

INPLASY PROTOCOL

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None declared.

Scalp acupuncture for aphasia after stroke: a 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: Aphasia is a common clinical manifestation after stroke, and it has been reported that nearly one-third of stroke patients have speech dysfunction. not only Aphasia will affect the functional recovery, but also cause serious psychological burden. Scalp acupuncture is a method of acupuncture treatment, which combines the theory of Zang-fu meridians in traditional Chinese medicine and the functional positioning of cerebral anatomy cortex. Some clinical studies have found that scalp acupuncture can improve aphasia symptoms of stroke patients, but there is still a lack of evidence-based medical evidence for its effectiveness and safety. Therefore, in order to comprehensively and systematically evaluate the efficacy of scalp acupuncture for aphasia after stroke, this article will perform a rigorous meta-analysis of the relevant clinical randomized controlled trials (RCT), assess objective, scientific, evidence-based medical evidence, to provide references for clinical treatment.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 November 2022 and was last updated on 14 November 2022 (registration number INPLASY2022110065).

INTRODUCTION

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functional positioning of cerebral anatomy cortex. Some clinical studies have found that scalp acupuncture can improve aphasia symptoms of stroke patients, but there is still a lack of evidence-based medical evidence for its effectiveness and safety. Therefore, in order to comprehensively and systematically evaluate the efficacy of scalp acupuncture for aphasia after stroke, this article will perform a rigorous meta-analysis of the relevant clinical randomized controlled trials (RCT), assess objective, scientific, evidence-based medical evidence, to provide references for clinical treatment.

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, and 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: PubMed, EMBASE, Cochrane Library, Web of Science, National Knowledge Infrastructure (CNKI), Wanfang Data Information Site, Chinese BioMedical Database(CBM), Chinese Science and Technique Journals Database (VIP).

Main outcome(s): Functional communication ability: assessed using the following scales: ① Chinese Functional Language Communication ability Test (CFCLP); ② Chinese Aphasia Test (ABC); ③ Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center; ④ the Western Aphasia Suite (WAB).

Additional outcome(s): (1) The severity of aphasia: assessed using the following scales: ① Boston Diagnostic Aphasia Test (BDAE); ② the Western Aphasia Suite (WAB).

(2) Listen and understand: assessed using the following scales: ① Chinese Aphasia Test (ABC); ② Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center; ③ Chinese aphasia test (BAT).

(3) repeat: assessed using the following scales: ① Chinese Aphasia Test

(ABC);②Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center; ③Boston Diagnostic Aphasia Test (BDAE);④the Western Aphasia Suite (WAB).
 (4) name: assessed using the following scales:①Chinese Aphasia Test (ABC);②Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center; ③the Western Aphasia Suite (WAB).
 (5)read: assessed using the following scales: ①Chinese Aphasia Test (ABC);②Chinese Standard Aphasia Test (CRRCAE) of China Rehabilitation Research Center; ③Boston Diagnostic Aphasia Test (BDAE);④Chinese 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 exclude 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 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. 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. And another two authors (Jing Zhang and zhongqiu Tang) will assess the quality of the evidence using the GRADE framework, covering study limitations, inconsistencies, indirectness, imprecision and publication biases.

Strategy of data synthesis: We will perform the Cochrane's Review Manager software (V.5.3) to analyse statistics. It is used 95% confidence intervals (CIs) to the mean difference (MD) or standardized mean difference (SMD) to analyze continuous outcomes. About the assess to heterogeneity and to choose the effect model will take I^2 statistic and χ^2 -test adopting. When I^2 statistic $>50\%$ and Pvalue less than 0.1 that we consider heterogeneity exists in research at the same time a random-effects model is selected. On the contrary, we will select the fixed-effects model.

Subgroup analysis: Subgroup analysis will be carried out if significant levels of heterogeneity, or any incongruities, are detected within the analysis.

Sensitivity analysis: Sensitivity analysis may be performed by removing low quality studies, or trials with a short-term followup.

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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