Post-Traumatic Stress Disorder: **Summary of Evidence of the Clinical Effectiveness of Treatments**

Conventional therapies, such as cognitive behaviour therapy or pharmacotherapy, have been demonstrated to be effective in managing several mental health disorders, including post-traumatic stress disorder (PTSD). However, many patients may still experience symptoms that interfere with daily life, despite receiving conventional treatment.

Treating PTSD is an ongoing concern for health care providers, decision-makers, patients, and families. In response, CADTH has produced a number of Rapid Response reports regarding the clinical efficacy of various approaches for the treatment of PTSD.

This summary provides key findings of CADTH reports assessing the available evidence on pharmacological, psychological, and alternative options for the treatment of PTSD.

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Pharmacological Treatments

Clonidine for the Treatment of Psychiatric Conditions and Symptoms: A Review of Clinical Effectiveness, Safety, and Guidelines (2018)

cadth.ca/clonidine-treatment-psychiatric-conditions-and-symptoms-review-clinical-effectiveness-safety-and

Technology: Clonidine is a fast-acting medication that is indicated for the treatment of hypertension. Aside from antihypertensive effects, clonidine can exert sedative, analgesic, and anxiolytic effects. Therefore, beyond its approved indications, clonidine has been used more recently to treat a variety of psychiatric conditions such as post-traumatic stress disorder (PTSD).

Issue: Clonidine is increasingly being used for the treatment of PTSD-associated nightmares; however, its efficacy in treating patients with PTSD and safety for its non-indicated uses are not well understood. Abuse of clonidine has been reported and may be related to its above-mentioned effects. A review of the clinical effectiveness and potential harms of clonidine for the treatment of adults with psychiatric conditions and symptoms as well as a review of evidence-based guidelines will help inform decisions regarding its use.

Key Findings (as Related to PTSD): The evidence regarding the clinical effectiveness and safety of clonidine for the treatment of adults with psychiatric conditions or symptoms is limited; however, the results of a retrospective chart review (low-quality design) suggested that clonidine may be effective in treating combat nightmares in patients with PTSD. There were no relevant evidence-based guidelines found.

Medical Marijuana for Post-Traumatic Stress Disorder: A Review of Clinical Effectiveness and Guidelines (2017)

cadth.ca/medical-marijuana-post-traumatic-stress-disorder-review-clinical-effectiveness-and-guidelines-0

Technology: Marijuana, also referred to as cannabis, contains hundreds of cannabinoid compounds. The two primary cannabinoids are delta-9-tetrahydrocannabinol (THC), which is responsible for producing the "high" experienced by users, and cannabidiol, which is responsible for many of the pharmacological reactions but does not produce a high. Synthetic cannabinoids, such as nabilone, are also available. Unlike smoked marijuana, synthetic cannabinoids can be delivered via a standardized, reproducible dose. While marijuana is not currently an approved therapeutic product in Canada, Health Canada lists post-traumatic stress disorder (PTSD) among many conditions in which medical marijuana may be considered of potential therapeutic benefit.

Issue: Medical marijuana and synthetic cannabinoids have been used in the treatment of patients with PTSD. A review of the evidence of clinical effectiveness and of related evidence-based guidelines of both medical marijuana and synthetic cannabinoids for the treatment of PTSD in adults will help inform decisions regarding their use.

Key Findings: The low-quality evidence found suggested that medical marijuana (smoked marijuana, oral THC, and nabilone) were effective in treating some symptoms of PTSD, particularly nightmares and sleep quality and quantity. No guidelines regarding the use of medical marijuana or synthetic cannabinoids in adult patients with PTSD were identified.

Long-term Nabilone Use: A Review of the Clinical Effectiveness and Safety (2015)

cadth.ca/long-term-nabilone-use-review-clinical-effectiveness-and-safety-0

Technology: Cannabis has been used medically for its antiemetic, sedative, and analgesic effects and for its ability to stimulate appetite. The major psychoactive ingredient of cannabis is delta-9-tetrahydrocannabinol (THC). Nabilone is a synthetic cannabinoid analogue of THC and is approved for use in Canada for the treatment of side effects associated with chemotherapy in adults. For its approved indication, nabilone (1 mg to 2 mg) is used short-term, administered the night before and one to three hours prior to chemotherapy and can be continued up to 24 hours following chemotherapy. However, nabilone has also been used off-label for the management of nightmares associated with post-traumatic stress disorder (PTSD).

Issue: Duration of treatment with nabilone for indications such as PTSD is often longer-term than for its approved indication, raising questions about its safety and efficacy with extended use. A review of the evidence on the clinical effectiveness of long-term nabilone use as well as the safety of long-term nabilone use in adult populations with PTSD will help inform decisions regarding its use.

Key Findings (as related to PTSD): Based on evidence from one systematic review and four randomized controlled trials, nabilone appeared to be safe and efficacious for the treatment of PTSD-associated nightmares. Adverse events in the studies were generally not considered serious; however, evidence of safety and efficacy of nabilone use beyond nine weeks is lacking. No literature was identified that compared long-term and short-term use of nabilone in PTSD. As such, the durability of treatment efficacy remains uncertain and it is unclear if some adverse effects may improve over time with extended treatment.

Intravenous Ketamine for the Treatment of Mental Health Disorders: A Review of Clinical Effectiveness and Guidelines (2014)

cadth.ca/intravenous-ketamine-treatment-mental-health-disorders-review-clinical-effectiveness-and-guidelines

Technology: Ketamine is a rapid-acting, non-competitive N-methyl-d-aspartate (NMDA) receptor antagonist that is used as a general anesthetic and has analgesic properties. The NMDA receptor mediates glutamate excitatory neurotransmission in the brain. A dysfunction in this regulation may play a role in depressive symptoms, making ketamine a potential novel treatment for some mental health disorders.

Issue: Side effects such as vivid dreams and a dissociative effect (where the patient experiences a separation of body and mind) occur frequently with the use of ketamine. These side effects have created an illicit market for the drug, also known as "Special K." Unlike other drugs for mental health disorders, intravenous (IV) ketamine requires close in-patient monitoring. Given the uncertainty about the use of ketamine in the treatment of mental health disorders, a review of its clinical effectiveness and of the evidence-based guidelines will help to guide decisions about its use.

Key Findings (as Related to PTSD): IV ketamine may be useful for the treatment of PTSD, but evidence is limited.

Cannabinoids for the Treatment of Post-Traumatic Stress Disorder: A Review of the Clinical Effectiveness and Guidelines (2009 and updated in 2012)

cadth.ca/cannabinoids-treatment-post-traumatic-stress-disorder-review-clinical-effectiveness-and-guidelines-1

Technology: The term “cannabinoids” is used to describe the additional active ingredients found in cannabis other than delta-9-tetrahydrocannabinol and cannabidiol. Two synthetic cannabinoids, dronabinol and nabilone, are currently available in Canada.

Issue: Alternative drug therapy approaches for PTSD are being considered, including the use of cannabinoids. A review of the clinical effectiveness of cannabinoids for the treatment of PTSD, and of related evidence-based guidelines will help inform decisions regarding their use.

Key Findings (as Related to PTSD): The evidence regarding the clinical effectiveness of cannabinoids for the treatment of PTSD is limited.

(No new studies were identified in an updated search in 2012.)

Benzodiazepines for the Treatment of Post-Traumatic Stress Disorder: A Review of the Clinical Effectiveness and Guidelines (2009)

cadth.ca/benzodiazepines-treatment-post-traumatic-stress-disorder-review-clinical-effectiveness-and-0

Technology: Benzodiazepines are a group of medications that can help reduce anxiety and make it easier to sleep.

Issue: A number of pharmacotherapies have been used to treat PTSD; however, response is often suboptimal. A review of the evidence for the use of benzodiazepines for the management of PTSD as well as of related guidelines will help inform decisions regarding their use.

Key Findings (as Related to PTSD): In the available, limited literature, benzodiazepines showed no clear benefit in the management of PTSD. While clinical practice guidelines generally agree that the data to support the use of benzodiazepines are limited in quality and quantity, some of the guidelines suggest that benzodiazepines may be used for short-term management of anxiety or sleep disturbances.

Psychological Treatments

Short-Term Psychodynamic Psychotherapy for the Treatment of Mental Illness: A Review of Clinical Effectiveness and Guidelines (2017)

cadth.ca/short-term-psychodynamic-psychotherapy-treatment-mental-illness-review-clinical-effectiveness-and

Technology: Psychodynamic psychotherapy is a form of psychological therapy in which the main focus is to reveal the unconscious content of the psyche of the patient in order to reduce psychic tension. Short-term psychodynamic psychotherapy (STPP) is done in a shorter period of time (usually done in 16 sessions over 22 weeks) than long-term psychodynamic psychotherapy (and it has been used as an alternative to long-term psychotherapy models since the mid-1950s in the treatment of diverse mental disorders.

Issue: A review of the clinical effectiveness evidence of STPP and guidelines for using it in the treatment of adults with post-traumatic stress disorder (PTSD) will help inform decisions regarding therapy.

Key Findings (as Related to PTSD): This review identified two relevant systematic reviews and three guidelines regarding the use of STPP for the treatment of depression and other common mental disorders, however no clinical evidence or guidelines were found on the effectiveness of STPP for the treatment of PTSD.

Acceptance and Commitment Therapy for Post-Traumatic Stress Disorder, Anxiety, and Depression: A Review of Clinical Effectiveness (2017)

cadth.ca/acceptance-and-commitment-therapy-post-traumatic-stress-disorder-anxiety-and-depression-review

Technology: Acceptance and Commitment Therapy (ACT) is a form of psychotherapy that can be used to treat post-traumatic stress disorder (PTSD), anxiety, and depression. ACT focuses on mindfulness and acceptance with a goal to develop more accepting, mindful attitudes toward distressing memories and negative conditions rather than avoiding them. ACT largely involves exercises, role-playing, and metaphors as part of treatment and can be delivered in one-to-one or group settings.

Issue: Various forms of psychotherapies have been used to treat PTSD and other psychiatric conditions in military populations. A review of evidence on the clinical effectiveness of ACT in adult patients with trauma-related PTSD, anxiety, or depression will help inform decisions regarding its use.

Key Findings (as Related to PTSD): The evidence regarding the clinical effectiveness of ACT for the treatment of PTSD is limited in both quality and quantity. While preliminary evidence suggests that ACT may be useful for treating PTSD, further research is required.

Eye Movement Desensitization and Reprocessing for Depression, Anxiety, and Post-Traumatic Stress Disorder: A Review of Clinical Effectiveness (2017)

cadth.ca/eye-movement-desensitization-and-reprocessing-depression-anxiety-and-post-traumatic-stress-disorder

Technology: Eye movement desensitization and reprocessing (EMDR) is a psychotherapy modality in which dysfunctionally stored and incompletely processed memories are considered to be the cause of several disorders, including post-traumatic stress disorder (PTSD), adjustment disorders, some forms of depression, and anxiety disorders. EMDR helps the affected individual to reprocess memories of traumatic events by identifying more positive aspects of the trauma memories and replacing problem-causing memories. It involves recalling distressing images along with associated negative cognition and bodily sensations while engaging in eye movements guided by the therapist.

Issue: The effectiveness of EMDR compared with other psychological treatments (e.g., cognitive behavioural therapy, cognitive processing therapy, prolonged exposure, deep brain processing, acceptance and commitment therapy) for adults with depression, anxiety, or PTSD remains unclear. A review of the available evidence regarding the clinical effectiveness of EMDR will help inform decisions for the optimal management of depression, anxiety, and PTSD.

Key Findings (as related to PTSD): For patients with PTSD, the limited-quality evidence suggested that treatment with EMDR resulted in significantly better outcomes when compared to wait list or usual care. However, outcomes in PTSD patients treated with EMDR compared with other active treatment modalities were inconsistent.

Cognitive Processing Therapy for Post-Traumatic Stress Disorder: A Systematic Review and Meta-analysis (2016)

cadth.ca/cognitive-processing-therapy-post-traumatic-stress-disorder-systematic-review-and-meta-analysis

Technology: Various cognitive behavioural therapies, including cognitive processing therapy (CPT), are used for the management of post-traumatic stress disorder (PTSD). CPT is a manualized therapy that provides a person with the skills to handle distressing thoughts and regain control in his or her life. CPT can be conducted in an individual setting, in a group setting, or in a combination of the two.

Issue: To help guide decisions about the choice of behavioural therapy for the treatment of PTSD and the role of CPT in therapy, a review of the clinical effectiveness of CPT offered in individual or group settings for adults with PTSD is necessary.

Key Findings: The effectiveness of CPT compared with other psychological interventions (including prolonged exposure therapy, present-centred therapy, dialogue exposure therapy, or memory specificity training) is inconclusive from the evidence found. Based on the available evidence, CPT may be more effective than wait list or usual care in improving PTSD symptoms, depression, anxiety, quality of life, and remission rates; however, there was no difference in the effectiveness for CPT provided in group versus individual settings.

Peer-Support Programs for Adults with Operational Stress Injury and Their Families: A Review of the Clinical Evidence (2012)

cadth.ca/peer-support-programs-adults-operational-stress-injury-and-their-families-review-clinical-evidence

Technology: Peer-support programs are social support programs that were created based on the concept that the emotional and experiential ties that bind military service members, when used strategically, can help former veterans to assist returning citizen soldiers to recover their psychosocial health, and improve their social functioning and reintegration.

Issue: Peer-support programs have been implemented to help veterans with mental health problems and their families. A review of the clinical evidence regarding the benefits and harms of peer-support programs for treatment of adults with operational stress injury (including PTSD and depression), and their families, will help inform decisions regarding their use.

Key Findings (as Related to PTSD): One study was found examining the effectiveness of a peer-support program (Vet-to-Vet program) on veterans with severe mental illness. While participants in more than 10 sessions showed enhanced personal well-being (e.g., empowerment, confidence, functional status, and decreased alcohol use), the change in severity of PTSD symptoms was not significant. There was no evidence found regarding benefits and harms of peer-support programs for partners and families of adults with operational stress injury.

Day Programming for Post-Traumatic Stress Disorder: A Review of the Clinical Effectiveness, Cost-Effectiveness, and Guidelines (2012)

cadth.ca/day-programming-post-traumatic-stress-disorder-review-clinical-effectiveness-cost-effectiveness-and

Technology: Day programs for mental health conditions provide therapeutic support to individuals for several hours per day while they remain in the community. Day programs may be administered through a hospital or a community-based clinic.

Issue: In comparison to outpatient care, which typically has shorter session durations (e.g., one-hour psychotherapy) and may have fewer sessions over the same period of time, day programs may be more effective. However, these findings may differ by mental health condition. A review of the clinical effectiveness and cost-effectiveness of day programming as well as of related evidence-based guidelines will help inform decisions regarding its use for PTSD.

Key Findings (as Related to PTSD): Day programs may be effective in reducing PTSD symptoms and other psychiatric comorbidities; however, high-quality evidence is limited. The extent to which day programs are more or less effective than in-patient, residential, and outpatient PTSD treatment programs is unclear. Cost-effectiveness evaluations of day programs and guidelines for their use were not identified.

Cognitive Behavioural Therapy for Post-Traumatic Stress Disorder: A Review of the Clinical and Cost-Effectiveness (2010)

cadth.ca/cognitive-behavioural-therapy-post-traumatic-stress-disorder-a-review-clinical-and-cost-effectiveness

Technology: Cognitive behavioural therapy (CBT) is a form of psychotherapy that uses of a number of techniques to alter an individual's distressing emotions by changing his or her thoughts, beliefs, and behaviours. The purpose of therapy is to reduce distress or unwanted behaviour by undoing learned responses or by providing new, more adaptive learning experiences. The behavioural component of CBT aims to reduce dysfunctional emotions and behaviour by altering the individual's behaviour and the factors that control it.

Issue: CBT for PTSD may not always be available as an alternative in areas without access to psychotherapists trained in this technique. Self-directed CBT (for example, through a Web-based or stand-alone computer program) and tele-therapy CBT have been introduced to help improve access to CBT for patients in remote areas. A review of the evidence of clinical and cost-effectiveness of CBT delivered in a self-directed manner or via tele-health applications relative to traditional CBT, and of guidelines for patient selection will help inform decisions about which patients could benefit from CBT for PTSD when delivered in these alternative formats.

Key Findings (as Related to PTSD): The available evidence (based on two studies) suggests that the clinical effectiveness of CBT delivered via tele-therapy in group and one-on-one sessions is comparable to face-to-face delivery; however, high-quality evidence is limited. Overall participant satisfaction appeared to be comparable between the two delivery modes of group-session CBT. In the absence of access to face-to-face care, tele-therapy with CBT may be an alternative used to treat patients with PTSD. No conclusions can be made about the clinical effectiveness of self-directed CBT, the cost-effectiveness of CBT delivered via tele-therapy or in a self-directed manner, or about which patients are best suited to the alternate delivery formats, as no literature was identified.

Critical Incident Stress Debriefing for First Responders: A Review of the Clinical Benefit and Harm (2010)

cadth.ca/critical-incident-stress-debriefing-first-responders-review-clinical-benefit-and-harm-0

Technology: Critical incident stress debriefing (CISD) is one component of critical incident stress management programs designed to support emergency personnel or other populations exposed to traumatic experiences. The term "psychological debriefing" is used interchangeably with CISD, which is a structured form of group crisis intervention composed of seven stages used within the first two weeks following a crisis incident.

Issue: The effectiveness and efficacy of CISD is uncertain and collective evidence even suggests that debriefing could impede natural recovery from acute PTSD symptoms. A review of the evidence for the clinical benefits and harms of CISD given to first responders who have been exposed to a traumatic incident will help inform decisions regarding its use.

Key Findings (as Related to PTSD): Limited evidence exists regarding the efficacy, benefits, and harms of CISD in relation to PTSD.

Additional Treatments

Long- and Short-Duration In-patient Treatment Programs for the Treatment of Post-Traumatic Stress Disorder: Comparative Effectiveness and Guidelines (2016)

cadth.ca/long-and-short-duration-inpatient-treatment-programs-treatment-post-traumatic-stress-disorder

Technology: Patients can be treated for post-traumatic stress disorder (PTSD) in numerous services, programs, and settings for varying durations including in-patient hospitalization (i.e., 24-hour care in a structured setting, usually for patients who are severely depressed, traumatized, or suicidal) and outpatient treatment.

Issue: There remains uncertainty about the effective durations for treatment and benefits of more resource-intensive in-patient treatment versus outpatient programs. A review of the comparative clinical effectiveness of both long-term (more than 90 days) versus short-term (28 to 45 days) in-patient treatment programs, and of in-patient versus outpatient treatment programs for patients with PTSD, along with a review of evidence-based guidelines, will help inform treatment decisions for patients with PTSD.

Key Findings: In the available literature of limited quantity there was not a significant difference in the comparative clinical effectiveness of in-patient versus outpatient treatment programs in treating patients with PTSD symptoms. No evidence-based guidelines were found regarding in-patient treatment programs for PTSD.

Yoga for the Treatment of Post-Traumatic Stress Disorder, Generalized Anxiety Disorder, Depression, and Substance Abuse: A Review of the Clinical Effectiveness and Guidelines (2015)

cadth.ca/yoga-treatment-post-traumatic-stress-disorder-generalized-anxiety-disorder-depression-and-substance

Technology: Yoga is a form of mind and body medicine that can be classified as a complementary and alternative medicine. Yoga is believed to enhance the interaction between the body and the mind and has been studied in a number of therapeutic areas including low-back pain, falls prevention, mental illness, and insomnia. Yoga can take on many forms, but generally consists of one or more of the following components: poses or postures, breathing techniques, and meditation.

Issue: There is an emerging evidence base for using yoga as a treatment for patients with mental health disorders including PTSD, generalized anxiety disorder, depression, and substance abuse. The strongest evidence base exists for the use of yoga in treating depression. The clinical effectiveness of yoga as an intervention for the treatment of PTSD is not known.

Key Findings (as Related to PTSD): There is limited and conflicting evidence regarding the effectiveness, safety, and long-term efficacy of yoga as a treatment for PTSD. Five evidence-based guideline documents considered the use of yoga in clinical practice. Three suggested that yoga may be useful as an adjunctive treatment for treating PTSD.

Mindfulness Interventions for the Treatment of Post-Traumatic Stress Disorder, Generalized Anxiety Disorder, Depression, and Substance Use Disorders: A Review of the Clinical Effectiveness and Guidelines (2015)

cadth.ca/mindfulness-interventions-treatment-post-traumatic-stress-disorder-generalized-anxiety-disorder

Technology: Mindfulness is an integrative, mind–body-based approach that helps people change the way they think and feel about their experiences. It is a way of paying attention to the present moment by using meditation, breathing techniques, and yoga. It involves consciously bringing awareness to thoughts and feelings, without making judgments, allowing the individual to become less enmeshed and better able to manage them.

Issue: There is an emerging evidence base for using mindfulness-based interventions for the treatment of patients with mental health disorders. While the strongest evidence base exists for the use of mindfulness in treating depression, the effectiveness of mindfulness in treating PTSD is unclear.

Key Findings (as Related to PTSD): There is limited and conflicting evidence regarding the effectiveness of mindfulness for treating PTSD. Six evidence-based guidelines considered the use of mindfulness in clinical practice, of which one suggested that mindfulness may be considered for adjunctive treatment of hyperarousal symptoms in patients with PTSD, although there is no evidence that these are more effective than standard stress inoculation techniques.

Neurotrophic Stimulation Therapy for the Management of Post-Traumatic Stress Disorder and Substance Abuse Disorders: A Review of the Clinical Effectiveness (2015)

cadth.ca/neurotrophic-stimulation-therapy-management-post-traumatic-stress-disorder-and-substance-abuse

Technology: Neurotrophic stimulation therapy (NST) includes several non-invasive approaches intended to have a therapeutic effect in patients suffering from a variety of mental health disorders, including PTSD, traumatic brain injury, substance withdrawal, depression, and anxiety. The well-studied components of neurotrophic stimulation are acupuncture (insertion of fine needles into various parts of the body) and transcranial direct current stimulation (a method of non-invasive brain stimulation with a low amplitude electrical current).

Issue: NST represents a novel approach to managing PTSD and substance abuse. Centres offering NST to manage mental health disorders are available in Canada. A review of the evidence of clinical effectiveness for the use of any component of neurotrophic stimulation alone or in combination with another component will help inform decisions regarding its use in patients with PTSD or substance abuse disorders.

Key Findings (as Related to PTSD): Evidence addressing the clinical effectiveness of NST in PTSD was limited to acupuncture. Compared with control or usual therapy, acupuncture was shown to reduce symptoms of PTSD. No significant difference was found in symptoms of PTSD, when acupuncture was compared with cognitive behavioural therapy or pharmacotherapy. Based on the available limited evidence, the role of NST in the management of PTSD remains unclear.

Transcranial Magnetic Stimulation for the Treatment of Adults With PTSD, GAD, or Depression: A Review of Clinical Effectiveness and Guidelines (2014)

cadth.ca/transcranial-magnetic-stimulation-treatment-adults-PTSD-GAD-Depression

Technology: Transcranial magnetic stimulation (TMS) is a non-invasive procedure that uses a magnetic field to stimulate nerve cells in the brain. To create the magnetic field, a large electromagnetic coil is placed on the scalp and a strong electric current is passed through it. The magnetic field passes through the scalp and bone, electrically stimulating the cortex. In repetitive TMS (rTMS), the treatment is repeated over a number of days, weeks, or months.

Issue: How TMS might work to treat PTSD, GAD, or depression is not fully understood. A review of the clinical effectiveness and current guidelines will help to inform clinical decisions on the use of TMS in patients with PTSD, GAD, or depression.

Key Findings (as Related to PTSD): For PTSD, there is early evidence that TMS may improve clinical outcomes. Evidence-based guidelines for PTSD are mixed, with some listing TMS as a potential first-line option, some giving criteria for second-line use, and some stating TMS should be used for research purposes only.

Hyperbaric Oxygen Therapy for Adults with Mental Illness: A Review of the Clinical Effectiveness (2014)

cadth.ca/hyperbaric-oxygen-therapy-adults-mental-illness-review-clinical-effectiveness

Technology: During hyperbaric oxygen therapy, a patient breathes pure oxygen while in a chamber that has been pressurized to a higher-than-normal atmospheric pressure. This increases the amount of oxygen in the patient's blood and tissues, thereby promoting healing. It has been suggested that the procedure might also be useful in treating mental illness by reactivating the brain's metabolic or electrical pathways.

Issue: For patients experiencing PTSD, GAD, or depression, hyperbaric oxygen therapy has been proposed as a potential treatment option. A review of the clinical effectiveness of hyperbaric oxygen therapy for adults with PTSD, GAD, or depression will help to guide decisions about its use in treating these patients.

Key Findings (as Related to PTSD): No evidence was found on the clinical effectiveness of hyperbaric oxygen for the treatment of adults with PTSD.

Deep Brain Stimulation for Post-Traumatic Stress Disorder or Treatment-Resistant Depression: A Review of the Clinical Effectiveness (2014)

cadth.ca/deep-brain-stimulation-post-traumatic-stress-disorder-or-treatment-resistant-depression-review

Technology: Deep brain stimulation (DBS) involves implanting electrodes in certain regions of the brain to provide targeted electrical stimulation controlled by a "brain pacemaker" placed under the skin of the patient's chest. This stimulation is thought to be beneficial for managing treatment-resistant movement and affective disorders such as Parkinson disease, essential tremor, dystonia, chronic pain, Tourette syndrome, obsessive-compulsive disorder, and major depression.

Issue: Recently, DBS has been proposed for use in the treatment of PTSD. A review of the clinical effectiveness of DBS for the treatment of PTSD and treatment-resistant depression will help to inform treatment decisions for patients with these psychiatric disorders.

Key Findings (as Related to PTSD): No clinical evidence was found on the effectiveness of DBS for the treatment of PTSD.

Neuro-linguistic Programming for the Treatment of Adults With Post-Traumatic Stress Disorder, General Anxiety Disorder, or Depression: A Review of Clinical Effectiveness and Guidelines (2014)

cadth.ca/neuro-linguistic-programming-treatment-adults-post-traumatic-stress-disorder-general-anxiety

Technology: Neuro-linguistic programming (NLP) is a therapeutic technique for detecting and reprogramming unconscious patterns of thought and behaviour in order to alter psychological responses. It is based on the idea that there is a connection between the neurological processes (neuro), language (linguistic), and behavioural patterns learned through experience (programming). NLP typically involves building a rapport between the physician and patient, gathering information and defining the desired health outcome, and using techniques and tools to change the patient's thinking and behaviour.

Issue: It has been claimed that NLP can be used for conditions such as phobias, anxiety, and depression. A review of the clinical evidence regarding NLP for the treatment of PTSD, GAD, and depression, as well as of evidence-based guidelines, will help inform treatment decisions for patients with these conditions.

Key Findings (as Related to PTSD): No clinical evidence or guidelines were found on the use of NLP for the treatment of adults with PTSD.

Neurofeedback and Biofeedback for Mood and Anxiety Disorders: A Review of the Clinical Evidence and Guidelines (2014)

cadth.ca/neurofeedback-and-biofeedback-mood-and-anxiety-disorders-review-clinical-evidence-and-guidelines-0

Technology: Neurofeedback and biofeedback are non-pharmacological treatments for mood and anxiety disorders designed to increase patients' coping skills. During neurofeedback, electrical sensors are placed on the scalp to monitor brain waves, with the aim of helping an individual learn to modify and normalize brain activity. During biofeedback, electrical sensors are placed on various places of the body to monitor physiological functions such as respiration, heart rate, muscle tension, skin temperature, and blood pressure, so that an individual can learn to affect these physiological functions.

Issue: Preliminary analyses raised the possibility that biofeedback and neurofeedback may have a potential for the treatment of PTSD, generalized anxiety disorder (GAD), and depression. A review of the clinical effectiveness and safety of neurofeedback and biofeedback for the treatment of mood and anxiety disorders, as well as of related evidence-based guidelines, will help inform decisions regarding the use of these interventions.

Key Findings (as Related to PTSD): Biofeedback, such as heart rate variability biofeedback, may decrease the symptoms of PTSD (based on limited evidence). No evidence-based guidelines were found for the use of biofeedback or neurofeedback to treat mood and anxiety disorders. More well-designed, controlled clinical studies may be necessary before clear decisions can be made regarding the clinical effectiveness of biofeedback on PTSD.

Virtual Reality Exposure Therapy for Adults with Post-Traumatic Stress Disorder: A Review of the Clinical Effectiveness (2014)

cadth.ca/virtual-reality-exposure-therapy-adults-post-traumatic-stress-disorder-review-clinical-effectiveness

Technology: Exposure therapy is a form of cognitive behavioural therapy that can be used to treat PTSD. This therapy involves repeatedly confronting memories or reminders of trauma in a safe and controlled environment to gradually reduce the distress associated with them. Virtual reality exposure therapy (VRET) is a newer treatment for PTSD that builds on traditional exposure therapy. Patients recall traumatic events in an immersive and interactive virtual environment through the use of computer graphics and auditory cues, often using a head-mounted display device, which can be manipulated by the therapist or patient, as necessary.

Issue: VRET is a relatively new treatment, and uncertainty remains about its effectiveness. A review of the clinical effectiveness of virtual reality exposure therapy for PTSD will help inform treatment decisions for patients with this condition.

Key Findings (as Related to PTSD): Limited evidence shows that VRET may be as effective as other types of exposure therapy for the treatment of PTSD.

The Emotional Freedom Technique for the Treatment of Post-Traumatic Stress Disorder, Depression, or Anxiety: A Review of the Clinical Evidence (2013)

cadth.ca/emotional-freedom-technique-treatment-post-traumatic-stress-disorder-depression-or-anxiety-review

Technology: The Emotional Freedom Technique (EFT) is based on the idea that imbalances in the body's energy system have an effect on an individual's psychology. The technique aims to correct these energy imbalances by having the patient recall a traumatic memory while repeating a self-acceptance statement and tapping on a sequence of points on his or her body.

Issue: EFT may be an alternative to standard care, such as pharmaceutical therapy or cognitive behavioural therapy, or it may be an alternative to other non-traditional treatments, such as eye movement desensitization and reprocessing. A review of the clinical evidence on EFT for the treatment of PTSD, anxiety, and depression will help to inform treatment decisions for these patients.

Key Findings (as Related to PTSD): EFT may be effective in reducing the symptoms of PTSD (based on several studies of limited quality). More well-designed, controlled clinical studies may be necessary before making a clear decision whether to implement the use of EFT as a standard treatment for PTSD.

Transcendental Meditation for Post-Traumatic Stress Disorder, Depression, and Anxiety: A Review of Clinical Effectiveness (2013)

cadth.ca/transcendental-meditation-posttraumatic-stress-disorder-depression-and-anxiety-review-clinical

Technology: Transcendental Meditation (TM) is a type of mantra meditation that involves silently repeating a word or a phrase (called a mantra) until the mind is free of thought. It is practised for 15 to 20 minutes twice daily, in a sitting position.

Issue: Meditation may be used alone or as adjunct therapy to reduce symptoms associated with mental health and stress-related disorders. However, its effectiveness is uncertain. A review of the clinical effectiveness of TM for adults with PTSD, anxiety disorders, and depression will help to inform treatment decisions for these patients.

Key Findings (as Related to PTSD): There is limited evidence on the use of TM as a treatment for PTSD and related disorders.

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