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Guided Imagery as a Therapeutic Tool in Post-Traumatic Stress Disorder

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Abstract

Guided imagery is a behavioral technique used to direct individuals to effectively create and manipulate mental representations to produce therapeutic changes. A growing empirical literature supports the use of these techniques in a variety of physical and emotional conditions. The focus of our research program is on applying these techniques to the treatment of post-traumatic stress disorder (PTSD). We have developed and piloted a clinician-facilitated, self-management intervention for PTSD called guided imagery for trauma (GIFT). We describe the rationale for this approach, its conceptual framework, and the treatment protocol. We present preliminary findings in a sample of women with

From: *Post-Traumatic Stress Disorder: Basic Science and Clinical Practice*

Edited by: P. J. Shiromani et al., DOI: 10.1007/978-1-60327-329-9_17

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PTSD related to military sexual trauma, which demonstrate feasibility, tolerability, and a large effect on PTSD symptoms. We also describe our current research efforts, including a randomized controlled trial of the GIFT intervention in women survivors of military sexual trauma, and the extension of this intervention to the treatment of combat-related PTSD.

Key Words: Guided imagery, post-traumatic stress disorder, self-administration, self-management, sexual trauma.

BACKGROUND

Broadly stated, guided imagery techniques encompass verbal instructions for creating mental representations for a variety of purposes. These mind-body techniques combine aspects of skills training, visualization, and meditation. Common applications include relaxation, improved mood, and enhanced concentration. Although the research base for this approach is currently limited, it is steadily growing. In this chapter, we describe this technique and how we have applied it to the treatment of post-traumatic stress disorder (PTSD).

WHAT IS GUIDED IMAGERY?

First and foremost, guided imagery is a tool. It is a means of engaging the patient's imagination to direct change. Guided imagery can include the full range of senses, including sounds, tastes, smells, and tactile sensations, as well as visual images. Guided by verbal instructions (delivered in person or via audio), individuals are directed to create mental representations that are personally meaningful and often symbolic and to manipulate these representations toward a desired goal.

A popular example is the use of guided imagery techniques by athletes, such as the runner whose coach helps her to paint a vivid, multisensory, mental picture of herself crossing the finish line in first place. The coach may begin by guiding the athlete through a series of imagery exercises to promote relaxation and mental focus prior to introducing performance-related material. Commonly used relaxation exercises include breathing relaxation, passive or progressive muscle relaxation, and mentally visualizing a relaxing scene or favorite place. Of course, in addition to preparing the athlete to imagine a victorious race, repeated practice of relaxation techniques has the added benefit of teaching the athlete highly generalizable and transportable skills that can be used to manage stress and anxiety.

Once the athlete is appropriately relaxed and able to focus attention on the primary goals of the exercise (to visualize winning an upcoming race, for example), the coach will shift the focus of the imagery. Again, drawing on as many of the senses as possible, the coach may direct the runner to imagine sensations associated with the experience of running: the staccato sound of her sneakers pounding the pavement, the scent of freshly cut grass, the saltiness of perspiration beading on her upper lip, the rush of wind in her face, the steady rhythm of her breathing, and

the strain of her quadriceps as she pushes ahead of opponents. The goal, of course, is for the athlete to experience these sensations as fully and realistically as possible. Typically, such an exercise would also include suggestions about the runner's cognitive-emotional state: She feels confident and strong, trusts her body to carry her as far and as fast as she wants it to go, and believes in herself and her ability to win.

As the instructions progress, the athlete may be directed to visualize the finish line just ahead and to be aware of the increasingly distant sound of opponents' footsteps, trailing behind. The athlete gathers her strength and finally pushes forward to cross the finish line and win the race. The athlete vividly sees and feels herself proudly achieving her goal. Although certainly not a substitute for physical training, repeated use of these guided imagery exercises may enhance the athlete's performance by increasing motivation, focus, and self-confidence.

Although the research base for these techniques is still quite limited, small-scale studies suggest that guided imagery techniques may be applied to improve a broad variety of conditions, including cancer pain (1,2), chemotherapy nausea and vomiting (3), HIV-related symptoms (4,5), postcardiac surgery pain (1), and tension headaches and migraines (6). Guided imagery may also change cortisol levels (7), blood pressure, and pulse rate (5) and improve anxiety (8,9) and depression symptoms (7). A common theme among these studies is the use of guided imagery techniques, typically delivered in a standardized, self-administered audio format, to provide patients with a means of self-managing and potentially improving a given condition.

Several studies have examined applications of guided imagery for trauma. An open trial of a group therapy intervention that included guided imagery showed reduced trauma symptoms in a sample of 139 adolescents in postwar Kosovo (10). A randomized controlled trial was conducted in 168 women of a group therapy for PTSD-related nightmares that included an imagery component. Study results showed improved sleep and an average decrease of PTSD symptoms from the moderately severe to moderate range (11). Half of participants also used imagery to manage daily problems and to improve mood, suggesting that imagery skills may generalize to manage routine stressors and difficulties. The focus of our ongoing research, described in this chapter, has been on the use of self-administered guided imagery in the treatment of PTSD. Finally, one of the guided imagery audios included in our treatment protocol has previously been piloted in 37 male combat veterans as part of anxiety management group treatment. Following a 1-month trial of daily home practice, veterans reported reduced anxiety and arousal and increased positive mood, self-esteem, concentration, and emotional management (12).

WHAT GUIDED IMAGERY IS NOT

Contrary to some coverage it has received in the lay press, guided imagery is certainly not a cure-all or "magic bullet." For example, a quick Internet search of the term "guided imagery" yielded the following misinformation: "Although it

isn't always curative, imagery is helpful in 90 percent of the problems that people bring to the attention of their primary care physicians" (13). We are aware of no empirical support for this statement. For better *and* for worse, guided imagery has achieved popular appeal. The upside is that guided imagery has received initial recognition as a safe and well-tolerated intervention that may potentially be helpful as an adjunctive treatment for a number of disorders. The downside is that unsubstantiated claims abound. For this reason, we urge clinicians applying this technique to carefully educate their patients with regard to its strengths and limitations in the context of the existing scientific literature. The degree of popular attention received by guided imagery, however, perhaps does suggest that there is something about this approach that appeals to a broad audience, which may have important implications for treatment acceptance and retention.

In the context of treatments for PTSD, it is also important to distinguish applications of guided imagery from alternate techniques that make use of visual stimuli or visualization techniques. The application of guided imagery entails the manipulation of mental images that symbolize some aspect of oneself or one's goals. This process is quite distinct from the use of imagery to recall or reexperience past traumatic events (i.e., imaginal exposure), a core component of exposure-based therapies (14). In exposure-based therapies, traumatic memories are activated for the purpose of confronting feared situations and modifying pathological aspects of these memories through habituation, extinction, and new learning (15). The efficacy of cognitive-behavioral treatments such as prolonged exposure is well established, although some patients may have difficulty managing the strong emotions evoked by these techniques (14). In contrast to the largely self-administered format of guided imagery, prolonged exposure is typically conducted in the context of intensive individual sessions with a therapist who has been well trained in these specialized techniques. Described in further detail in the next section of this chapter, we propose that guided imagery for PTSD may be a novel alternative to prolonged exposure and other cognitive-behavioral techniques.

GIFT: GUIDED IMAGERY FOR TRAUMA

Guided imagery for trauma (GIFT) is a manualized, clinician-facilitated, self-management intervention. In our protocol, each patient is paired with a clinician "facilitator" whose role is to support, via face-to-face meetings and telephone contact, the patients' use of the GIFT guided imagery audios over the course of the 12-week treatment period. The rationale for this approach is threefold. First, we initially designed this intervention for use by women survivors of sexual trauma receiving treatment at a Veteran Affairs (VA) medical center. Given resource limitations and treatment barriers that commonly challenge mental health delivery, a preliminary goal was to design an intervention that would require minimal clinical and financial resources. We initially

considered developing a pure self-help intervention but opted not to pursue this idea following our early pilot work in this area (unpublished data) and review of prior reports of self-help approaches for PTSD (16). Our own early work and the work of other investigators suggest (not surprisingly) that patients are more likely to both adhere to and apply self-help treatments when administered under clinical supervision. And certainly, the therapeutic relationship is a well-recognized change factor in therapy (17–20). Thus, we decided to develop a transportable, facilitated, self-management intervention.

Second, our intervention design was informed by an appreciation for the feelings of helplessness, vulnerability, and disempowerment with which trauma survivors frequently struggle. For this reason, an important goal was to promote a sense of self-efficacy, mastery, and control and to increase patients' involvement in the treatment process. Inherent in this self-management design is the message to patients that there is a great deal that they can do to help themselves as active participants in their health care rather than be solely passive recipients of a clinician's efforts and treatment intervention. We strongly believe that this is a critical point to communicate to any patient population, particularly to those who have been victimized. The structure of the relationship between the patient and clinician facilitator in our intervention differs in important ways from a traditional psychotherapeutic relationship. By design, it is highly collaborative and provides a model for patients to become active participants in their own treatment and, by extension, in other relationships. Like many self-help approaches, our treatment model requires patients to set aside at least 30 minutes, five times a week, to complete the guided imagery exercises. Hence, we encourage patients to examine and address their own mental health needs and well-being and to prioritize, even if for only 30 minutes a day, their own self-care.

A third goal was to design an intervention that would be well tolerated and well accepted by patients. In this regard, guided imagery's gentle approach and popular appeal made it an attractive choice. Given the heightened sensitivity of those with PTSD to perceptual, sensory, and emotional cues, we hypothesized that such patients might respond particularly well to a technique that targets, and teaches patients to manipulate and direct, these experiences. Finally, recent reports indicated that only a small percentage of veterans returning from Iraq or Afghanistan who screen positively for PTSD receive help from a mental health provider, and that difficulty scheduling or reaching appointments and distrust of mental health providers are significant barriers to seeking services (21). Relevant to these data, our pilot data support the acceptability of self-administered interventions. In a survey of 89 VA clinic users, 86% endorsed the belief that self-administered treatments could improve mental health, and 70% were willing to use self-help guided imagery for stress reduction (unpublished data). Thus, we predicted that an intervention that may be administered remotely and which encourages self-management would be well received and might improve access to care. Jointly, these goals dictated our design of the GIFT intervention.

GIFT: OVERVIEW OF TREATMENT PROTOCOL

Orientation Session

At the beginning of treatment, each patient attends a 50-minute session with the clinician facilitator. The primary objectives of this session are to focus, structure, and support the patient's use of the GIFT audios. Collaboratively, the patient and clinician identify specific treatment goals and develop a plan for the patient's independent use of the audios. In this and all clinical contact with the patient, an adaptation of motivational interviewing techniques is employed (22), such as posing open-ended questions about the patient's thoughts and feelings about the intervention and using reflective listening to increase support and trust. Use of these techniques is intended to capitalize on patients' motivation and to help patients overcome barriers they experience during the treatment. The patient is also provided with psychoeducation and handouts about sexual trauma and PTSD and instructions for use of the audio. We require each patient to listen to the audio once prior to leaving our clinic to ensure tolerability.

Telephone Coaching

Each patient receives weekly, 10-minute "coaching" calls, placed by the facilitator at a predetermined time. These semistructured calls include a review of treatment goals, audio use, and attempts to apply new skills. A solution-focused approach is employed to address any adherence issues. These calls also serve to provide emotional support and maintenance of treatment motivation and commitment.

Midpoint Consultation Session

Each patient returns to our clinic at week 8, the treatment midpoint, for a 50-minute consultation meeting with the clinician facilitator. During this session, the facilitator and patient work collaboratively to review and revise (as needed) treatment goals, to identify positive changes and treatment gains, to troubleshoot treatment adherence, and to reinforce treatment motivation. The importance of the patient's active involvement in the treatment process is emphasized.

Guided Imagery Audio Exercises

The 30-minute GIFT guided imagery audios were developed by our consultant, Belleruth Naparstek, LISW, a nationally recognized expert in guided imagery techniques. The first audio presents exercises for relaxation, stress management, and emotion regulation. It combines mental imagery with instructions for established techniques, including breathing and muscle relaxation. Consistent with many cognitive-behavioral interventions for PTSD, this audio is introduced early in treatment to bolster relaxation and emotion regulation skills prior to introducing trauma-focused content (15). The second audio provides instructions for creating positive mental imagery, beliefs, and feelings associated with surviving trauma. These imagery exercises are designed to increase self-confidence, motivation, and hope and to reduce feelings of shame, guilt, helplessness, and

vulnerability. As noted, in contrast to some other approaches, the focus is on the patient's present experience and the impact of past experiences on current functioning; patients are *not* directed to remember of relive past traumas.

Self-Monitoring

Patients monitor their use of the audios to promote adherence and treatment self-management. Self-monitoring has been shown to enhance the effects of behavioral self-management interventions (23) and is often used in psychotherapy to increase awareness of treatment objectives and to monitor symptoms, use of new skills, and completion of "homework" assignments (24,25).

CONCEPTUAL FRAMEWORK FOR A SELF-MANAGEMENT INTERVENTION FOR PTSD

Our intervention model is informed by each of the four "essential elements" identified by Von Korff and colleagues in their description of collaborative management interventions: (1) collaborative definition of problems; (2) targeting, goal setting, and planning; (3) self-management training and support services; and (4) active, sustained follow-up (23). A focus on *collaborative definition of problems* acknowledges the different perspectives that providers and patients often bring to the table and targets improved communication, shared decision making, and attention to patient preferences. *Targeting* entails identifying specific problems to address as opposed to initiating numerous changes at once, which may increase the likelihood of nonadherence and demoralization. *Goal setting and planning* ensure that patients and providers agree on realistic and mutually endorsed treatment goals and strategies. The role of *self-management training and support services* is to enhance patients' capacity for self-care. Von Korff and colleagues suggest that self-management training be individualized, tailored to each patients' motivation and readiness, and aligned with priorities that have been mutually agreed on by the patient and provider. Finally, outcomes are best achieved through *active, sustained follow-up*. Von Korff and colleagues suggest that follow-up occur at planned intervals so that providers can obtain information about patients' functional status, identify obstacles or setbacks early in the process, check progress in implementing the treatment plan, make necessary modifications, and reinforce patients' efforts and progress. Of note, there is some evidence that telephone follow-up (as opposed to return office visits, mail, or electronic mail) may be particularly effective (26–28).

The specific mechanisms through which guided imagery may exert its effects are currently unknown. Consistent with other cognitive-behavioral interventions, we have hypothesized that patients' self-administration of the GIFT guided imagery audios principally affects change through improved anxiety management and mastery. Through repeated practice of the guided imagery exercises, patients may learn to better manage both specific fears and the chronic hyperarousal that are among the defining characteristics of PTSD. The self-administered design

of this intervention is also hypothesized to improve mastery and self-esteem. By completing the guided imagery exercises, patients learn that they can replace trauma-related emotions with positive imagery and healthier emotions, potentially leading to the reduction of PTSD symptoms.

PILOT STUDY OF GIFT INTERVENTION IN WOMEN WITH PTSD RELATED TO MILITARY SEXUAL TRAUMA

We have completed a feasibility trial of the GIFT intervention (29,30). Fifteen women with PTSD related to military sexual trauma were enrolled from the Durham VA Medical Center's Women Veterans Mental Health Clinic. PTSD diagnosis was confirmed by administration of the Clinician-Administered PTSD Scale (CAPS) (31) at baseline by a rater who was blinded to treatment assignment; CAPS severity scores were our primary outcome variable. Our inclusion criteria were as follows: (1) PTSD diagnosis related to military sexual trauma; (2) no current suicidality, parasuicidality, homicidality, or domestic violence; and (3) no current substance abuse. Patients could continue psychiatric medications during the course of the trial if stabilized for longer than 3 months and could continue supportive individual or group therapies. However, we required that they not begin new psychiatric medications or change the doses of existing psychiatric medications during the course of the trial, or receive PTSD-specific psychological interventions (e.g., exposure therapy, cognitive processing therapy). In our sample, the average time since trauma was 27.73 years; 93% were taking psychotropic medications for PTSD, 80% were receiving supportive individual counseling, and 60% were receiving supportive group therapy. Hence, this was a sample of patients with long-standing trauma histories who were symptomatic despite ongoing services.

Of the 15 women enrolled, 10 completed the full 12-week intervention, 2 completed two-thirds of the intervention, 2 completed one-third of the intervention, and 1 was administratively withdrawn following a medication change. This completion rate is similar to rates reported in an analysis of 25 controlled studies of exposure-based and other cognitive-behavioral individual psychotherapies for PTSD (67.0–82.3%) (32). We found a large, significant reduction in PTSD symptoms in the completer sample. The mean symptom change was 21.1 for the CAPS, $t(1,9) = 2.79, p = .02$. The mean symptom change was 15.1 for the PTSD Checklist (PCL) (34), $t(1,9) = 2.79, p = .03$. These are large pre-post effect sizes as defined by Cohen's d ($d = \text{pretreatment score} - \text{posttreatment score} / \text{pretreatment SD}$); for CAPS, $d = 1.08$, and for PCL, $d = 1.97$. Significant symptom reductions were also observed in a preliminary intent-to-treat analysis; effect sizes were 0.72 for the CAPS and 1.43 for PCL. Although preliminary, these effect sizes are comparable to those reported for evidence-based therapies for PTSD and above those that would be expected for placebo alone (32). There were no adverse events following this guided imagery intervention. These initial findings suggest that the self-directed format of GIFT can be feasibly administered and is well tolerated

by women veterans with military sexual trauma. Qualitative data from follow-up interviews support patients' adherence and satisfaction:

- "I still listen to the guided imagery about four times a week. It keeps me going."
- "I am no longer a victim in my dreams."
- "I have not had an anxiety attack since beginning the guided imagery."
- "I feel this is a very positive way to heal the effects of trauma."

CURRENT RESEARCH EFFORTS

We are currently conducting a randomized controlled trial of this intervention in a similar sample of women veterans with PTSD related to military sexual trauma. In lieu of the GIFT intervention, those randomized to the control condition receive an audio of relaxing music rather than the guided imagery audio, and interactions with the clinician facilitator are limited to provision of psychoeducation and interpersonal support. In all other respects, the GIFT and control intervention groups are matched for length and frequency of audio use and clinical contact. In addition to examining clinical outcomes, we will be assessing the effects of this treatment on neurobiological markers relevant to PTSD. We have also recently begun a pilot study of this intervention (renamed self-management audio for recovery from trauma, or SMART) in veterans with combat-related PTSD. We hypothesize comparable effects to those seen in our pilot work and current trial of women veterans with PTSD related to military sexual trauma. Qualitative feedback gathered at posttreatment will be used to refine the protocol, as needed, to address the treatment concerns of the primarily male population who have experienced combat trauma. The long-term goal of this research program is to develop an effective self-management intervention for PTSD that is transportable and easily implemented, particularly within large health care systems.

ACKNOWLEDGEMENTS

We acknowledge assistance from the Department of Veteran Affairs Research Career Development Award (J. L. S.), Samuelli Foundation/VET-HEAL Award (J. L. S.); National Institute of Mental Health R03 Award (J. L. S.), Department of Veteran Affairs Advanced Research Career Development Award (CEM), and Veterans Affairs Mid-Atlantic Mental Illness Research, Education, and Clinical Center. The views expressed are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs. This chapter is presented in loving memory of Dr. Marian I. Butterfield, who died on June 26, 2006, after a courageous five-year battle with breast cancer. We wish to acknowledge her extensive contributions to the ideas and research presented and to celebrate her significant contributions to the field of psychiatry and to the care of our nation's veterans.

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