INPLASY PROTOCOL

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None declared.

Effects of Acupuncture-Related Therapies in the Rehabilitation of Patients with Post-Stroke Aphasia—A Network Meta-Analysis of Randomized Controlled Trials

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Review question / Objective: **The purpose of this study was to evaluate the rehabilitation effects of four commonly interventions (BA: Body Acupuncture, SA: Scalp Acupuncture, TA: Tongue Acupuncture, SLT: Speech and Language Training) used singly or in combination with language function in PSA patients.**
Eligibility criteria: **(1) Only randomized controlled trials (RCTs) were included in this study. (2) Participants enrolled in the study were diagnosed using an aphasia function scale and neuroimaging techniques, CT or MRI, with no restrictions on type, gender, or age. (3) Three kinds of Acupuncture (Body Acupuncture, Scalp acupuncture, Tongue Acupuncture) alone or combined with speech rehabilitation training were employed as an intervention method. (4) The control group received either language rehabilitation or a kind of acupuncture selected by inclusion criteria. (5) Studies were published in English or Chinese. (6) The standardized Aphasia Battery of Chinese (ABC scale) was used to reflect whether acupuncture improves language function in PSA patients objectively. ABC scale is the Chinese standardized adaptation of the Western Aphasia Battery according to the characteristics of Chinese culture and educational attainment[31-32]. The total effective rate was the primary indicator. With reference to the Guiding Fundamental for Clin.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 September 2022 and was last updated on 06 September 2022 (registration number INPLASY202290024).

INTRODUCTION

Review question / Objective: **The purpose of this study was to evaluate the rehabilitation effects of four commonly interventions (BA: Body Acupuncture, SA: Scalp Acupuncture, TA: Tongue Acupuncture, SLT: Speech and Language**

Training) used singly or in combination with language function in PSA patients.

Condition being studied: Today, stroke is the third most common cause of death and the leading cause of permanent adult disability in the world. It is estimated that there are about 13 million new stroke cases worldwide each year, with over 5.5 million people suffering from strokes in China. Approximately 21%-38% of stroke survivors suffer post-stroke aphasia (PSA). PSA, a common language disorder after stroke, is characterized by impairment of partial or all language functions, including oral expression, comprehension, reading and writing. It is mainly caused by strokes in the left hemisphere and severe trauma or neurodegenerative illness affecting the brain's language network pathways, primarily Broca and Wernicke areas. Speech is a crucial instrument for thinking and communicating in human social activities. Aphasia not only impairs the ability of patients to participate in social activities and career development and reduces their quality of life but also causes various psychological symptoms such as loneliness, anxiety, and depression, which impose a substantial emotional and financial burden on families and society. Current treatments for PSA include speech language training, medication, Virtual Reality (VR), and Transcranial direct current stimulation (tDCS)[5]. Despite all the benefits of clinical therapies, these approaches are still faced with challenges and limitations to their clinical utility. Therefore, exploring a complementary and alternative method to treat PSA is urgently necessary.

METHODS

Participant or population: Post-stroke aphasia patients.

Intervention: BA: Body Acupuncture, SA: Scalp Acupuncture, TA: Tongue Acupuncture, SLT: Speech and Language Training.

Comparator: Speech and Language training or one of three acupunctures singly used.

Study designs to be included: Only randomized controlled trials (RCTs) were included in this study.

Eligibility criteria: (1) Only randomized controlled trials (RCTs) were included in this study. (2) Participants enrolled in the study were diagnosed using an aphasia function scale and neuroimaging techniques, CT or MRI, with no restrictions on type, gender, or age. (3) Three kinds of Acupuncture (Body Acupuncture, Scalp acupuncture, Tongue Acupuncture) alone or combined with speech rehabilitation training were employed as an intervention method. (4) The control group received either language rehabilitation or a kind of acupuncture selected by inclusion criteria. (5) Studies were published in English or Chinese. (6) The standardized Aphasia Battery of Chinese (ABC scale) was used to reflect whether acupuncture improves language function in PSA patients objectively. ABC scale is the Chinese standardized adaptation of the Western Aphasia Battery according to the characteristics of Chinese culture and educational attainment[31-32]. The total effective rate was the primary indicator. With reference to the Guiding Fundamental for Clin.

Information sources: We systematically searched PubMed, EMBASE, Cochrane Library, Ovid, Web of Science, CNKI, VIP, and Wanfang from inception to 04 April 2022. Only randomized controlled trials met the eligibility criteria were included.

Main outcome(s): Total clinical effective rate.

Additional outcome(s): The standardized Aphasia Battery of Chinese (ABC scale) was used to reflect whether acupuncture improves language function.

Quality assessment / Risk of bias analysis: The risk of bias of studies included was

assessed using the Cochrane risk of bias tool.

Strategy of data synthesis: To take into account differences between studies, we synthesized data using a random-effects mode. We performed a random-effects network meta-analysis within a frequentist framework using Stata/SE (version 15.0), and the results are presented with the mvmeta package.

Subgroup analysis: Our study type was network meta-analysis, and no further subgroup analysis was performed.

Sensitivity analysis: Our study type was network meta-analysis, and no further sensitivity analysis was performed.

Language restriction: English or Chinese.

Country(ies) involved: China.

Keywords: Acupuncture; post-stroke aphasia; randomized controlled trials; network meta-analysis.

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