SUBSTANCE USE DISORDER TREATMENT: COMPLEMENTARY AND INTEGRATIVE HEALTH APPROACHES

INTRODUCTION

Complementary and integrative health (CIH) practices can improve chances of recovery from substance use disorders (SUDs), especially when used in addition to traditional treatment and mutual self-help group participation. They are not meant to replace traditional treatments, however. Evidence-based traditional treatments are important for the development and maintenance of a solid recovery foundation, and often include treating co-occurring physical or mental health conditions, improving relapse prevention and inter- and intra-personal skills, and rebuilding the areas of one's life that have been affected by substance use. Complementary practices provide additional tools that can enhance various aspects of the patient's recovery; many patients find CIH practices a helpful and enjoyable part of their recovery.

CIH practices include a variety of techniques administered or taught by a trained instructor.[1] Specific practices include acupuncture, meditation, massage therapy, deep breathing, meditation (e.g., mindful-awareness or transcendental), Guided Imagery, movement therapies, relaxation techniques, tai chi, qi gong, yoga, and hypnotherapy to name a few.[1] For more information, refer to "Introduction to Complementary Integrative Health Approaches," Chapter 14 of the <u>Passport to Whole Health</u>.

The complementary approaches listed below are sometimes classified as mind-body practices, but may also be classified in other ways (e.g., yoga is sometimes classified as a movement-based therapy, and energy medicine approaches are sometimes placed in a category of their own). Many of these practices have been linked to improvements in general physical and mental health and well-being, the ability to better cope with daily challenges and stressors, and the enhancement of the healing process in substance use disorders. They can be effective methods for improving self-care, which is vital to recovery.

RESEARCH ON COMPLEMENTARY APPROACHES FOR SUDS

Overall, evidence on the efficacy of CIH practices, as adjunct therapies for SUDs is promising but limited, calling for further research in this area. Many of the CIH practices are considered safe if practiced appropriately and administered by trained clinicians or instructors, with adherence to proper safety precautions. Although conclusive evidence for a given CIH practice may not exist, if the patient is interested and motivated to pursue it, and the therapy appears safe, it may be beneficial to encourage such efforts, because some individuals may find these practices extremely helpful for their recovery and/or general well-being. One can use the ECHO (efficacy, cost, harm, and opinions) tool as a guide to choosing therapies. For more information, refer to "Deciding if an Approach Is Worth Using: The E.C.H.O. Mnemonic" tool.

Overall, although many CIH practices are safe for most people, it is best for the patient to consult with the practitioner/clinician prior to engaging in a particular CIH modality. For example, caution may be needed with any type of meditation practice (e.g., Mindfulness Meditation, Transcendental Meditation®) in those with underlying substantial mental health issues (e.g., untreated trauma or PTSD); these patients are recommended to consult with their mental health clinician before beginning a meditation program.

MINDFUL AWARENESS MEDITATION

Mindfulness meditation is a popular mind-body practice which helps train the mind in, nonjudgmental attention to present moment experiences. Also known as mindful awareness, this practice involves bringing nonjudgmental attention to one's thoughts, emotions, and sensations occurring in the present moment, and letting them be as they are, by simply observing as they come and go, with acceptance of these existing experiences. By practicing mindful awareness, one can potentially improve stress-coping, decrease the impact of distressing thoughts, emotions, and sensations on one's internal experience, and enhance well-being.

In recent years, mindfulness-based interventions have become the most commonly evaluated and applied meditation interventions in clinical and nonclinical settings, with research evidence supporting their efficacy for many mental health and physical conditions, including substance use disorders (SUDs).[2-6] It is unclear, though, which persons with SUD might benefit most from mindfulness training. In addition to its potential positive impact on recovery-specific outcomes, mindfulness has shown benefits for depression, anxiety, pain, and stress coping, and may be effective for PTSD symptoms,[7-10] all common problems among Veterans and documented relapse risk factors in substance use disorders..

Mindfulness-Based Relapse Prevention (MBRP) is an intervention developed specifically for patients with SUDs.[11] This program integrates mindfulness meditation with cognitive therapy relapse prevention skills, and is intended as an adjunct to traditional SUD treatment. The MBRP course typically consists of 8 weekly sessions, delivered in a group format by trained meditation instructors, with each session including learning and applying different mindfulness meditation techniques, group discussion, topic-specific exercises, and home practice assignment for the following week. Clinicians interested in facilitating an MBRP should receive the MBRP facilitator training; facilitators' personal mindfulness meditation practice is the foundation for teaching MBRP.[11] Cultivating skills in mindful, nonreactive awareness of relapse triggers (thoughts, feelings, sensations, environmental factors) and other experiences as they are occurring is a key part of self-management in recovery. Mindfulness meditation can support healing of body and mind, the pursuit of personal growth goals, and exert positive effects on quality of life and general health.

For more information, refer to "Mindful Awareness" Whole Health overview and related tools.

TRANSCENDENTAL MEDITATION

Transcendental Meditation® (TM) refers to a mantra form of meditation. It involves concentrating on and repeating in one's mind a short phrase ("mantra") for a given length of time. A mantra is typically assigned to a practitioner by the certified TM teacher. Limited evidence implying potential benefits of TM practice includes decreased drug, alcohol, and tobacco use;[12,13] however, evidence on the efficacy of TM for SUD recovery is mixed and less extensive than for mindfulness meditation.[14]

CLINICAL HYPNOSIS

Clinical hypnosis is a possible tool that may help manage one's internal landscape and response to triggers. Guided by a licensed, trained clinician, it is used for managing psychological or physical health problems. The patient is guided into an altered state of awareness, perception, or consciousness where Guided Imagery, imagination, or suggestion are used to help guide the patient and bring change to the area the patient is planning to address.[15] One preliminary study of Veterans with drug and alcohol use disorders, and co-occurring mental health problems suggested positive effects of clinical hypnosis on abstinence, self-esteem, anger, and impulsivity.[16] However, conclusive evidence is lacking for the use of clinical hypnosis in SUD.[17] Although clinical hypnosis is considered overall safe, research on its safety is limited. Clinicians should first assess the patient for the appropriateness of this treatment before recommending or applying clinical hypnosis as a therapeutic modality.[18] For additional information, refer to "Hypnosis" Whole Health tool.

YOGA

There are many different styles of yoga (e.g., Hatha, Vinyasa, Ashtanga); some are gentler, such as Hatha yoga, and some are more physically challenging, such as Ashtanga yoga. Yoga involves engaging in various movements, stretches, and postures, typically to the rhythm of the breath. It is important for clinicians to discuss the risks and benefits of yoga with patients, as some poses may need to be avoided in patients with certain health conditions.[19] Yoga can be helpful for relieving inner and outer tension, and increasing a sense of well-being and connection with oneself and the flow of life. Therefore, through reducing stress and tension, known relapse risk factors, yoga can enhance recovery. Preliminary research suggests that yoga may be a beneficial adjunctive treatment for SUDs, [20-23] however, more research is still needed.[19] For additional information, refer to "Yoga" Whole Health tool.

ACUPUNCTURE

Acupuncture is a procedure involving stimulation of targeted points on the body using thin, solid metal needles that are manipulated by hand or using electrical stimulation or heat.[24] Acupuncture should be performed by an experienced practitioner using sterile needles.[24] Some patients enjoy acupuncture as a self-care practice. Although acupuncture is usually tolerated well, when appropriately administered,[25] it is important

to discuss the potential risks of acupuncture with patients with certain medical conditions or who use medications increasing the risk of bleeding.[24] Limited research on acupuncture has produced mixed results, providing only minimal evidence for potential benefits as an adjunctive treatment for SUDs[26-28] One review and meta-analysis, however, noted promise of acupuncture for reducing alcohol craving and withdrawal symptoms in individuals with alcohol use disorder.[29] For more information, refer to "Acupuncture" tool

MASSAGE

Massage can be helpful for relaxation, rejuvenation, and alleviation of muscle tension, and many people find it an enjoyable component of self-care. Preliminary research has shown the potential benefit of massage for reducing symptoms of alcohol withdrawal[30] and reducing anxiety in alcohol, cocaine, and opioid withdrawal,[31]; more research is needed to offer conclusive evidence.[32] Refer to the "Massage" Whole Health tool.

ENERGY THERAPIES

Energy therapies (e.g., Reiki, therapeutic touch) rely on the channeling of bioenergy fields through the practitioner's hands into the body of the patient, with the goal of restoring healthy energy flow and balance, and improving health.[33] There is no conclusive evidence to date supporting the efficacy of energy based therapies for SUDs. For general information on these approaches, refer to <u>Passport to Whole Health</u> Chapter 17, "Energy Medicine: Biofield Therapies."

TRANSCRANIAL MAGNETIC STIMULATION

Transcranial Magnetic Stimulation (TMS) is a noninvasive intervention where a clinician stimulates certain parts of a patient's brain using a machine emitting an electromagnetic field. Limited and mixed evidence suggests some potential of TMS for reducing craving and substance use in alcohol[34], stimulant, and especially nicotine use disorders. [35-37]

QI GONG

Qi gong is a technique that combines mental focus, deep breathing, and gentle physical movements.[38] Preliminary evidence suggests potential benefits of qi gong in reducing withdrawal symptoms, craving, and anxiety in SUDs, but more research is needed. [39-41]

BIOFEEDBACK

Biofeedback therapy is a process that involves training patients to deliberately regulate bodily functions (e.g., breathing, heart rate, blood pressure) for overall health improvement.[33] Biofeedback has been used for reducing stress, headaches, and pain, reconditioning injured muscles and improving asthma control.[33] There is very little research on the effects of biofeedback in SUDs. Preliminary evidence suggests possible benefits of electroencephalogram-based biofeedback for decreasing craving and mental health problem severity, and increasing abstinence rates in individuals with SUDs.[42,43]

GUIDED IMAGERY

Guided Imagery, or visualization, is the practice of using one's imagination to facilitate a relaxed state. Many individuals find this practice enjoyable. Research is scant on Guided Imagery as an adjunctive therapy for SUDs. However, preliminary evidence indicates it may be helpful as an adjunct treatment for long-term smoking cessation. [44]

MUSIC THERAPY

Music therapy is provided by a properly credentialed professional and involves the use of music-based interventions (e.g., singing, creating, listening to, and/or moving to music) to help accomplish individual goals that are tailored to the patient's individual needs and preferences.[45] Many people find music therapy relaxing and enjoyable; however, due to limited research evidence, there is no consensus regarding the efficacy of music therapy as an adjunctive treatment for SUDs.[46]

BIOLOGICALLY-BASED THERAPIES

Biologically based therapies include the use of herbs, special macronutrient diets, mega doses of vitamins or minerals, and other nutritional supplements. Administration of vitamin B1 (thiamine) in alcohol use disorder is safe and a part of "standard of care." [47]

Overall, there is only very limited research, often of poor methodological quality, evaluating the effects of other biological therapies. Although some of these therapies may be marketed as efficacious, they are not evidence-based treatments for SUD at this point; for example, marijuana was legislatively approved for the treatment of opioid use disorder in several U.S. states, without scientific evidence for such efficacy. In addition, while many of these therapies appear safe and may be helpful (e.g., St. John's wort, milk thistle), others may exert serious, even life-threatening, adverse effects (ibogaine, some of the Chinese herbal remedies, kratom) or can lead to SUD (kratom, marijuana)[48]; clinicians should exercise caution and appraise the evidence and safety profile of a given biologically-based therapy before approving it for their patients.

Note: Please refer to the <u>Passport to Whole Health</u>, Chapter 15 on dietary supplements for more information about how to determine whether or not a specific supplement is appropriate for a given individual. Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians and patients keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of active ingredients, contaminants, or adulterants, and the legitimacy of claims made by the manufacturer.

For more information on CIH and mind-body therapies, such as clinical hypnosis, biofeedback, and Guided Imagery, refer to "Power of the Mind" Whole Health overview and related tools. Resource Boxes 1-4 below also feature additional information on various complementary approaches for SUDs.

RESOURCE BOX 1. COMPLEMENTARY APPROACHES FOR SUD TREATMENT: DESCRIPTIONS, SESSION FORMATS, AND LINKS

ACUPUNCTURE

Stimulation of targeted points on the body using thin, solid metal needles that are manipulated by hand or using electrical stimulation[24]

- Individual format
- National Center for Complementary and Integrative Health—Acupuncture

BIOFEEDBACK

Teaches conscious regulation of bodily functions (e.g., breathing, heart rate, blood pressure) to improve overall health[33]

- Individual format
- National Center for Complementary and Integrative Health

CLINICAL HYPNOSIS

Hypnosis under the care of a trained clinician is used to help guide the mind in a way to facilitate changes and bring individuals toward their desired goals

- Individual format
- American Society of Clinical Hypnosis

MASSAGE

Manipulation of muscle and soft tissue to enhance their function, and promote relaxation and well-being[33]

- Individual format
- National Center for Complementary and Integrative Health—Massage Therapy: What You Need to Know

MEDITATION

Meditation is a mind-body practice, which can be helpful for improving coping, psychological balance, health, and well-being[49]

- Individual or group format
- National Center for Complementary and Integrative Health—Meditation, In Depth

MINDFULNESS-BASED COGNITIVE THERAPY (MBCT)

Teaches mindfulness-based skills to assist with depression, anxiety, and other mental health disorders/conditions

- Typically, a group format for the course; group or individual format after course completion
- Your Guide to Mindfulness-Based Cognitive Therapy (MBCT)

MINDFULNESS-BASED RELAPSE PREVENTION (MBRP)

Teaches mindfulness-based relapse prevention skills to help prevent relapse in SUD

- Typically a group format for the course; group or individual format after course completion.
- <u>University of Washington—Mindfulness-Based Relapse Prevention (MBRP):</u>

MINDFULNESS-BASED STRESS REDUCTION (MBSR)

Teaches mindfulness-based skills for general health and well-being, and stress reduction

- Typically a group format for the course; group or individual format after course completion.
- <u>University of Massachusetts Medical School, Stress Reduction (MBSR) Program</u>

MUSIC THERAPY

Uses music-based interventions (e.g., singing, creating, listening to, and/or moving to music), tailored to the patient's individual needs and preferences, to help accomplish individual goals

- Individual format
- American Music Therapy Association

QI GONG

Combines specific movements or postures, coordinated breathing, and mental focus

- Group or individual format
- National Center for Complementary and Integrative Health—Tai Chi and Qi Gong for Health and Well-Being, video
- National Qi Gong Association—What is Qi Gong?

RELAXATION TECHNIQUE: DEEP BREATHING

Breathing in and out, slowly and deeply through the nose, usually to a count of 10 for each inbreath and outbreath[23]

- Group or individual format
- National Center for Complementary and Integrative Health—Relaxation Techniques for Health

RELAXATION TECHNIQUE: GUIDED IMAGERY

Using the imagination to facilitate a relaxed state

- Group or individual format
- Department of Veterans Affairs—Visualization/Guided Imagery

TRANSCENDENTAL MEDITATION®

Mental training aimed to develop a restful alertness by concentrating on and reciting a mantra, which is assigned to an individual by a certified TM teacher

- Group or individual format
- Maharishi Institute

TRANSCRANIAL MAGNETIC STIMULATION (TMS)

A noninvasive intervention where a clinician stimulates certain parts of the brain using a machine emitting electromagnetic fields

- Individual format
- Inquire about local resources

YOGA (E.G., HATHA, VINYASA, ASHTANGA)

Engaging in various movements and postures to the rhythm of the breath—Hatha yoga is the gentlest technique

- Group or individual format
- National Center for Complementary and Integrative Health—Yoga: What You Need To Know

RESOURCE BOX 2. MINDFULNESS-BASED RELAPSE PREVENTION: SOBER BRIEF MEDITATION

SOBER BRIEF MEDITATION

Adapted from "Mindfulness-Based Relapse Prevention" [50]

This technique can be especially helpful when having thoughts or urges to use a substance, or when feeling a need to automatically react to a particular situation. It can help create a

"pause" in your experience to allow you to reground and make a mindful choice about how to respond, instead of automatically reacting to an internal experience or external situation.

Stop: right here and right now; this mental pause can allow you to step out of autopilot, instead of automatically reacting to an urge, or distressing situation

Observe: what is happening right now, in this moment—what's going on in your mind and body; bring gentle awareness to your thoughts, sensations, and emotions

Breathe: bring your attention to the sensations of each breath

Expand: expand your awareness to include a sense of the body and mind as a whole

Respond: now, try to make a mindful choice what to do next (if anything)

RESOURCE BOX 3. MIND-BODY TOOLS: INTRODUCTORY BASIC MINDFULNESS MEDITATION PRACTICE FOR RELAPSE PREVENTION

BASIC MINDFULNESS MEDITATION

Adapted from Mindfulness-Based Relapse Prevention for Alcohol Dependence:

Research Manual for an Eight-Week Course [51]

Find a chair and settle into a comfortable sitting position... Allow your eyes to close (or keep them gently open with your gaze tilted slightly toward the floor). Allow yourself to have a relaxed posture, with your back straight, your head resting gently on top, and with the bottoms of both feet planted on the floor... Your posture should be relaxed and dignified, not stiff... Sitting this way helps the breath flow easily.

Now, bring your awareness to any sensations of touch or pressure in the body, where it makes contact with the floor or chair... Notice the sensations of the bottoms of the feet making contact with the floor... Bring awareness to the point of contact between your legs and the chair... Take a moment to notice the sensation of touch or pressure in various parts of the body...

Now bring your awareness to the breath as it moves in...and out of your body... It may be helpful to place your hand on your lower belly and become aware of the sensations of the breath there... Just noticing each...inbreath...and...outbreath...

Notice the sensations of the abdominal wall as it rises with each inbreath, and gently falls with each outbreath... There is no need to control your breathing in any way—simply let the breath breathe itself...

When you notice that your mind has wandered away from the focus on the breath to thoughts, planning, daydreams, drifting along, this is perfectly OK—it's simply what minds

do. It is not a mistake. Simply let go of these thoughts and gently congratulate yourself—you have become aware of your experience again—now bring your awareness back to the breath...

Each time you notice that your mind has wandered, gently bring your awareness back to the breath, using your breath as an anchor to connect with the present moment, the here and now...

And now, take a few more seconds, noticing each inbreath and outbreath... and when you are ready, open your eyes.

RESOURCE BOX 4. MIND-BODY TOOLS FOR SUD TREATMENT: VISUALIZATION/GUIDED IMAGERY EXAMPLE

VISUALIZATION/GUIDED IMAGERY EXAMPLE

Visualization/Guided Imagery Full Version

Visualization or Guided Imagery involves using your imagination to facilitate a relaxed state.

Start by closing your eyes. Allow yourself to get into a comfortable position...Begin with a few slow deep breaths, letting your body relax. Let the chair fully support your body as you continue to breathe and relax.... Imagine yourself slowly walking down a path—it can be any path you wish. It's a beautiful day, and you feel relaxed and happy.... You can feel the warmth and energy of the sun on your skin.... Soon you come to a gate. You know this gate leads to a special place where you feel welcome, safe, and comfortable. Push the gate open and allow yourself to enter the garden. Your garden is filled with your favorite things. Notice the details of your surroundings in your garden—the sights, the sounds, the smells. Notice the variety of things in your garden.... Everything peacefully co-exists here.... Begin to explore this place with your sense of touch. Perhaps some things are soft and warm and others smooth and cool.... Notice what the air feels like.... Now become aware of the sounds that exist in your garden.... Perhaps your garden is quiet...perhaps there are a variety of sounds. Some of the sounds may be soft; others louder.... Become aware of the different smells in your garden.... Perhaps noticing different fragrances that are soothing.... Take your time in your garden, using it in whatever way you wish... Spend the time that is necessary for you to rejuvenate and to care for yourself....

When you are ready to leave, slowly walk back toward the garden gate.... You have enjoyed your visit and feel relaxed and content.... This good feeling will remain with you throughout the day.... Push the gate open and return to the path that led you to the garden, remembering that you can use your imagination to return to your garden at any time you wish.... When you are ready, stretch gently and open your eyes.

Adapted from "The Private Garden" from the Department of Veterans Affairs [52]

RESOURCE LINKS

- <u>Acupuncture</u>:
 - https://www.va.gov/WHOLEHEALTHLIBRARY/tools/acupuncture.asp
- American Music Therapy Association: https://www.musictherapy.org/
- American Society of Clinical Hypnosis: https://www.asch.net/
- <u>Deciding if an Approach Is Worth Using: The E.C.H.O. Mnemonic:</u> http://projects.hsl.wisc.edu/SERVICE/modules/14/M14_CT_Deciding_if_an_Approach_Is_Worth_Using_The_ECHO_Mnemonic.pdf
- <u>Department of Veterans Affairs—Visualization/Guided Imagery</u>: https://www.mentalhealth.va.gov/coe/cihvisn2/Documents/Patient_Education_Handouts/Visualization_Guided_Imagery_201 3.pdf
- <u>Hypnosis</u>: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/hypnosis.asp
- Maharishi Institute: http://maharishiinstitute.org/
- <u>Massage</u>: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/massage.asp
- Mindful Awareness: https://www.va.gov/WHOLEHEALTHLIBRARY/selfcare/mindful-awareness.asp
- Mindfulness-Based Cognitive Therapy (MBCT): http://mbct.com/
- <u>National Center for Complementary and Integrative Health—Acupuncture</u>: https://www.nccih.nih.gov/health/acupuncture-in-depth
- <u>National Center for Complementary and Integrative Health—Massage Therapy:</u>
 <u>What You Need to Know</u>: https://www.nccih.nih.gov/health/massage-therapy-what-you-need-to-know
- <u>National Center for Complementary and Integrative Health—Meditation, In Depth:</u> https://www.nccih.nih.gov/health/meditation-in-depth
- National Center for Complementary and Integrative Health—Relaxation Techniques for Health: https://www.nccih.nih.gov/health/relaxation-techniques-for-health
- National Center for Complementary and Integrative Health—Tai Chi and Qi Gong for Health and Well-Being, video: https://www.youtube.com/watch?v=rLxlO0zFaNc
- National Center for Complementary and Integrative Health—Yoga: What You Need To Know: https://www.nccih.nih.gov/health/yoga-what-you-need-to-know
- <u>National Qi Gong Association—What is Qi Gong?</u>: https://www.nqa.org/index.php?option=com_content&view=article&id=41:what-is-qigong-&catid=20:site-content&Itemid=118
- <u>Passport to Whole Health</u>: https://www.va.gov/WHOLEHEALTHLIBRARY/docs/Passport_to_WholeHealth_FY 2020_508.pdf
- <u>Power of the Mind</u>: https://www.va.gov/WHOLEHEALTHLIBRARY/self-care/power-of-the-mind.asp
- <u>University of Massachusetts Medical School, Stress Reduction (MBSR) Program:</u> https://www.umassmemorialhealthcare.org/umass-memorial-center-mindfulness
- <u>University of Washington—Mindfulness-Based Relapse Prevention (MBRP):</u> https://www.mindfulrp.com/
- <u>Visualization/Guided Imagery Full Version</u>: https://www.mentalhealth.va.gov/coe/cih-

visn2/Documents/Patient_Education_Handouts/Visualization_Guided_Imagery_201 3.pdf

• Yoga: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/yoga.asp

AUTHORS

"Substance Use Disorder Treatment: Complementary and Integrative Health Approaches" was written by <u>Cindy A. Burzinski</u>, MS, CSAC, LPCT, and <u>Aleksandra E. Zgierska</u>, MD, PhD, (2014, updated 2019).

This Whole Health tool was made possible through a collaborative effort between the University of Wisconsin Integrative Health Program, VA Office of Patient Centered Care and Cultural Transformation, and Pacific Institute for Research and Evaluation.

REFERENCES

- 1 (NCCIH) NCfCaIH. Complementary, Alternative, or Integrated Health: What's In a Name? 2018; http://nccih.nih.gov/health/integrative-health. Updated July 2018. Accessed July 10, 2019.
- Goyal M, Singh S, Sibinga EM, et al. Meditation programs for psychological stress and well-being: a systematic review and meta-analysis. *JAMA Intern Med.* 2014;174(3):357-368.
- Li W, Howard MO, Garland EL, McGovern P, Lazar M. Mindfulness treatment for substance misuse: A systematic review and meta-analysis. *J Subst Abuse Treat.* 2017:75:62-96.
- 4 Cavicchioli M, Movalli M, Maffei C. The clinical efficacy of mindfulness-based treatments for alcohol and drugs use disorders: a meta-analytic review of randomized and nonrandomized controlled trials. *Eur Addict Res.* 2018;24(3):137-162.
- Grant S, Colaiaco B, Motala A, et al. Mindfulness-based relapse prevention for substance use disorders: a systematic review and meta-analysis. *J Addict Med.* 2017;11(5):386-396.
- Khusid MA, Vythilingam M. The emerging role of mindfulness meditation as effective self-management strategy, part 2: clinical implications for chronic pain, substance misuse, and insomnia. *Mil Med.* 2016;181(9):969-975.
- Goyal M, Singh S, Sibinga EMS, et al. In: *Meditation Programs for Psychological Stress and Well-Being.* Rockville (MD)2014.
- King AP, Erickson TM, Giardino ND, et al. A pilot study of group mindfulness-based cognitive therapy (MBCT) for combat veterans with posttraumatic stress disorder (PTSD). *Depress Anxiety.* 2013;30(7):638-645.
- 9 Goldberg SB, Tucker RP, Greene PA, et al. Mindfulness-based interventions for psychiatric disorders: A systematic review and meta-analysis. *Clin Psychol Rev.* 2018;59:52-60.
- Bremner JD, Mishra S, Campanella C, et al. A pilot study of the effects of mindfulnessbased stress reduction on post-traumatic stress disorder symptoms and brain response to traumatic reminders of combat in operation enduring

- freedom/operation Iraqi freedom combat veterans with post-traumatic stress disorder. *Front Psychiatry.* 2017;8:157.
- Bowen S, Chawla N, Marlatt GA. *Mindfulness-based Relapse Prevention for Addictive Behaviors: A Clinician's Guide.* New York, NY: The Guilford Press; 2011.
- Gelderloos P, Walton KG, Orme-Johnson DW, Alexander CN. Effectiveness of the Transcendental Meditation program in preventing and treating substance misuse: a review. *Int J Addict.* 1991;26(3):293-325.
- Gryczynski J, Schwartz RP, Fishman MJ, et al. Integration of Transcendental Meditation(R) (TM) into alcohol use disorder (AUD) treatment. *J Subst Abuse Treat.* 2018;87:23-30.
- Dakwar E, Levin FR. The emerging role of meditation in addressing psychiatric illness, with a focus on substance use disorders. *Harv Rev Psychiatry*. 2009;17(4):254-267.
- American Society of Clinical Hypnosis (ASCH). General Info on Hypnosis. 2019; http://www.asch.net/Public/GeneralInfoonHypnosis/FAQsAboutHypnosis.aspx. Accessed July 10, 2019.
- Pekala RJ, Maurer R, Kumar VK, et al. Self-hypnosis relapse prevention training with chronic drug/alcohol users: effects on self-esteem, affect, and relapse. *Am J Clin Hypn.* 2004;46(4):281-297.
- Therapeutic Research Center (TRC). Hypnotherapy. 2019; Natural Medicines. Health & Wellness online database.

 https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1292. Accessed September 29, 2019.
- Lynn SJ, Martin DJ, Frauman DC. Does hypnosis pose special risks for negative effects? A master class commentary. *Int J Clin Exp Hypn.* 1996;44(1):7-19.
- Therapeutic Research Center (TRC). Yoga. 2019; Natural Medicines. Health & Wellness online database.

 https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1241. Accessed January 15, 2020.
- Carim-Todd L, Mitchell SH, Oken BS. Mind-body practices: an alternative, drug-free treatment for smoking cessation? A systematic review of the literature. *Drug Alcohol Depend*. 2013;132(3):399-410.
- Sarkar S, Varshney M. Yoga and substance use disorders: A narrative review. *Asian J Psychiatr.* 2017;25:191-196.
- Kuppili PP, Parmar A, Gupta A, Balhara YPS. Role of yoga in management of substance-use disorders: a narrative review. *J Neurosci Rural Pract.* 2018;9(1):117-122.
- Hallgren M, Romberg K, Bakshi AS, Andreasson S. Yoga as an adjunct treatment for alcohol dependence: a pilot study. *Complement Ther Med.* 2014;22(3):441-445.
- National Center for Complementary and Integrative Health (NCCIH). Traditional Chinese Medicine: What You Need to Know. 2013; National Center for Complementary and Alternative Medicine website.

 http://nccih.nih.gov/health/whatiscam/chinesemed.htm. Updated October 2013. Accessed July 10, 2019.
- Therapeutic Research Center (TRC). Acupuncture. 2019; Natural Medicines. Health & Wellness online database.

- https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1219. Accessed September 29, 2019.
- Baker TE, Chang G. The use of auricular acupuncture in opioid use disorder: A systematic literature review. *Am J Addict.* 2016;25(8):592-602.
- Boyuan Z, Yang C, Ke C, Xueyong S, Sheng L. Efficacy of acupuncture for psychological symptoms associated with opioid addiction: a systematic review and meta-analysis. *Evid Based Complement Alternat Med.* 2014;2014:313549.
- Grant S, Kandrack R, Motala A, et al. Acupuncture for substance use disorders: A systematic review and meta-analysis. *Drug Alcohol Depend.* 2016;163:1-15.
- Southern C, Lloyd C, Liu J, et al. Acupuncture as an intervention to reduce alcohol dependency: a systematic review and meta-analysis. *Chin Med.* 2016;11:49.
- Reader M, Young R, Connor JP. Massage therapy improves the management of alcohol withdrawal syndrome. *J Altern Complement Med.* 2005;11(2):311-313.
- 31 Black S, Jacques K, Webber A, et al. Chair massage for treating anxiety in patients withdrawing from psychoactive drugs. *J Altern Complement Med.* 2010;16(9):979-987.
- Therapeutic Research Center (TRC). Massage. 2019; Natural Medicines. Health & Wellness online database.

 https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1303. Accessed October 23, 2019.
- National Center for Complementary and Integrative Health (NCCIH). Terms Related to Complementary and Integrative Health. 2017; http://nccih.nih.gov/health/providers/camterms.htm. Updated September 2017. Accessed July 10, 2019.
- Mishra BR, Nizamie SH, Das B, Praharaj SK. Efficacy of repetitive transcranial magnetic stimulation in alcohol dependence: a sham-controlled study. *Addiction*. 2010;105(1):49-55.
- Hone-Blanchet A, Ciraulo DA, Pascual-Leone A, Fecteau S. Noninvasive brain stimulation to suppress craving in substance use disorders: Review of human evidence and methodological considerations for future work. *Neurosci Biobehav Rev.* 2015;59:184-200.
- Bolloni C, Badas P, Corona G, Diana M. Transcranial magnetic stimulation for the treatment of cocaine addiction: evidence to date. *Subst Abuse Rehabil.* 2018;9:11-21.
- 37 Trojak B, Sauvaget A, Fecteau S, et al. Outcome of non-invasive brain stimulation in substance use disorders: a review of randomized sham-controlled clinical trials. *J Neuropsychiatry Clin Neurosci.* 2017;29(2):105-118.
- National Center for Complementary and Integrative Health (NCCIH). Qi Gong Video. 2010; https://www.youtube.com/watch?v=rLxl00zFaNc. Accessed June 30, 2020.
- Abbott R, Lavretsky H. Tai Chi and Qigong for the treatment and prevention of mental disorders. *Psychiatr Clin North Am.* 2013;36(1):109-119.
- Chen KW, Comerford A, Shinnick P, Ziedonis DM. Introducing qigong meditation into residential addiction treatment: a pilot study where gender makes a difference. *J Altern Complement Med.* 2010;16(8):875-882.
- Therapeutic Research Center (TRC). Qigong. 2019; Natural Medicines. Health & Wellness online database.

- https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1186. Accessed January 15, 2020.
- Scott W, Kaiser D, Othmer S, Sideroff S. Effects of an EEG biofeedback protocol on a mixed substance abusing population. *Am J Drug Alcohol Abuse.* 2005;31:455–469.
- Dehghani-Arani F, Rostami R, Nadali H. Neurofeedback training for opiate addiction: improvement of mental health and craving. *Appl Psychophysiol Biofeedback*. 2013;38(2):133-141.
- Therapeutic Research Center (TRC). Guided Imagery. 2019; Natural Medicines. Health & Wellness online database. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1238. Accessed September 29, 2019.
- American Music Therapy Association (AMTA). What Is Music Therapy? 2019; http://www.musictherapy.org/about/musictherapy/. Accessed July 10, 2019.
- Mays KL, Clark DL, Gordon AJ. Treating addiction with tunes: a systematic review of music therapy for the treatment of patients with addictions. *Subst Abus.* 2008;29(4):51-59.
- 47 Miller SC, Fiellin DA, Rosenthal R, Saitz R. *The ASAM Principles of Addiction Medicine.* 6th ed. Philadelphia, PA: Wolters Kluwer; 2019.
- Ward J, Rosenbaum C, Hernon C, McCurdy CR, Boyer EW. Herbal medicines for the management of opioid addiction: safe and effective alternatives to conventional pharmacotherapy? *CNS drugs.* 2011;25(12):999-1007.
- National Center for Complementary and Integrative Health (NCCIH). Meditation, In Depth. 2016; https://nccih.nih.gov/health/meditation/overview.htm. Updated April 2016. Accessed July 10, 2019.
- Chiesa A, Serretti A. Are mindfulness-based interventions effective for substance use disorders? A systematic review of the evidence. *Subst Use Misuse.* 2014;49(5):492-512.
- Zgierska A, Lerner F, Goodman V. Mindfulness based relapse prevention for the treatment of alcohol dependence (MBRP-Alcohol): eight week course research manual In: Department of Family Medicine, University of Wisconsin, School of Medicine and Public Health; 2010.
- U.S. Department of Veterans Affairs. Visualization/Guided Imagery. 2013; U.S. Department of Veterans Affairs website. http://www.mentalhealth.va.gov/coe/cih-visn2/Documents/Patient Education Handouts/Visualization Guided Imagery 2013.pdf. Accessed June 12, 2014.