Overall there is not sufficient evidence to rule out an effect of acupuncture, acupressure and laser stimulation on smoking cessation. We should consider the possible mechanisms of action in relation to justifying further research. (White 2011) Studies exploring the possible mechanisms of action for acupuncture include: animal experiments, seeing the effects of withdrawal on smoking, immunological studies and acupuncture’s ability to relieve withdrawal symptoms in humans; modification of nicotine-induced locomotor activity and neuroactivity in the nucleus accumbens. Other studies suggest that acupuncture may modulate dopamine release via GABA mechanisms, serotonin release, or the release of dopamine directly. (White 2011)

Studies regarding acupuncture have traditionally been of poor study design as there is much controversy over how to best set up a methodological study to evaluate the efficacy of acupuncture. Arguments abound regarding sham acupuncture control groups which pierce the body at sites that are considered by some to be inactive. These same inactive sites are considered by others to be active medicinal sites. Studies have been flawed by efficacy of practitioner, study size, practitioner/patient interaction time, decreasing power of study secondary to dropouts, etc. (White 2011) The methodology of acupuncture studies is an ever-evolving field.

It is important to compare studies regarding acupuncture and smoking cessation to studies using methods such as nicotine replacement and support. In a 2008 Cochrane Review by Steed, et al, regarding nicotine replacement therapy for smoking cessation, a meta-analysis of 152 studies was performed with over 111 studies including over 43,000 participants. In this meta-analysis the relative risk for smoking cessation was 1.58 (95% CI from 1.50 to 1.66). The Nicotine replacement study included gum, patches, nasal spray, inhalers and lozenges. The overall meta-analysis stated that having more than 8 weeks of nicotine replacement therapy was no more effective than having 8 weeks of therapy.

In a 2012 Cochrane Review, Steed, et al, entitled, “Nicotine Replacement Partial Agonists for Smoking Cessation,” the average time of use of medications such as chantix was 12 weeks. The pooled relative risk for continuous or sustained abstinence at 6 months or longer for varenicline vs placebo was 2.27 (95% CI 2.02 to 2.55; 14 trials, 6166 people).

An interesting smoking cessation and acupuncture study model by Byer, et al, in 2002, 141 subjects were placed into auricular acupuncture vs acupuncture and education vs sham acupuncture and education groups. The study involved five acupuncture or sham acupuncture treatments over four weeks for a total of 20 treatments. The number of participants in the acupuncture group that quit smoking after the four weeks of acupuncture was 40% with a p<0.02. There was an overall decrease in the amount of cigarettes smoked in the acupuncture group throughout the study with a p=0.03, measured with follow up from 3, 6, 12, and 18 months. This study lost power due to poor follow up which are assumed to be relapsed smokers.

Acupuncture and Smoking Cessation Studies

Author: Jason Paul Kauffman, DO

Introduction

“Overall there is not sufficient evidence to rule out an effect of acupuncture, acupressure and laser stimulation on smoking cessation. We should consider their possible mechanism of action in relation to justifying further research.” (White 2011) Studies exploring the possible mechanisms of action for acupuncture include: animal experiments, seeing the effects of withdrawal on smoking, immunological studies and acupuncture’s ability to relieve withdrawal symptoms in humans; modification of nicotine-induced locomotor activity and neuroactivity in the nucleus accumbens. Other studies suggest that acupuncture may modulate dopamine release via GABA mechanisms, serotonin release, or the release of dopamine directly. (White 2011) Studies regarding acupuncture have traditionally been of poor study design as there is much controversy over how to best set up a methodological study to evaluate the efficacy of acupuncture. Arguments abound regarding sham acupuncture control groups which pierce the body at sites that are considered by some to be inactive. These same inactive sites are considered by others to be active medicinal sites. Studies have been flawed by efficacy of practitioner, study size, practitioner/patient interaction time, decreasing power of study secondary to dropouts, etc. (White 2011) The methodology of acupuncture studies is an ever-evolving field.

That being said, the focus upon my research regarding Acupuncture and Smoking Cessation is in regards to the frequency of treatment and duration of treatments received for smoking cessation studies. Thus far, there is no conclusive evidence to recommend the use of acupuncture in smoking cessation.

My argument is that while the studies to date have not been good quality studies in many respects, their frequency and duration of treatment are wildly ineffective. I would like to focus on the overarching theme that the studies to date often do not describe the frequency or duration of acupuncture treatment or when described do not have a weak frequency or duration of treatment to truly test the efficacy of acupuncture in smoking cessation.

Results

While there are many flaws discussed regarding acupuncture studies and smoking cessation, I will reiterate that the specific study flaw regarding Acupuncture and smoking cessation that I am focusing upon is frequency of treatment and duration of treatment. By frequency of treatment, I am defining this as the number of treatments a patient receives in a week. By duration of treatment, I am commenting upon the number of weeks that patients undergo acupuncture treatments. One of the earlier meta-analyses considering this subject, G ter Riet, et al in 1990, compared efficacy of acupuncture in smoking, alcohol, and heroin addiction. This meta-analysis comprised 27 controlled studies and came to the conclusion that acupuncture was ineffective for treatment of addiction. There was no comment in this study regarding the frequency of treatment or duration of therapy. The meta-analysis acknowledged that many of the studies were of poor quality.

A well-designed single blind placebo controlled trial published by Nora Walle and Joanne Cough found in 1998 that 12.1% of smokers treated with electric stimulation auricular acupuncture stopped smoking at six month follow up. The study used a single 20 minute treatment with placement of ear seeds which the patients could leave in for as long as they desired. Average ear seed retention in the study subjects was 5 days. The follow up smoking cessation evaluation was at 6 months and was biochemically validated with urinary cotinine testing. The p value was: p<0.05 which is statistically insignificant.

Conclusions

If possible mechanisms of acupuncture being successful are indeed along various aforementioned potential neurotransmitter pathways, then, it seems reasonable to give the acupuncture trials an appropriate amount of frequency and duration to be effective.

My recommendation for a study design would include having eight weeks of acupuncture treatments. During the first week of smoking cessation have five treatments per week lasting for 45 minutes. For the following two weeks have four thirty minute treatments. Then, have three thirty minute treatments for the following five weeks.

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