Acupuncture: A Comparison Study of Sham Acupuncture, Traditional Chinese Acupuncture and Current Practice Guidelines for the Treatment of Chronic Musculoskeletal Pain in Adults

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Chronic musculoskeletal pain is a complex condition that is difficult to treat. Thomas, K. J., MacPherson, H., Thorpe, L., Brazier, J., Fitter, M., Campbell, M. J.,... Nicholl, J. (2006). A randomized, blinded, controlled trial demonstrated the efficacy of traditional Chinese acupuncture for chronic musculoskeletal pain. Only traditional acupuncture produced a bimodal response of improvement and no change. At 8 weeks, functionality scores for individualized, standardized, and simulated acupuncture groups improved by 4.4, 4.5, and 4.4 points compared to 2.1 points for patients receiving usual care. At 52 weeks, the usual care group had significantly more non-adherent participants report decreasing their activity. Decreased medication use to 47% in the real and simulated acupuncture groups compared to 59% in the usual care group. Decreased medication use was statistically superior to sham acupuncture. Charlotte, Y., Kwon, D. S., Lee, S. H., Kang, W. M., Lee, I. S., Jackson, S.,... Wallraven, C. (2013). The effectiveness of acupuncture for chronic musculoskeletal pain. The use of functional magnetic resonance imaging to evaluate the treatments’ efficacy for chronic neck and back pain. The Journal of Pain : Official Journal of the American Pain Society, 14(12), 1338-1348. doi:10.1016/j.jpain.2013.08.005

Introduction

Musculoskeletal pain is the top presenting problem in Emergency Departments. Large percentage develops into chronic pain conditions. Everything needs to be done to prevent the transition from acute to chronic. The gate control theory is a balance of impulses transmitted to the spinal cord via large A-delta and small C fibers. Excitatory neurotransmitters glutamate and aspartate, displacement magnesium ions causing sensitization and excitability in the central nervous system. Release of inhibitory neurotransmitters including GABA, glycine, norepinephrine and serotonin to inhibition of pain. Changes in sensitivity of neurons, lead to a lower stimulation threshold. Regenerating peripheral nerves leads to spontaneous impulses. Alterations in the dorsal root ganglion in response to peripheral nerve injury and neuromodulators, leads to reorganization of nociceptive pain.

Statement of the Problem

Chronic musculoskeletal pain is difficult to treat. Current practice guidelines lead to prescription medication overuse and ineffective surgeries. Identify therapies that provide patient with effective and safe improvement in their pain is important for better patient outcomes.

Research Question

In adult patients with chronic musculoskeletal pain, do therapies in integrative medicine such as traditional Chinese acupuncture improve pain compared to traditional western medicine?

Pathophysiology

The gate control theory is a balance of impulses transmitted to the spinal cord via large A-delta and small C fibers. Excitatory neurotransmitters glutamate and aspartate, displacement magnesium ions causing sensitization and excitability in the central nervous system. Release of inhibitory neurotransmitters including GABA, glycine, norepinephrine and serotonin to inhibition of pain. Changes in sensitivity of neurons, lead to a lower stimulation threshold. Regenerating peripheral nerves leads to spontaneous impulses. Alterations in the dorsal root ganglion in response to peripheral nerve injury and neuromodulators, leads to reorganization of nociceptive pain.

Applicability to Clinical Practice

Acupuncture as a therapy that can be an adjunct to a variety of other therapies. Improving patients pain, by including other modalities such as chiropractic manipulation and massage. With minimal adverse effects, acupuncture is a safe addition to the treatment plan. By incorporating integrative medicine into a traditional western medicine practice. Open up many avenues for treating an individual’s pain. Patients who would benefit from acupuncture treatments: Those who have exhausted all treatment options used in traditional medical settings. Preventative treatment, balancing the person and getting them to a state of deqi.

Discussion

Comparing traditional Chinese acupuncture to traditional western therapy for chronic musculoskeletal pain, Cherkin et al. (638 participants) and Haake et al. (1,162 participants), found statistical significance for improvement in functionality and pain. Thomas and colleagues, 2006, found only clinical significance, through a smaller sample size of 241 participants. Comparing sham acupuncture to traditional western therapy for chronic musculoskeletal pain. Cherkin, 2009, and Haake, 2007, found sham acupuncture was statistically superior to medical management. Haake et al. used acupuncture to needle guide, while Haake et al. used superficial needling in non-acupuncture points. Comparing traditional acupuncture to sham acupuncture for chronic musculoskeletal pain. Brinkhaus (2006), Haake, and Cherkin, all Randomized Control Trials demonstrated similar findings, traditional acupuncture to be no more effective than sham acupuncture. Vickers, 2012, and Manheimer, 2005, who discuss through Systematic Reviews that traditional acupuncture is statistically significant for effectiveness compared to sham acupuncture for the treatment of pain. This research comparing a sham form of acupuncture to traditional Chinese acupuncture is controversial. It is not fully understood what is physiologically occurring in the body. The use of functional magnetic resonance imaging to understand the process, is being done on small scales.

Napadow, 2009, demonstrated both traditional acupuncture and simulated acupuncture groups improved by 4.4, 4.5, and 4.4 points compared to 2.1 points for patients receiving usual care. Absolute risk reduction was 25.8% in the acupuncture groups compared to 59% in the usual care group. Participants report decreasing their activity. Difficulty finding a practitioner, Chinese acupuncture vs. conventional therapy, 20.2% (P < .001). Needles stimulation is important for better patient outcomes. Needles stimulation is important for better patient outcomes. Needles stimulation is important for better patient outcomes.

References


Thank You

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