

INPLASY PROTOCOL

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None declared.

Scalp acupuncture for patients with aphasia after stroke: a protocol for systematic review and meta-analysis

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Review question / Objective: Is it benefited for aphasia after stroke from scalp acupuncture ?

Condition being studied: As one of the most important diseases endangering human life and health, stroke has the characteristics of high incidence, high disability rate and high fatality rate. Epidemiology suggests that up to 70% ~ 75% of stroke patients will have some degree of language dysfunction. The clinical manifestations are that patients' listening, speaking, reading, writing and computing abilities are affected to varying degrees. Aphasia is an important factor that prevents stroke patients from returning to society, re-employment and participating in social communication. Scalp acupuncture is a special acupuncture method in acupuncture treatment, it combines the meridian theory of acupuncture and moxibustion with the functional positioning area of cerebral cortex in modern brain science, it is widely used in clinical treatment of aphasia after stroke by acupuncture at specific areas on the. We aim to evaluate the efficacy and safety of scalp acupuncture for patients with aphasia after stroke through this systematic review and meta-analysis.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 February 2023 and was last updated on 20 February 2023 (registration number INPLASY202320085).

INTRODUCTION

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METHODS

Search strategy: The search terms are: ('Stroke' OR 'strokes' OR 'cerebral stroke' OR 'cerebrovascular accident' OR 'cerebrovascular accidents' OR 'cerebrovascular apoplexy' OR 'apoplexy' OR 'cerebrovascular' OR 'cerebrovascular stroke' OR 'cerebrovascular strokes' OR 'CVA' OR 'CVAs') AND ('aphasia' OR 'logasthenia' OR 'logasthenias' OR 'logagnosia' OR 'logagnosias' OR 'logamnesia' OR 'logamnesias' OR 'alogia' OR 'alogias' OR 'anepia' OR 'aphasia' OR 'ageusic') AND ('scalp acupuncture therapy' OR 'scalp acupuncture' OR 'scalp electroacupuncture' OR 'cluster needling of scalp point therapy'). Chinese translations of these terms will be applied to Chinese database. Initially, to increase the chance of identifying all relevant papers, the search will not be limited to any specific criteria. Articles published in English and Chinese will be considered. The reference list of the identified papers will also be searched. The identified articles will be imported into the EndNote reference management software. This software will help to identify any duplicates. The titles and abstracts will be screened. We will retrieve the full text of the relevant papers for further assessment.

Participant or population: Patients with aphasia after stroke.

Intervention: Studies were included if scalp acupuncture was used as the sole intervention.

Comparator: A waiting list, placebo, no intervention, educational classes, healthcare routine, conventional therapy or other behavioral as controls was included

Study designs to be included: The type of study was clinical randomized controlled trial (RCT).

Eligibility criteria: Eligibility criteria were detailed using the participants, Interventions, Controls, Outcomes, and Studies (PICOS) framework.

Information sources: We will perform medical retrieval in the following database: CNKI, Wanfang, VIP, CBM, Web of Science, PubMed, EMBASE, Medline and Cochrane library.

Main outcome(s): Main outcome is Functional communication ability, Functional communication ability was assessed using the following scales: Chinese Functional Language Communication ability Test (CFCP) or Chinese Aphasia Test (ABC) or Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center or the Western Aphasia Suite (WAB).

Additional outcome(s): (1)The severity of aphasia, assessed using the following scales: Boston Diagnostic Aphasia Test (BDAE) or the Western Aphasia Suite (WAB). (2) Listen and understand, assessed using the following scales: Chinese Aphasia Test (ABC) or Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center or Chinese aphasia test (BAT). (3) repeat, assessed using the following scales: Chinese Aphasia Test (ABC) or Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center or Boston Diagnostic Aphasia Test (BDAE) or the Western Aphasia Suite

(WAB).(4)name,assessed using the following scales:Chinese Aphasia Test (ABC) or Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center or the Western Aphasia Suite (WAB). (5)read,assessed using the following scales: Chinese Aphasia Test (ABC) or Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center or Boston Diagnostic Aphasia Test (BDAE) or Chinese aphasia test (BAT).

Data management: Using two-person excerpt method, two researchers will independently read the titles and abstracts of the literatures examined according to the inclusion and exclusion criteria for preliminary screening, and exclud the literatures that obviously don't meet the inclusion criteria, and then read the full text of the literatures that meet the inclusion criteria. Finally, the results of inclusion and exclusion will be cross-checked. If it has disagreement, a third researcher needs to discuss to determine. The data of the input documents is extracted by the original researchers, the contents includes: ① General information: title, author, publication date, etc.; ② Study characteristics: basic information of the subjects (number of cases, age, sex and course of disease), intervention and control measures, training time; ③ Outcome index.

Quality assessment / Risk of bias analysis: Two of our researchers (Juhong Cai and Peilin Deng) will respectively use the bias risk tool (Cochrane Handbook for Systematic Reviews of Interventions 5.3) provided by the Cochrane Collaboration to evaluate the quality of the included literature. Seven domains should be evaluated, including random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting of positive and/or negative findings, and other sources of bias. Among them, the "other sources of bias" included the following:

(1)whether the experimental design is practical;

(2)whether the baseline data is comparable; (3)whether there is a clear conflict of interest leads to an increase in bias; (4)whether there are clear inclusion and exclusion criteria.

Finally, we will make "Low risk," "High risk," and "unclear risk" judgments for each research literature, covering study limitations, inconsistencies, indirectness, imprecision, and publication biases. Then, a "risk of deviation" summary and a chart will be generated to show the results. As with the previous process. If the 2 researchers differ in determining the bias, the differences are resolved through discussion. If there is still no consensus after discussion, we will seek advice from a third part (Shaojun Zhang and Hai Yang). Only literature with a score greater than 5 will be included.

Strategy of data synthesis: Quantitative analysis was performed by meta-analysis using Cochrane collaboration software RevMan5.3.The continuous variables are described using mean difference and 95% confidence interval between groups, whereas dichotomous data were presented as relative risk with 95% confidence interval. During the heterogeneity test, the Chi-squared test (the χ^2 test) was performed first, based on its finding, I^2 statistic are applied to assess heterogeneity. The fixed-effect model is suitable to estimate the typical effect for studies when low heterogeneity ($I^2 < 0.10$), whereas when substantial unexplained heterogeneity ($I^2 \geq 50\%$ and/or $P \leq 0.10$), the random-effects model is applied to assess the average distribution for studies.

Subgroup analysis: If significant levels of heterogeneity, or any incongruities, are detected within the analysis, subgroup analysis will also be employed to explore the possible causes of heterogeneity.Subgroup analysis will be based on possible factors that may lead to heterogeneity, such as intervention (different types of scalp acupuncture exercise), control (A waiting list, health education, self-help program, healthcare routine, placebo or no treatment, etc), ages

(middle-age, old), the quality of study, treatment duration, and so on.

Sensitivity analysis: We will conduct a sensitivity analysis to assess the robustness and reliability of the meta-analysis by eliminating low quality studies, if sufficient RCTs are available for our research. Besides, this will be achieved by assessing the impact of the sample size, high risk of bias, missing data, and selected models.

Language restriction: We will include reports of randomized controlled trials (RCTs) conducted in English or Chinese.

Country(ies) involved: China.

Keywords: scalp acupuncture; stroke; aphasia, systematic review, metaanalysis.

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