IN BRIEF A Summary of the Evidence

Neurotrophic Stimulation Therapy for the Management of Post-Traumatic Stress Disorder and Substance Abuse Disorders: A Review

Key Messages

- **Acupuncture may reduce symptoms of post-traumatic stress disorder (PTSD), anxiety, or depression compared with control or usual therapy, and may be as effective as cognitive behavioural therapy or pharmacotherapy (based on limited evidence).**
- **Whether acupuncture is effective for reducing craving in patients with substance abuse disorders is unclear.**
- **Transcranial direct current stimulation might reduce relapse rates in patients with alcohol dependence (based on limited evidence).**
- **The optimal acupuncture regimen — such as the location of needle insertion, frequency and duration of treatment, and number of treatment sessions — for treating PTSD or substance abuse disorders is unclear.**

Context

Conventional therapies, such as cognitive behavioural therapy or pharmacotherapy, have been demonstrated to be effective in managing several mental health disorders, including post-traumatic stress disorder (PTSD) and substance dependence. However, many patients continue to have symptoms despite receiving conventional therapy, and alternative or complementary treatments are increasingly being considered. 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. NST for managing mental health disorders is available in Canada.

Technology

The most well-studied components of NST are acupuncture (the 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). Several different styles of acupuncture exist, including classical or traditional acupuncture, auricular acupuncture (the stimulation of acupuncture points on the external ear surface), trigger point acupuncture, and electroacupuncture (electrical current is applied through the needles into the patient's body). In transcranial direct current stimulation, an anode and cathode are applied to opposite sides of the patient's scalp and a low-intensity electrical current is delivered continuously for several minutes.

Issue

A review of the evidence for clinical effectiveness for the use of any component of NST alone or in combination with another component will help inform decisions regarding NST use in patients with PTSD or substance use disorders.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Results

The literature search identified 526 citations, 77 of which were deemed potentially relevant. Two additional articles were retrieved from the grey literature. Of these 79 potentially relevant articles, 10 met the criteria for inclusion in this review: 4 systematic reviews and 6 randomized controlled trials.

Read more about CADTH and its review of neurotrophic stimulation therapy for the management of PTSD and substance abuse disorders at:

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

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