

INPLASY PROTOCOL

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Corresponding author:
Weidong Shen

shenweidong_1018@163.com

Author Affiliation:
Shuguang Hospital of
Shanghai University of TCM

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Conflicts of interest:
The authors declare that there are no conflicts of interest.

INTRODUCTION

Review question / Objective: P: Patients with post-stroke depression I: Treatment intervention includes acupuncture, electroacupuncture. Control group includes placebo, sham acupuncture, antidepressants and conventional treatments. O: The primary outcome is

Acupuncture for post-stroke depression: A systematic review and meta-analysis

Liu, R¹; Zhang, K²; Cui, G³; Tong, Q⁴; Ma, W⁵; Shen, W⁶.

Review question / Objective: P: Patients with post-stroke depression I: Treatment intervention includes acupuncture, electroacupuncture. Control group includes placebo, sham acupuncture, antidepressants and conventional treatments. O: The primary outcome is HAMD scale, the secondary outcomes include the effective rate and adverse events. S: This review included only randomized controlled studies. **Condition being studied:** Acupuncture is highly popular in the treatment of post-stroke depression (PSD). Consequently, there are a number of studies reports the effectiveness of acupuncture for PSD, but strongly conclusions have not been achieved owing to wide variations in scopes, qualities, and outcomes.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 31 May 2020 and was last updated on 31 May 2020 (registration number INPLASY202050117).

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effectiveness of acupuncture for PSD, but strongly conclusions have not been achieved owing to wide variations in scopes, qualities, and outcomes.

METHODS

Search strategy: A comprehensive search of prominent medical and health science electronic databases: PubMed, Cochrane Library, Embase, China National Knowledge Infrastructure Database (CNKI), WANFANG DATA, Chinese Biomedical Literature Database (CBM) and Chongqing VIP (CQVIP) was undertaken till 19th April 2020 for acupuncture for PSD without any language restriction. The terminology were as follows for an exemplary database (PubMed): (“Depression[Mesh]” OR “stroke[Mesh]” OR “post stroke [Title/Abstract]” OR “post-stroke depression [Title/Abstract]” OR “PSD [Title/Abstract]”) AND (“Acupuncture[Mesh]” OR “Acupuncture Therapy[Mesh]” OR “Electroacupuncture [Title/Abstract]” OR “scalp needle [Title/Abstract]”) AND (“Meta-Analysis[Mesh]” OR “Meta-Analysis as Topic[Mesh]” OR “Meta analys* [Title/Abstract]” OR “Systematic review* [Title/Abstract]”). In addition, an additional search was performed to identify recently published RCTs (from January 1, 2015, to May 12, 2020) meeting inclusion criteria, using the databases and keywords described above.

Participant or population: This review includes post-stroke depression patients, no matter what reason caused stroke.

Intervention: Treatment intervention includes acupuncture, electroacupuncture regardless of needling techniques and stimulation methods. Control group includes placebo, sham acupuncture, antidepressants or conventional treatments.

Comparator: Our review includes three types of comparator: (1) acupuncture/ electroacupuncture vs. placebo/sham acupuncture; (2) acupuncture/ electroacupuncture vs. antidepressants; (3) acupuncture/ electroacupuncture +

conventional treatments vs. conventional treatments.

Study designs to be included: The study design is randomized controlled trial with or without blinding and no restriction on language and race.

Eligibility criteria: We abide by the Participants, Interventions, Comparisons, Outcomes and Study Design (PICOS) approach to established the inclusion criteria, which are as follows: 1) Patients included should be diagnosed as PSD, no restrictions on diagnostic criteria, gender, age, race, onset time and source of cases. 2) The interventions in the treatment group include acupuncture, electroacupuncture, regardless of needling techniques and stimulation methods. 3) The control group is treated with placebo, sham acupuncture, antidepressants or conventional treatments. Comparison type is one of these: 1) acupuncture/ electroacupuncture vs. placebo/sham acupuncture; 2) acupuncture/ electroacupuncture vs. antidepressants; 3) acupuncture/ electroacupuncture + conventional treatments vs. conventional treatments. 4) The included studies should include at least one of the following outcomes: the effective rate, curative rate, and the Hamilton depression. 5) The study type is RCTs about AT for PSD.

Information sources: We mainly contain the information from electronic databases, if not, we try to contact with the authors or trial registers or grey literature.

Main outcome(s): The main outcome is depression scale like HAMD scale or SDS scale.

Additional outcome(s): The additional outcomes include the effective rate and adverse events.

Data management: We use Noteexpress 3.2.0 software to read the titles and abstracts for a preliminary screening. When the titles and abstracts couldn't be definitively excluded, we downloaded the

full text and filtered it again until all RCTs are confirmed.

Quality assessment / Risk of bias analysis: Two researchers assess the methodological quality of the included reviews according to Cochrane handbook 5.1.0, show an overall rating as high, unclear, low risk. In addition, we assess the evidence quality of concerned outcomes according to GRADE system. We classify evidence quality as A (high), B (moderate), C (low), or D (very low).

Strategy of data synthesis: The Revman5.3 software is used to perform all statistical analyses. All outcomes are presented as continuous variables in this review. We calculate standardized mean differences with 95% confidence intervals (CI) for continuous variables. A χ^2 test is used to estimate the heterogeneity of MD. Significant heterogeneity is considered when $P > 50\%$ if a χ^2 test and random effect models are used to combine results. Otherwise, a fixed effect model is used instead.

Subgroup analysis: We conduct a subgroup analysis by the different types of scale versions or interventions.

Sensibility analysis: We apply a sensitivity analysis by combining the same models to various results to identify the source of heterogeneity and reliability of the various results.

Language: No language limits.

Country(ies) involved: Only China involved.

Keywords: Acupuncture, post-stroke depression, meta-analysis.

Contributions of each author:

Author 1 - Ran Liu - Ran Liu was responsible for the design and implementation of the study and drafted the manuscript writing.

Author 2 - Kun Zhang - Kun Zhang was in charge of collecting and extracting data and manuscript writing.

Author 3 - Guangwei Cui - Guangwei Cui was in charge of collecting and extracting data.

Author 4 - Qiuyu Tong - Qiuyu Tong provided statistical expertise.

Author 5 - Wen Ma - Wen Ma read, provided feedback and approved the final manuscript.

Author 6 - Weidong Shen - Weidong Shen was the corresponding author and responsible for all work of the review.