

“Effects of Acupressure on Anxiety: A Systematic Review and Meta-Analysis”

Abstract:

Most everyone deals with anxiety in some form. Examples of this anxiety may come from traffic or public speaking. The National Alliance on Mental Illness states “intense fear and distress become overwhelming and prevent us from doing everyday activities, an anxiety disorder may be the cause”.¹ The aim of this case study is to review: “Acupuncture or Acupressure on *Yintang* (EX-HN 3) for Anxiety: A Preliminary Review”. This review contained 27 studies. Which researchers then completed a systematic review and meta-analysis evaluating the ability of acupressure to reduce anxiety. Of the studies used 8 had a lower overall risk of bias and 13 had some concerns for bias. Through meta-analysis, the researchers found that acupressure could alleviate anxiety. They also found that acupressure is more effective on in-patients or preoperative patients with finger massage. Patients with normal hemodynamic status and anxiety could use acupressure as a treatment to help reduce anxiety. Researchers worried

¹ “Anxiety Disorders.” *NAMI*, National Alliance on Mental Illness, <https://www.nami.org/About-Mental-Illness/Mental-Health-Conditions/Anxiety-Disorders>.

about inferencing because of the heterogeneity of the studies.

Introduction:

Many medical procedures and other stressful events can cause anxiety. “Anxiety was reported to occur in ~60% to 70% of adults before an operation. Studies have indicated that before surgery, 11% to 80% of adults experience anxiety.”^{2,3,4} Anxiety has been related to cardiac autonomic dysregulation. This can delay recovery and lead to longer hospital stays.⁵ Anxiety can be treated with pharmacological and non-pharmacological therapies. Pharmacological treatments include benzodiazepines or tricyclic antidepressants. These drugs are

² Su-Ru Chen, Wen-Hsuan Hou, Jung-Nien Lai, Joey S.W. Kwong, and Pi-Chu Lin. *Journal of Integrative and Complementary Medicine*. Jan 2022.25-35. <http://doi.org/10.1089/jicm.2020.0256>

³ Caumo W, Ferreira MBC. Perioperative anxiety: Psychobiology and effects in postoperative recovery. *Pain Clinic* 2003;15:87-101. Google Scholar

⁴ Bahrami T, Rejeh N, Heravi-Karimooi M, et al. Effect of aromatherapy massage on anxiety, depression, and physiologic parameters in older patients with the acute coronary syndrome: A randomized clinical trial. *Int J Nurs Pract* 2017;23. Google Scholar

⁵ Gonçalves KK, Silva JI, Gomes ET, Pinheiro LL, Figueiredo TR, Bezerra SM. Anxiety in the preoperative period of heart surgery. *Rev Bras Enferm*. 2016 Mar-Apr;69(2):397-403. English, Portuguese. doi: 10.1590/0034-7167.2016690225i. PMID: 27280578.

effective but have side effects.⁶ One nonpharmacological treatment is acupressure. Acupressure is a non-invasive treatment that has been used to treat patients' anxiety in cardiac surgery⁷, hospitals⁸, patients with cancer⁹, and patients with hemodialysis¹⁰. Acupressure uses pressure or massaging at specific acupoints to control symptoms. This study systematically reviews and meta-analyzes the effectiveness of acupuncture in treating anxiety.

Case Presentation:

Online databases were searched for studies relating to acupressure and anxiety. The two reviewers independently went through the data. Disagreements were resolved between reviewers data was extracted and reviewed. The *Cochrane Handbook for Systematic Review*

of Interventions was used as the criteria for bias.

The reviewers used a comprehensive Meta-Analysis to pool the study results. The researchers used a “random-effects meta-analysis to pool the study results”.¹¹ They determined risk ratios for their binary variables and standardized mean differences for the continuous data. They used 95% confidence intervals and two-tailed p-values to calculate every outcome. The statistics were evaluated and the statistical heterogeneity of each study's effects was measured by using I^2 statistics and a chi-squared test. There was considerable heterogeneity indicated by the $I^2 > 50\%$. A sensitivity analysis was completed. The researchers removed studies to reveal the overall effect size contribution of the study. The publications were assessed according to bias and regression tests were done using Begg's rank and Egger's regression tests. The researchers also did subgroup analyses stratifying the “study participants, measuring scale, type of comparison, acupoint location, number of acupoints, massage equipment used, methodological quality, a geographic area involved, and intervention duration.”¹²

⁶ Chen TR, Huang HC, Hsu JH, et al. Pharmacological and psychological interventions for generalized anxiety disorder in adults: A network meta-analysis. *J Psychiatr Res* 2019;118:73-83.

⁷ Aygin D, Sen S. Acupressure on anxiety and sleep quality after cardiac surgery: A randomized controlled trial. *J Perianesth Nurs* 2019;34:1222-1231.

⁸ Noll E, Shodhan S, Madariaga MC, et al. Randomized trial of acupressure to improve patient satisfaction and quality of recovery in hospitalized patients: Study protocol for a randomized controlled trial.

⁹ Beikmoradi A, Najafi F, Roshanaei G, et al. Acupressure and anxiety in cancer patients. *Iran Red Crescent Med J* 2015;17:e25919.

¹⁰ Hmwe NT, Subramanian P, Tan LP, Chong WK. The effects of acupressure on depression, anxiety and stress in patients with hemodialysis: A randomized controlled trial. *Int J Nurs Stud* 2015;52:509-518.

¹¹ “Effects of Acupressure on Anxiety: A ... - Liebertpub.com.” *Mary Ann Liebert Inc. Publishers, Journal of Integrative and Complementary Medicine* Vol. 28, No. 1, <https://liebertpub.com/doi/full/10.1089/jicm.2020.0256>.

¹² “Effects of Acupressure on Anxiety: A ... - Liebertpub.com.” *Mary Ann Liebert Inc. Publishers, Journal of Integrative and Complementary*

The meta-analysis showed that acupressure effectively reduced anxiety. Acupressure can be used to help relieve anxiety for those after an injury or disease. It is a non-invasive and simple method that relieves anxiety.

Conclusion:

In comparison with other meta-analyses this study features many more studies. Publishings between 2003 and 2020. Previous analyses were limited to English-only publishings. The limitations of this study include limitations on the studies used. These include variations of the health care professional, acupressure therapy used, duration of treatments, locations, and frequency of treatments. Researchers found it difficult to ascertain the effects of acupressure because of the disparate trials without the use of specific controls. In conclusion, the research method heterogeneity was high because of the 27 reports used. Although researchers did find that the data suggested acupressure can alleviate anxiety. The acupressure used on inpatients was more effective. Especially those where preoperative finger massage was applied. Researchers also found that acupressure used on individuals that have anxiety with stable hemodynamic status could be a promising treatment option.

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Case Study: Effects of Acupressure on Anxiety

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