

Research

Delivering Integrative Restoration-Yoga Nidra Meditation (iRest®) to Women with Sexual Trauma at a Veteran's Medical Center: A Pilot Study

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Abstract

Objective: This pilot study examines iRest, a form of guided mindfulness meditation, and its ability to reduce symptoms associated with sexual trauma, including military sexual trauma (MST), in a sample of women seeking psychotherapy services at a Department of Veterans Affairs (VA) medical center. **Methods:** 90-minute sessions were held 19 times, twice a week for 10 weeks, except for the week with a holiday. Participants completed self-report measures Brief Symptom Inventory-18 (BSI), Posttraumatic Cognitions Inventory (PTCI), and the Post-traumatic Stress Disorder Check List (PCL) pre- and posttreatment. Sixteen women were recruited: 15 enrolled, 5 dropped due to transportation issues, and 10 completed the protocol. **Results:** Completers reported significant decreases in symptoms of posttraumatic stress disorder (PCL, $t(9) = 3.17, p < 0.01, d = 0.66$), negative thoughts of self-blame (PTCI $t(9) = 2.96, p < 0.05, d = 0.52$), and depression (BSI, $t(9) = 2.33, p < 0.05, d = 0.64$). Participants also offered verbal reports of decreased body tension, improved quality of sleep, improved ability to handle intrusive thoughts, improved ability to manage stress, and an increased feeling of joy. Participants also enthusiastically endorsed the class and stated they would take it again and recommend it to others. **Conclusions:** This small pilot study showed promising

results for delivering iRest to women with sexual trauma in a VA medical center. Further research is warranted.

Key Words: military sexual trauma, female veterans, PTSD, sexual trauma, meditation, yoga, yoga nidra, iRest

This study was designed to explore the efficacy of Integrative Restoration (iRest) in reducing trauma-related symptoms in women with sexual trauma and military sexual trauma (MST) in particular. iRest is a guided mindfulness meditation intended to induce deep relaxation; from this place of ease, participants can become aware of self and conduct meaningful self-inquiry to resolve or begin to reduce physical, mental, and emotional symptoms or lack of ease (Integrative Restoration Institute, 2011).

Background

Military Sexual Trauma

Based on Title 38 United States Code (U.S.C.) 1720D, the Department of Veterans Affairs (VA) defines MST as “psychological trauma which in the judgment of a mental health professional employed by the Department, resulted from a physical assault of a sexual nature, battery of a sexual nature, or sexual harassment that is repeated, unsolicited verbal or physical contact of a sexual nature which is threatening in character and occurred while the veteran was serving on active duty or active duty for training.”

MST is the primary mental health issue among U.S. female veterans, with estimated rates of 55% to 70% for sexual harassment and 11% to 48% for sexual assault (Goldzweig, Balekian, Rolon, Yano, & Shekelle, 2006). Studies of MST incurred in recent conflicts in Iraq and Afghanistan found rates for women of 15% to 42% (Katz, Cojucar, Beheshti, Nakamura, & Murray, 2012; Kimmerling et al., 2010). Female veterans may also have multiple events of trauma across their lifespan starting in early childhood and continuing postmilitary, with not only

sexual trauma but also a variety of abusive and unsupportive relationships (Kelly, Skelton, Patel, & Bradley, 2011). These traumatic events may lead to a cascade of negative consequences and compounding life stressors, such as post-traumatic stress disorder (PTSD) (APA, 2000), substance abuse and health concerns (M. Koss & Heslet, 1992; M. Koss, Koss, & Woodruff, 1991; Skinner, John, & Hampson, 2000; Suris & Lind, 2008), and depression (Creamer, Burgess, & McFarlane, 2001).

Evidence-based Therapies

Evidence-based treatments for sexual trauma, and in particular for PTSD, are primarily cognitive behavioral interventions, including prolonged exposure (PE) (Foa, Molnar, & Cashman, 1995), cognitive therapy (Beck, Rush, Shaw, & Emery, 1979), cognitive processing therapy (CPT) (Resick & Schnicke, 1992), and stress inoculation training (SIT) (Meichenbaum, 2007). A 2005 meta-analysis of psychotherapy for PTSD showed that only about 50% of clients in efficacy studies using cognitive behavioral interventions benefitted from the treatment and no longer met the diagnostic criteria for PTSD at the end of treatment and at follow-up periods. Moreover, posttreatment scores suggested considerable residual symptoms (Bradley, Greene, Russ, Dutra, & Western, 2005). Poorer treatment outcomes were also associated with those who had a history of childhood trauma, injuries incurred from the traumatic event, and for those with comorbid conditions of pain, depression, or anxiety at the beginning of treatment (Lee, Zaharlick, & Akers, 2011). Because female veterans present with trauma histories across the lifespan and with multiple comorbid conditions in need of treatment (Kelly et al., 2011), this population may be particularly vulnerable, underscoring the need to develop effective interventions for female veterans with sexual trauma.

Integrative Therapies

Integrative medicine can be defined as an approach to the practice of medicine that takes a holistic perspective incorporating body, mind, spirit, and behavioral lifestyle. It emphasizes the therapeutic relationship and makes use of both conventional evidence-based and complementary/alternative medicine (CAM) (Kligler et al., 2004). Examples of complementary health approaches are yoga, meditation (a component of yoga), tai chi, herbal medicine, massage therapy, chiropractic, acupuncture, and acupressure.

The VA has used integrative medicine to help veterans manage stress or to promote general wellness and to treat anxiety, PTSD, depression, back pain, headache, arthritis, fibromyalgia, and substance abuse (VA, 2011). In a recent article examining CAM for PTSD, Strauss and Lang (2012) found that in the United States, 40% of those with PTSD

use CAM to address emotional and mental problems. Meditation is the most common CAM utilized in VA PTSD programs (Libby, Pilver, & Desai, 2012). There is at least positive anecdotal evidence for the effectiveness of CAM in reducing the symptoms of PTSD (Strauss & Lang, 2012).

Several studies have shown that meditation reduces PTSD symptoms in veterans (Libby, Reddy, Pilver, & Desai, 2012; Kearney, et al., 2012; Kearney, et al., 2013; Niles, et al., 2012) and in female survivors of sexual abuse (Lee, Zaharlick, & Akers, 2009). Meditation in general increases awareness of self, focus, and the ability to attend to what is occurring in the moment, whether it is recognizing that a flashback to trauma is occurring or that a sensation in the body is arising due to, for example, admiring a butterfly—important skills for trauma survivors, who often lose touch with bodily sensations (Lee et al., 2011).

Another emerging area of integrative therapy is somatic therapy, or body-centered practices. Through body-centered practices, people with PTSD can reduce the reliving of past experiences in the present and reorganize previously disorganized traumatic memories (Levine, 2010; Ogden & Minton, 2000; van der Kolk, 1994; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005; van der Kolk et al., in press). However, there is little empirical evidence on somatic therapies. Using sensorimotor psychotherapy (Ogden, Minton, & Pain, 2006), Langmuir, Kirsh, and Classen (2012) found significant improvement in body awareness, soothing (through self or others), fewer dissociative experiences, and a trend toward reduced somatic dissociation. Leitch, Vanslyke, and Allen (2009) conducted a study of the impact of somatic experiencing (Levine, 2010) for social workers working with victims of Hurricanes Katrina and Rita. Those in the treatment group reported significantly greater reduction in psychological symptoms, PTSD symptoms, and significant improvement in resiliency.

Integrative Restoration (iRest)

iRest is an integrative treatment (CAM) utilizing many components of somatic therapy. Several published studies evaluating iRest have yielded promising results, with consistent findings of decreased negative affect and improved well-being (Pritchard, Alison-Bowers, & Birdsall, 2010; Birdsall, Pritchard, Alison-Bowers, & Spann, 2011; Eastman-Mueller, Wilson, Jung, Kimura, & Tarrant, 2013; Borchardt, Patterson, & Seng, 2012). Most of these have been single group pre- to posttreatment designs. One study of male combat veterans using iRest found a significant reduction in symptoms of PTSD (Stankovic, 2011). A pilot study that examined patients with multiple sclerosis and cancer found a significant reduction in perceived stress (Pritchard, et al., 2010). In another single-group pilot

study, iRest was associated with significant reductions in fatigue and stress in school counselors (Birdsall et al., 2011). Eastman-Mueller et al. (2013) found significant reductions in stress, depression, and worry in a single group of college students. Borchardt, et al. (2012), in a study of women assigned to either an iRest group, a Relaxation Response group (Benson, 2001), or to a listening-to-an-audio-book group, found that those in the iRest group had a significantly greater drop in salivary cortisol levels compared to the audio book group and significantly greater improvement in mood than both of the other two groups. Although iRest appears to have promising results, the research is sparse, and to-date there are no long-term outcome studies. In addition, no studies have examined iRest in a sample of female veterans with sexual trauma in a VA setting.

Components of iRest

The iRest protocol consists of 10 components: 1) inner resource; 2) intention; 3) heart-felt desire; 4) body sensing/body scan; 5) breath awareness; 6) awareness of physical sensations; 7) sensing emotions, thoughts, and beliefs; 8) witnessing; 9) a felt sense of joy; and 10) integration and actions. Before embarking on the protocol, participants are asked to experience in their bodies a felt sense of security, a personal intention for the practice, and a self-determined heart-felt desire for their life. All of the components of the iRest protocol can be employed in a 30- to 40-minute practice. A brief description of the 10 components is presented in Table 1.

This study had two objectives: (1) to explore the efficacy of iRest to reduce trauma-related symptoms in women with sexual trauma, including MST; and (2) to observe and monitor how well iRest was tolerated in this sample delivered in a VA setting. Regarding the symptoms for women with sexual trauma, we hypothesized that there would be a significant decrease in the following symptoms: PTSD, depression, anxiety, somatization, negative cognitions about the self, and self-blame.

Methods

Participants

Thirteen female veterans and three wives of service-connected male veterans were recruited for this study through a Women's Mental Health Center (WMHC) in a large VA medical center. Thirteen female veterans and two wives of service-connected male veterans enrolled in the study (*n* = 15). The average age was 56 years (range, 32 to 82; *SD* = 10.93). Participants had diverse ethnic backgrounds (Caucasian = 9, Hispanic = 4, African American = 2), marital status (single = 4, married = 5, divorced = 6), and branch of service (Army = 4, Navy = 4, Air Force = 3, Marines = 2). Regarding abuse histories, all of the participants reported

interpersonal trauma across the life span, and all had chronic symptoms of distress (e.g., depression and anxiety). All 13 veterans reported MST (see Table 2 for additional demographic information).

Table 2.
Chart of Demographics and Percentage of the Sample

Characteristics	<i>n</i> = 15 N (%)
Living Situation	
Own/ Rent a home	13 (86)
Roommate	1 (7)
Residential program	1 (7)
Employment Status	
Unemployed/disability	11 (73)
Employed	3 (20)
Volunteer	1 (7)
Educational Level Completed	
High School	5 (33)
Associates degree	4 (27)
Bachelor's degree	5 (33)
Master's/other graduate	1 (7)
Trauma Experienced	
MST (all of the veterans)	13 (86)
Child	10 (67)
Adult	5 (33)
DV	7 (47)
Depression and Behaviors	
Depression	11 (73)
Substance Abuse	3 (20)
Suicide attempts	5 (33)

Measures

Demographic information. A general information form was used to gather information about age, gender, ethnicity, branch of service, residential status, employment status, marital status, highest level of education attained, experience of MST, experience of childhood trauma, experience of adult trauma, experience of domestic violence, substance abuse, experience of depression, and suicide attempts.

Psychological distress. The Brief Symptom Inventory 18 (BSI 18) (Derogatis, 2000a) was used to assess psychological distress of anxiety, depression, and somatization. It is a widely used 18-item instrument. Items are answered on a 5-point Likert-type scale, where 0 = *not at all* and 4 = *extremely*. A general distress score is computed by summing across items, with higher scores indicating higher levels of psycho-

Table 1.
Ten Components of iRest

Description and Benefits	Example of Script +	Examples from the Women
<p><u>Inner resource</u> Creating a personal inner resource, a felt sense inside of the body of security, safety, comfort, or well-being. Perhaps recall a memory and use all the senses to re-experience this time of security, safety, or well-being. This can be drawn on during everyday life circumstances to feel more stable, secure, or safe.</p>	<p>“Now allow your inner resource to emerge...a special place where you feel secure and at ease...as you do this note in your body where you feel warm and relaxed...”</p>	<p>The warmth of the arm of their father around their shoulders, the reliable pacing of the marines at the Tomb of the Unknown Soldier, the relaxing sounds of a babbling brook. The women mentioned how they turned to their inner resource during troublesome or stressful times (e.g., in traffic or during family difficulties).</p>
<p><u>Intention</u> Setting an intention for each practice of iRest. It may be the same each time or it may change. What is wanted from the practice, or how do they want to be at the end of practice? The intention can be used daily to direct the participant's life and actions.</p>	<p>“Bring to mind your Intention for today's practice...How would you like to feel during, and as a result of your practice? Perhaps a sense of inner peace, joy, or well-being.”</p>	<p>“To stay awake and alert during the entire practice of iRest.” “To explore my anger.” “To be with and relieve the tension in my shoulders.”</p>
<p><u>Heart-felt desire</u> Setting a heart-felt desire. A heart-felt desire is the one event/circumstance that someone wants to have happen more than anything else in life for his- or herself, a loved one, or the world at large. This can be recalled daily to create meaning in life.</p>	<p>“Allow your heart's deepest desire to arise within... welcome and affirm your Heartfelt desire in the present tense with your entire body...”</p>	<p>“I am healed and whole.” “I am a strong and loving provider for my children.” “The world is a safe place.” The participants noted that creating a heart-felt desire was a challenge but that the process helped them put issues in their lives into perspective, and it also helped give them direction and motivation for their future.</p>
<p><u>Body awareness/body scan</u> This is a guided experience where the facilitator names various parts of the body. The participants are asked to sense parts of the body, by being in the present moment, rather than to think about or move the body. This can be used in a formal practice to relax or during the day to notice tension, determine why there is tension, and then let it go.</p>	<p>“As I name each area you may feel sensations that are present, or nothing in particular, but whatever you experience is just as it is in this moment...Sensing the entire front of the body”</p>	<p>One woman was snoring. She had chronic insomnia but could fall asleep easily in iRest.</p>
<p><u>Breath Awareness</u> Gives the participants practice in breathing slowly and deeply, which relaxes the body; watching the breath and staying focused; or imagining the breath moving through parts of the body, including those parts of the body that may feel closed, in pain, or numb. Participants can utilize these same practices during the day to handle stress.</p>	<p>“Become aware of the body breathing...no need to change anything...the body breathing itself...”</p>	<p>Participants reported using the breathing techniques to help them fall asleep, fall back asleep after nightmares, and to calm themselves while anticipating and going through medical treatments.</p>
<p><u>Awareness of physical sensations</u> Guided to notice physical sensations and their opposites, which expands tolerance of sensations. They are encouraged to observe the sensations from a distance and see the sensations for what they are, a physical sensation, not who they are. This facilitates understanding a larger perspective of self as Awareness, helping participants to experience what arises without becoming entangled.</p>	<p>“Now bring attention to feelings that are present throughout the body, such as warmth, or coolness... heaviness or lightness... And if it is helpful, locate the opposite of this feeling, welcome an opposite feeling fully into the body”</p>	<p>A few reported complete cessation of chronic, constant pain. They also reported being able to notice their pain without being emotionally involved with it.</p>

(Table 1 continued on page 57)

Table 1, continued.

Ten Components of iRest

Description and Benefits	Example of Script +	Examples from the Women
<p><u>Sensing emotions</u> Guided to become aware of their emotions, thoughts, and beliefs. They are asked to notice what occurs inside the body, where the feeling is located, and to describe the feeling. Then they are asked to feel the opposite. The participants might experience a spectrum of feelings such as anger to contentment, self-loathing to appreciating themselves, or beliefs from the world is a dangerous place to the world is a safe place. This component is intended to help participants notice the breadth of experiences in their body. They are reminded that whatever comes up is a valid way to feel and think. They can use the awareness of opposites to remind themselves that they are also always the positive side of the opposite.</p>	<p>“Now bring attention to an emotion that is present in your body or one that you are working with in your life... And if it is helpful, allow an opposite emotion to emerge.”</p>	<p>Two reported letting go of long-held grief as the realization dawned that their loved ones were “in a better place.” One noted she was able to experience anger in her body without expressing it. She also imagined being able to finish an anger-provoking conversation. Another recognized for the first time an abandonment experience as a child and how that played out in adult relationships. She cried tears of relief as her long-held emotions were released.</p>
<p><u>Sensing thoughts and beliefs</u> See sensing emotions above.</p>	<p>“Welcome a thought or belief that you sometimes take to be true about yourself...and as you hold this opposite belief about yourself to be true, how does it affect your body? Now welcome both beliefs at the same time...”</p>	<p>One person was frustrated because she thought that she should have a clear inner resource or heart-felt desire by then. One was seeing the future with despair while observing herself, as the Witness. These transient feelings did not diminish her continuation of iRest and she found that she was able to tolerate her feelings rather than avoid them, as she had done in the past.</p>
<p><u>Witness and witnessing</u> Asked to notice all within their awareness and then to be aware that they are the one who is witnessing the coming and going of it all. They are also guided to observe the felt sense that they are awareness itself (Miller, 2005). This provides an opening to explore a spiritual sense of who they are and who they are in relation to others.</p>	<p>“feeling yourself as the one who is aware of everything that's now present...then experiencing yourself as the field of awareness in which everything is arising...”</p>	<p>At the end of the 19 sessions all were able to witness themselves and a few were able to feel themselves as expansiveness. One participant noted being able to observe herself and others in situations as they occurred. Others noted being more objective about what was going on around them by witnessing the situation.</p>
<p><u>Joy</u> Encouraged to find a sense of joy or to re-experience a memory when they felt happiness or joy and to feel the felt sense of the emotion, letting go of the memory. They were reminded that when they feel sad or low, they can make a choice to feel happy and joyful instead, and to somatically re-experience this memory and the associated joy and delight. These felt sense memories can be used throughout the day.</p>	<p>“Be attentive to sensations throughout your body of pleasure, happiness, joy, or well-being...Perhaps experiencing the sensation of joy as an inner smile that radiates from your heart...”</p>	
<p><u>Integration and actions</u> At the end of each session, participants were asked to notice what stood out most for them and how that related to their everyday life, outside of the iRest practice. This immediate reflection allowed for the opportunity to integrate what was just experienced. They may determine an action step to activate what they just experienced and learned.</p>		<p>One participant quit smoking. One made a change in living status which she considered transformational. One empowered herself around her family in a way that was unacceptable before.</p>

logical distress. There are no specific cutoff points indicating clinical significance. The BSI has been shown to have strong psychometric properties (e.g., internal consistency, $\alpha = 0.89$ (Derogatis, 2000b).

Posttraumatic negative thinking. The 33-item Posttraumatic Cognitions Inventory (PTCI) (Foa, Tolin, Ehlers, Clark, & Orsillo, 1999) was used to assess trauma-related thoughts and beliefs. The PTCI has three subscales (negative cognitions about the self, negative cognitions about the world, and self-blame), as well as a global scale, total negative cognitions, which is the sum of the three subscales. Items are rated using a 7-point Likert scale that ranges from 1 = *totally disagree* to 7 = *totally agree*. Negative thinking scores are computed by summing the items in each subscale, with higher scores indicating higher ratings of negative thinking. There are no specific cutoff points indicating clinical significance. The PTCI has demonstrated good internal consistency (Cronbach's alpha for $\alpha = 0.97$), test-retest reliability (Spearman Rho correlations for 1 week was $p = 0.74$ and 3 weeks was $p = .85$), and validity (Mechanic, & Resick, 1993) (Foa et al., 1999).

Posttraumatic Stress Disorder. Posttraumatic Stress Disorder Check List (PCL) (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item inventory with items consistent with the *Diagnostic and Statistical Manual of Mental Disorders-IV* (APA, 2000) criteria for PTSD. Items are answered on a 5-point Likert scale, where 1 = *not at all* and 5 = *extremely*. A general measure of PTSD symptoms is indicated by the sum of the items in the scale, with a higher score indicating a higher level of PTSD. A score of 50 or above is typically seen as an indicator of PTSD. The scale has good test-retest reliability ($r = 0.96$ at 2-3 days and $r = 0.88$ at 1 week (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) and internal consistency ($\alpha = 0.94$ and 0.97) (Weathers et al., 1993).

Procedures

All participants had previously been treated through the WMHC prior to the study and as such were well known to the WMHC providers. Passive recruitment for the study occurred in the WMHC (i.e., a flyer was available in the waiting room of the WMHC and in the Women's Health Clinic, and those who were interested contacted their provider, the clinic director, or the first author, who ran the sessions). Participation was voluntary and without compensation.

Inclusion criteria for participation in the iRest group included being female with a history of sexual trauma. Exclusion criteria included current psychosis or psychiatric hospitalizations in the last six months, active heavy use of alcohol or drugs in the last three months, and current suicidal ideation or attempts in the past six months. The partic-

ipants' primary clinician had to approve participation in the study. Participants also agreed not to engage in any other group therapy or individual therapy while enrolled in the study, with the exception of continued substance abuse treatment, if applicable. Participants were informed that the director of the WMHC, a licensed clinical psychologist, was available for individual sessions should the participants want to meet with her, or they could meet with their primary provider.

All 16 women recruited for the study were informed that this was a voluntary pre-to posttreatment study as part of our efforts to evaluate services offered in the WMHC. Participants engaged in the consent process with the director of the WMHC, consistent with the requirements of the VA Internal Review Board (IRB). Fifteen of the participants decided to enroll in the study and signed IRB-approved informed consent forms and pretreatment questionnaires at the first session of the group. They completed the same questionnaires at the end of the treatment. The study was monitored by the local IRB, and no adverse events were reported. One woman who was recruited but chose not to sign the consent forms participated in the iRest treatment but was not part of the study.

Participants met as a group for 90-minutes twice a week for 10 weeks, except during the week with a holiday, for a total of 19 sessions. The sessions, led by an iRest Yoga Nidra Level II-trained teacher, began with participants sitting in chairs in a circle with an opportunity to share their experience of practicing iRest during the week or to voice questions or comments for the group (10 minutes). Following was an explanation of one of the components of the iRest protocol such as internal resource or intention (15 minutes). After this, participants prepared their place for relaxation by placing mats, pillows, and blankets on the floor for comfort; some nestled into chairs (5 minutes). Next, the iRest teacher read a 40- to 45-minute iRest script to the participants. The scripts were written by Richard Miller, PhD, creator of iRest (Integrative Restoration Institute, 2012; scripts are available to those who complete level 1 iRest training or for research purposes). After each iRest practice, participants could share a little about their experience in a discussion format with the iRest teacher or clinic director. Afterwards, participants put their comfort materials away (15 minutes). The director was available at all times during the iRest practices in case a participant wanted to further process her feelings.

Pre- to posttreatment scores were analyzed using 2-tailed, paired *t*-tests and Cohen's *d* was calculated to determine effect size, where scores exceeding .80 are considered "large" and scores between .50-.80 are considered "medium" (Cohen, 1988).

Results

Pre- to Posttreatment Differences

Participants' ratings of PTSD and symptoms pre- to post-treatment were examined. Three scales (PCL, Self-blame, and Depression) yielded significant reductions in symptoms with moderate effect sizes, PCL, $t(9) = 3.17, p < 0.01, d = 0.66$; Self-blame, $t(9) = 2.96, p < .05, d = 0.52$; and Depression, $t(9) = 2.33, p < .05, d = 0.64$. Mean PCL scores decreased from 56.5 to 47.2, a 16% reduction from above to below the typical cut-off score of 50 for PTSD. Mean measures of posttraumatic negative thinking, particularly self-blame, decreased significantly from 24.6 to 20.5, a 17% reduction. Similarly, the mean depression subscale decreased significantly from 17.4 to 13.1, a 25% reduction. All other scales/subscales moved in the hypothesized direction. (See Table 3 for t -tests, means, standard deviations, and effect size for all measures).

Table 3.
Pre- and Posttreatment Scores

Measures	Pre <i>M (SD)</i>	Post <i>M (SD)</i>	<i>t</i> (9)	Cohen's <i>d</i>
Posttraumatic Checklist (PCL) PCL total	56.5 (14.7)	47.2 (13.4)	3.17**	.66
Posttraumatic cognitions inventory				
Total negative cognitions	149.2 (50.9)	120.1 (50.9)	2.03	.57
Negative cognitions about self	85.7 (37.3)	63.1 (40.2)	1.88	.58
Negative cognitions about world	38.9 (8.0)	36.5 (7.0)	1.39	.32
Self-blame	24.6 (8.1)	20.5 (7.8)	2.96*	.52
Brief symptom inventory				
Total symptoms	50.2 (20.3)	41.7 (16.7)	2.10	.46
Anxiety	17.6 (8.1)	15.3 (6.3)	1.10	.32
Depression	17.4 (6.7)	13.1 (6.7)	2.33*	.64
Somatization	15.2 (6.2)	13.3 (5.6)	1.81	.32

Note: * $p < 0.05$, ** $p < .01$. t -tests are 2-tailed, paired t -tests.

Attrition Rate

Five of the 15 participants (33%) dropped out by the 9th session of 19 for reasons related to travel. For example, two participants were traveling together 170 miles round trip and decided it was too much to make the drive. Another participant reported that she could not arrange transportation. None of those who dropped out expressed dissatisfaction with the treatment. Two participants prearranged to attend only once per week due to work schedules. There

were no pretreatment differences between those who dropped out and those who completed the protocol, BSI: $t(14) = 0.32, p = 0.78$, PCL: $t(14) = 0.98, p = 0.91$.

Tolerating iRest

iRest appeared to be well-tolerated for those in the sample (i.e., it produced no adverse responses). None of the participants requested individual sessions with the director, even though they had a positive rapport with her. A few stopped by her office to tell her that they were benefitting from the program. Eight participants opted to continue in an ongoing class (with no further evaluation) after the study ended. All 10 who completed the study indicated that the time they invested was worth the benefits they received. Six of the 10 emphatically opposed reducing the practice to once a week. The other four participants thought once a week would be acceptable for "intermediate" practitioners, but not for beginners.

Qualitative Feedback

Informal verbal reports captured by the facilitator through conversations before and after the sessions supported the empirical evidence. The most frequent reports were experiences of an increased sense of well-being and joy; ability to be with intrusive thoughts, emotions, and memories; improved quality of sleep; improved ease of breathing; improved ability to relax; an overall reduction in physical tension; and improved ability to manage life's stressors.

Specific observable emotional responses to the process are organized by components and reported in Table 1.

Discussion

Overall, the results of this small pre- to posttreatment outcome study were remarkably positive. Several symptoms improved significantly, with moderate effect sizes for PTSD, depression, and self-blame. All other scales trended in the direction of improvement.

These promising preliminary results are consistent with pilot studies regarding the impact of iRest and studies on meditation in general, with similar reductions on the PCL with veterans (Kearney et al., 2012; Niles et al., 2012). For example, in Kearney et al. (2012), the starting mean for the PCL was 52.4 and dropped to 43.4, a 17.2% reduction. In Niles et al. (2012), PCL scores dropped significantly from 52.31 to 41.92, a 19.8% reduction. These results are similar to our findings of a 16% reduction in mean PCL scores.

There were no adverse side effects reported of practicing iRest, and it appeared to be well received. iRest also seems to be effective in addressing a constellation of symptoms. The women in this sample had all previously completed a course in psychotherapy, including supportive, cognitive, and CPT therapies. iRest evidently met their needs in a different way and generated further reductions in their symptoms. The skills learned in iRest may provide veterans with an alternative treatment modality that can address unique aspects of their trauma and healing experience.

Study limitations

Our pilot study had several limitations, including the small sample size. Unfortunately, five participants dropped out of the study due to transportation issues. The small number of completers greatly reduced the study's statistical power, so that differences would have had to be very robust in order to achieve statistical significance. In any event, the results should not be generalized beyond the current sample of women with a history of sexual trauma.

A further limitation of this study is the lack of a control group, which would have accounted for such variables as time, attention, group dynamics, and relaxation. These factors might have influenced the outcomes, but the extent to which this might have occurred cannot be determined. The person delivering the protocol also collected the informal verbal reports and final outcome data, so it is possible that participants wanted to please this provider and may have been overly effusive with positive comments. However, participants also went out of their way to express their enthusiasm to the clinic director as well as to other veterans. Despite these possible limitations, the overall results suggest that participants enjoyed and benefited from the program.

Recommendations

Specific recommendations for a future randomized controlled trial include (1) using a larger sample size with adequate power; (2) incorporating a control group with randomized assignment; (3) utilizing additional assessments to capture the impact on physical pain, mindfulness, and positive emotions; (4) changing the generic iRest script to one that would specifically address the constellation of typical symptoms of trauma victims; and (5) reducing dropout rates by interviewing candidates more thoroughly about travel and time requirements and their ability to participate as frequently as the treatment warrants. Given the encouraging results in this pilot study and similar results in other studies, further research on iRest for women who have suffered sexual trauma is warranted.

Conclusions

The findings of this study suggest that iRest is a promising integrative therapy to treat women with sexual trauma in a VA setting. Pre- to posttreatment outcomes produced significant reductions in symptoms, with moderate effect sizes for PTSD, depression, and self-blame and with all scales trending in the favorable direction. Results are particularly impressive in light of the small number of completers in this study. Verbal reports supported perceived benefits of iRest, including improved ability to relax; improved mood; being more aware of the present moment; improved awareness of and tolerance of negative thoughts, emotions, and sensations; and improved ability to generate and utilize pleasant thoughts and feelings. Findings also suggest that iRest was well-tolerated and safe as implemented in a VA setting. These results support previous research findings and contribute to a growing literature supporting iRest as a viable treatment option. Further research on iRest is warranted.

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