons learned in adapting TC-TSY to our setting. This report represents the first effort to describe implementation of TC-TSY with a predominantly low-income, racial-ethnic minority cohort.

Methods

Based on its aims and structure (e.g., program evaluation within a single site, no systematic investigation or data collection from group members, not intended to produce generalizable knowledge), the university's institutional review board (IRB) determined that this project was not "research" as defined in federal regulations and did not require IRB review.

Group Members and Clinical Context

Group members (n = 24; 92% Black; 87.5% female) were English-speaking individuals over the age of 18 engaged in outpatient or inpatient behavioral health services within the

Nia Project, a comprehensive, empowerment-based, culturally informed program for individuals with a recent suicide attempt and exposure to lifetime interpersonal violence.[28–30] The program offers individual therapy, support groups, skills-based groups (e.g., dialectical behavior therapy, acceptance and commitment therapy), and process groups that are culturally adapted for the population (i.e., that emphasize culture-specific methods of coping and sources of social support, and that center acknowledgment of structural barriers to leaving violent relationships).[31,32] Patients are encouraged to attend multiple groups to meet their individual clinical needs. The Nia Project is housed within a university-affiliated, urban public hospital that predominantly serves a low-income, Black, uninsured population. Most group attendees reported no previous yoga experience.

Despite Nia's evidence-based clinical offerings, no interventions focused specifically on the physiological sequelae of trauma reported by many participants. Thus, all Nia Project participants were invited to the TC-TSY group through fliers, program announcements, and/or their individual therapists. Each TC-TSY group was led by two co-facilitators. Two of the trained co-facilitators were white women and two were women of color.

Introducing the Group

Initially, we posted fliers announcing "Gentle Yoga" and including the meeting location and that no specific clothing or supplies were needed. For the first several weeks, no patients attended. Program clinicians reported that patients were deterred by assumptions about what *yoga* would entail. Anecdotally from referring therapists, patients viewed yoga as an athletically demanding practice that required specific attire or a certain degree of physical fitness, and that incorporated Eastern religions rather than Christianity (the dominant religion of most Nia Project patients). These concerns are consistent with barriers reported in other similar populations.[32] After learning about these concerns, the group name was changed to "Mindful Movement" and an explanation of the practice began each group meeting. Subsequently, one to three patients attended each week, approximately equivalent to other new Nia Project groups.

Although the group had been announced and described in clinical team meetings, referrals were inconsistent until an experiential practice and question-and-answer session was provided to the team to overview the rationale for TC-TSY and share initial group-member feedback. Facilitators engaged team members in a brief practice like that offered within the group. Staff inquired about appropriate referrals for the group and expressed concerns about referring patients with severe presentations (e.g., dissociation, vivid flashbacks, distress-tolerance deficits). Facilitators reiterated the theoretical underpinnings of TC-TSY and referred to literature supporting its use with more severe trauma populations.[27]

Adaptation of TC-TSY

Prior to the first group, two major steps were necessary for adapting TC-TSY to this population and setting. These modifications were spearheaded by the clinical supervisor (the first author), who has extensive training and experience in trauma-informed yoga practices and TC-TSY in nontraditional programs and community settings, and by two facilitators of the group, who have experience with the patient population and completed the TC-TSY e-course.

This first step was developing a tailored introduction to the group about how TC-TSY differs from (e.g., focused on bodily experiences) and is similar to (e.g., focused on empowerment and self-care, contextually based) other Nia Project groups. Core TC-TSY tenets were presented in keeping with Nia principles. TC-TSY invitational language emphasizing making choices about psychological and physical present-moment engagement aligned with the project's focus on empowerment. Language consistent with TC-TSY and the Nia Project focus on self-care explicitly welcomed members to disengage, take breaks, or leave for any reason. In keeping with other Nia Project groups, members were able to elect to use grounding materials during groups. Building on the Nia Project's attention to context (e.g., sociocultural backgrounds) and recognizing the busy, noisy hospital environment and chaotic neighborhoods in which many participants reside, the introduction included guidance on simply noticing, rather than reacting to, environmental stimuli. It also offered suggestions for incorporating environmental observations into grounding strategies. This reliance on familiar concepts aligned the group within the overall Nia Project culture.

The second step in adapting TC-TSY to this population and setting was selecting a series of physical postures (in TC-TSY, these are termed "forms") that could be implemented in a familiar program space. Based on the space available and many participants' physical limitations (i.e., physical discomfort associated with medical problems), a chair-based practice was chosen. See Table 1 for the list of selected forms.

Implementation of TC-TSY

The team also made a number of initial modifications to apply the TC-TSY format. The first involved tailoring the prompts using patient/program language and providing choice options for commonly reported experiences within Nia (e.g., severe and acute symptomatology, chronic pain, dissociation). For example, to serve patients with significant dissociative symptoms, invitational prompts emphasized that there were no expectations for engagement in

Table 1. Chair-Based Yoga Forms (Postures) Used in Nia Project Group Sessions

Form	Area(s) of Focus
Attention to breath	Notice body sensations while breathing
Shoulder circles	Notice making choices about circle size and direction
Feet on the ground	Practice present moment attention, notice spatial and pressure distribution
Lateral neck stretch	Notice sensations of muscle lengthening, make choices
Sun breaths (lifting and lowering arms with inhale and exhale, respectively)	Coordinate movement and breath
Seated forward fold	Notice muscle dynamics, changing sensation with angle
Seated mountain	Notice sensations related to postural shifts/body lengthening
Seated recline (engage core, gently lean back toward chair)	Core strength exercise; notice muscle dynamics
Seated spinal twist	Notice making choices about which direction to turn
Back and shoulder stretch (arms wide)	Take action to stand, reach to sides, choose adjustments
Hip stretch (figure-four ankle to knee, knee over knee, or ankle over ankle)	Notice muscle dynamics
Seated warrior	Present-moment awareness with bodily pressure
Seated relaxation	Muscle dynamics of resting

potentially re-traumatizing and/or disorganizing actions (e.g., closing their eyes, meditating). Such tailoring of prompts has facilitated practice participation in demographically comparable samples.[33]

The second modification related to the duration and structure of the group. In some trauma-focused programs, TC-TSY is included for 30–40 minutes at the completion of a group therapy session.[19,26] In others, TC-TSY is offered in a 1-hour group format.[22,25] Consistent with the latter approach, we developed a 1-hour group. Rather than solely focusing on breathing and yoga forms, each group session included the aforementioned brief introduction led by one facilitator, 40 minutes of practice led by one facilitator, and 15 minutes for group members to debrief, with both co-facilitators eliciting and responding to feedback. This debrief functioned as an ongoing program-evaluation stage during the first year of the group.

During this debrief, co-facilitators affirmed all responses as valid and expressed appreciation for the diversity of observations in the group. This processing was critical for understanding members' experiences and reactions, validating common experiences, linking members' observations to TC-TSY processes (e.g., choice-making, interoception), and crafting invitational prompts and choice options for future groups in response to reported challenges.

The third modification in the TC-TSY format related to the drop-in, open nature of the group. Whereas most TC-TSY programs described in the literature are closed groups of limited duration, based on the preferences and resources of Nia Project patients (many of whom are not able to attend regularly due to a range of psychosocial stressors and who identify strongly with the program's inclusive vs. closed groups), ours was by necessity a drop-in group with no session limits, suggested dose, or minimum attendance requirement. Such a structure was designed to ameliorate some of the barriers to behavioral health services utilization in this highly traumatized and resource-poor population.[33] Providing long-term access to such an intervention is consistent with data highlighting that longer intervention duration is optimal for patients with chronic and complex trauma, such as those served through the Nia Project.[21]

Program Evaluation

During the initial clinical implementation, the Nia Project TC-TSY group was held weekly for approximately 2 years, using the adapted introduction-practice-debrief structure to become increasingly responsive to group members and the setting over time.

Feedback (weekly review of group-member debrief and facilitator reports) indicated that the TC-TSY group was accessible to Nia patients. No data were collected from group members; however, facilitator descriptions indicated that most individuals who attended one group elected to return, and many remained in the group long term. Approximately 70% of attendees returned for subsequent groups, and approximately 25% participated for longer than 6 months. Accessibility was also reflected in one of the most consistent debrief topics: Group members described the practice as relevant and reported often using it outside the group, despite no prompting by facilitators to do so. Patients regularly reported using practices during difficult situations (e.g., noticing body experiences when feeling angry, observing body sensations and making choices while at a funeral), and they requested materials to assist in further outside practice (e.g., list of forms, recording of facilitator prompts). Group members expressed appreciation for the choice-making framework, which was commonly linked

to their intentions to return to the group. Even group members who reported that the practice was emotionally challenging reported an intention to return.

Additional modifications were iteratively adopted to maximize responsiveness to the Nia patients and setting. First, most group members reported that, although they found the intervention worthwhile and intended to continue, they noticed pain related to co-occurring medical conditions and/or reported difficulty staying in the present moment given their significant trauma histories. This resulted in the addition of invitational prompts during each yoga form that validated these experiences and offered an expanded range of options. Although the invitational nature of prompts is central to TC-TSY as originally developed, our facilitators extended this by offering a wider, more customized set of potential modifications to forms and ways to attend to internal experiences based on common feedback provided during debriefs. Facilitators also provided additional options, including ways to attend to external stimuli (e.g., sounds, scents), for those who initially were overwhelmed by an internal focus and reported desire to practice dialectical behavior therapy skills from other groups. Rest or disengagement from physical forms was offered as an option for fatigue or pain. Facilitators observed that group members made use of modifications and made a wider range of choices in the group over time.

Facilitator Observations

To document group members' experiences of the group, facilitators reflected on observations of in-group choice making and responses during weekly debriefs. Some of these observations were consistent with the TC-TSY literature, and others were novel and reflect this patient population's unique experiences.

Observations Consistent with Prior TC-TSY Findings

The first core TC-TSY tenet that emerged in facilitator observations was related to group members' enhanced abilities to observe and reflect on their interoceptive experiences and use this information to promote self-care. Members shared how the practice fostered connection to their bodies and present-moment awareness. Many remarked that they had not been aware of the degree of disconnect from their minds, bodies, and the present moment until it was thrown into relief by the practice. Some linked this to a tendency to ignore or not act on bodily sensations (e.g., tension, pain), whereas others disclosed a history of bodily dissociation after physical and/or sexual trauma. Members reported that the practice fostered their capacities for self-care, choice-making in response to body experiences including pain, and mindful awareness. These shifts, evident both inside and outside of the group, are consistent with the TC-TSY literature.

A second consistent observation was that of group members integrating TC-TSY material into preexisting skills repertoires. Group members discussed differences between TC-TSY and mindfulness practices learned through other interventions (e.g., dialectical behavior therapy, acceptance and commitment therapy), highlighting the value of the flexibility to make choices in TC-TSY. Others likened TC-TSY to values clarification activities in acceptance and commitment therapy, sharing that mindfulness had become a value, with class attendance an important step in that valued direction. Finally, some members linked the TC-TSY practice to trauma-focused individual therapy work and revealed that it helped them confront their historical avoidance of feared internal experiences (e.g., noticing sensations in body areas associated with experiences of abuse, experiencing shortness of breath). Although facilitators noted the ease with which participants made these connections, their comments are consistent with work validating TC-TSY as an adjunctive treatment.[37]

Novel Observations

One novel facilitator observation pertained to intentional disengagement from, and diverse adaptation of, the suggested practice. At times, facilitators were unsure whether group members were engaged or disengaged. Often, members appeared to be resting or dozing or not completing forms simultaneous with the rest of the group; facilitators estimated that members chose to either engage in their own modified forms or rest in a meditative position for approximately half of the practice. During debriefs, however, members freely shared their reflections and rationales for making different choices, including intentionally using the practice as a designated time to rest or find reprieve from the challenging world or from their inner racing thoughts. Others reported valuing the opportunity to engage in mindfulness without the aim of progress. Several noted becoming acutely aware of physical sensations and choosing to suspend physical movement because of the severity of their pain, which led some to seek medical attention afterward.

Second, discomfort and difficulty seemingly were unrelated to decisions to return to the group. In contrast to previously published participant descriptions of the practice as calming, soothing, or relaxing,[37] many group members reported difficulty or discomfort. Some reported distress when noticing a disconnection with their emotions or body states; some struggled with somatic, visual, or cognitive memories of trauma. Group members commonly reported difficulty along with intentions to return to the group; indeed, they did so at high rates. Several indicated that their discomfort during the practice helped them to notice their difficulties with present-moment and nonjudgmental observation, and that this experience fostered a desire to develop and practice these capacities.

A third novel observation involved members' frequent self-initiated practice outside of the group, which is striking in that it was never recommended explicitly (in contrast to other interventions that prescribe use of skills or "homework" outside sessions). Multiple group members requested materials to facilitate outside practice (e.g., recordings, a list of forms used in the practice). Although some intervention trials found planned and spontaneous interim practice of skills, this study's frequent reports of spontaneous generalization and application of skills within moments of distress (e.g., at a funeral, prior to challenging interpersonal interactions) were unexpected. This demonstrated members' deep understanding of the rationale for the skills and relevance to their recurrent somatic and emotional distress. Some observed that they were better able to adjust their physical postures throughout the day (e.g., while riding the bus, at home) because of improved attunement to their physical needs.

Iterative Changes to Structure and Content

In addition to the initial modifications made to the TC-TSY protocol, iterative changes were made to both the structure and content of the group. These changes were informed by the observations and challenges shared by group members. Based on feedback that it was challenging to engage in TC-TSY as soon as the session started due to chaos in the group members' lives, the grounding tool of relaxing music was introduced as people entered the room.

Two common challenges reported by group members (experiencing physical pain and dissociating) led facilitators to embed frequent prompts into the practice acknowledging specific experiences in their own language and offering a range of choices that members might make in response (e.g., "If you're moving, you may notice discomfort or pain in your body. You might choose to move more slowly, make your movement smaller or gentler, try a different movement, or take a break."). Other prompts responded to reports of difficulty directing focus (e.g., "Imagine a flashlight shining a light . . . ") and noticing and disengaging from judgmental thoughts (e.g., "Bring awareness to when you are evaluating and return to simply observing."). Facilitators explicitly validated reports of not noticing any sensations at all. Dissociation from bodily sensations and low interoceptive accuracy are not uncommon after extensive trauma.[33] Facilitators normalized these experiences using group members' own words and without attempting to reframe the experiences. Facilitators emphasized that reactions and feelings were not observable to, nor could they be judged by, others; this was explicitly highlighted to underscore the validity and acceptability of all reactions and individual choices.

Based on frequent experiences of dissociation during group sessions and group members' stated desire to use skills learned in other groups, and after consulting the literature,[34] grounding supplies were added to the space, including essential oils, coloring materials, and sensory objects (yarn balls, candies, lotions). Prompts were added to direct attention to present-moment connectedness, and group members were invited to use grounding materials or make other choices to feel more present.

Discussion

This implementation of TC-TSY, culturally tailored to meet the needs of a low-income, ethnic-minority population with minimal prior exposure to yoga, is one of the first to report implementation and patient engagement in a public hospital–based mental health treatment setting. Relatively little research has attended to complementary and alternative approaches in high-risk populations, and it is critical to adapt evidence-based interventions to the needs of diverse cultural groups.[35,38,39] We demonstrated that TC-TSY could be acceptable to our patient population given adequate attention to their unique needs and reflected on facilitator observations that could be operationalized to expand the TC-TSY literature on qualities of engagement in this practice.

This implementation indicates the ability to offer this intervention with no additional space or staff time, and relatively few physical materials, which is critical considering the public-health settings in which many high-risk populations seek care. Part of adapting TC-TSY to this setting was enabling a true drop-in model; ours is the first demonstration project to document this approach. This evaluation also demonstrated that TC-TSY was electively and consistently chosen by a high-severity population in a public-service setting, and participants included those admitted for inpatient psychiatric treatment and patients with active dissociative symptoms. That TC-TSY would be appropriate for this high-severity and inclusive population is consistent with other TC-TSY trials.[24] It was helpful to tailor the intervention for the setting—including advertising materials, introductory information, session structure, prompts, and the opportunity to debrief—while retaining the core components of the model.

In our group, topics that emerged in debriefings differed somewhat from those in trials of TC-TSY and help define success of implementation in ways befitting the population. For example, apparent prolonged disengagement from the forms often reflected intentional engagement of a different nature (e.g., actively choosing stillness, engaging in a modified practice). Similarly, verbalized experiences

of physical or psychological difficulty were not incompatible with appreciation for, enjoyment of, and intention to continue the practice. Finally, group members readily integrated TC-TSY with other therapies to which they were exposed; direct linkage by facilitators did not appear to be necessary to offer TC-TSY as an adjunct to existing services. Facilitator observations suggested that when evaluating TC-TSY, experiences unique to the patient population should guide selection and assessment of outcomes. For example, given the unique experiences of our group, assessing acceptability and treatment success based on successive weekly attendance (e.g., "completion" as 10 weekly visits) would have ignored important realities in the members' daily lives and obscured important therapeutic gains with a relatively low and intermittent dose of the intervention. With these observations in mind, we concluded that this intervention appears applicable and worthwhile, and offer a number of lessons learned and considerations for our clinical implementation and upcoming study.

Considerations for Clinical Implementation

- **Advertising yoga interventions.** Communications might consider the patient populations' prior exposure to yoga and their beliefs and attitudes toward a yoga practice. Limiting yoga-specific jargon in materials and explaining the intervention in descriptive terms to patients and clinic staff may be helpful in facilitating understanding.
- **Space and materials.** Selection of a known and trusted space, even if modestly sized and minimally outfitted, may underscore the reflective (rather than physically rigorous) nature of the work. Minimal supplies were necessary for initiating the group, and we used the following: door sign to limit interruptions, device to play music, and basket of grounding materials (candies, scented lotion, coloring supplies, essential oils, yarn).
- **Group structure.** Particularly with group members with no previous yoga experience, a brief, experiential introduction to each session can be helpful to explain the rationale and nature of the practice before beginning the sequence of forms. Critically, we included a significant debriefing portion in each group. This enabled members and facilitators to validate the range of experiences and choices expressed and informed improvements to invitational prompts using group members' own language.
- **Sequence of forms.** Sequences of forms and invitational prompts can consider the physical health and previous yoga experience of the population, and practices can be adapted based on observations and feedback. Some may not readily observe somatic information such as pain cues, so twists and bends, for instance, might begin gently with prompts that encourage interoceptive observation and offer a range of choices. Facilitators can observe group member choices and modifications during sessions to inform prompts and adaptations to the sequence.
- **Facilitating outside practice.** Given frequent requests for materials to assist in outside practice, providing resources to support application of skills during everyday life (e.g., list of forms, recorded practices of different lengths on YouTube) is encouraged. Based on the requests we received, we recommend separately recording each of the following:
    1. introduction,
    2. section introducing breath and present-moment contact,
    3. section covering seated postures,
    4. modification that can be completed while lying down,
    5. standing forms that may require more physical space or ability to balance, and
    6. grounding tools.
- **Responsiveness to needs.** Responsiveness to the group and setting's unique needs can be reflected by including prompts verbalizing and validating common and/or difficult experiences, offering choices for noticing and responding, and providing a debrief that enables participants to share experiences and validate one another. For our group members, it was important to validate experiences they *might* notice (offering options for those who felt or noticed nothing at all), such as difficulty keeping contact with the room or present moment, pain and associated choices, racing thoughts, and concerns about not doing the practice "right." Defining engagement as an internal process (noticing, making choices) and validating choices that modified or discontinued physical movements were especially critical in helping this group to be accessible to members with significant medical problems. This acknowledgment may also be beneficial for individuals with significant psychiatric symptoms, including dissociation and suicidal behavior, and for those who are psychiatrically hospitalized.

Recommendations for Research

The initial clinical implementation and program evaluation were conducted to prepare for and inform systematic study in our setting. Based on our experiences, we recommend designing a research battery that includes self-report and

psychophysiological measures to understand potential outcomes of the intervention (in a drop-in, outpatient format) to derive generalizable conclusions. Psychophysiological measures may elucidate whether this intervention has the expected, observable autonomic effects documented in the broader yoga literature (e.g., skin conductance, heart rate variability). Positive and negative psychological self-report measures (e.g., psychological well-being, emotion regulation, dissociation, PTSD) may detect clinically and ecologically relevant effects in underserved populations with ongoing psychosocial stress. We strongly recommend using both quantitative and qualitative data to assess outcomes; we anticipate that participants from diverse demographic groups and across clinical settings may describe their experiences using different language that may not be reliably captured by quantitative measures alone. For example, understanding the quality of the physical and/or emotional difficulties or benefits that emerge and how participants' choices enable development of new capacities may be most sensitively captured qualitatively.

We suggest assessing facets of the intervention itself as facilitators of outcome. Measuring dose continuously (e.g., sessions completed, hours of home practice) rather than dichotomizing participants into "completer" and "noncompleter" groups will capture dose response in a more nuanced way. We also recommend capturing brief and informal use of skills and perceived effects of practice; our group members made it clear they were using the skills in moments of distress in addition to practicing in dedicated blocks of time, and that this was impactful. Based on reports in this implementation of effects/benefits at even low doses, and stated commitment to the practice even among inconsistent attendees, we recommend models that are responsive to barriers to attendance (e.g., scheduling, competing roles, transportation, financial strain) and that encourage participation regardless of frequency.

Based on this implementation, we urge clinicians and researchers alike to more widely implement accessible adaptations of such interventions. As described, clinical and research protocols can be modified (initially and iteratively) to ensure responsiveness to a given population and setting. Although the specific modifications detailed above enabled successful adaptation to our setting, the process outlined may allow individual settings to attend to and modify based on their population's unique needs. Developing a rich understanding of these factors will increase diversity of experience in the empirical literature and increase access to potentially impactful interventions for high-risk populations.

Conflict-of-Interest Statement

The authors have no conflicts of interest to disclose.

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