

INPLASY

The Impact of Modern Rehabilitation Combined with Traditional Acupuncture on Pain, Upper Limb Motor Function, and Activities of Daily Living in Patients with Post-stroke Shoulder Pain: A Network Meta-analysis

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510062

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 January 2025 and was last updated on 17 January 2025.

INTRODUCTION

Review question / Objective Post-stroke shoulder pain is a common complication following stroke. In recent years, rehabilitation combined with traditional Chinese acupuncture therapy has attracted increasing attention. However, there are various acupuncture therapies available. The purpose of this study is to evaluate the efficacy of rehabilitation combined with different traditional acupuncture methods in treating shoulder pain after stroke. P: Patients with shoulder pain after stroke; I: Rehabilitation training combined with traditional acupuncture methods (acupuncture, moxibustion, acupotomy, warm-needle, fire needle, etc.); C: Rehabilitation training alone or rehabilitation training combined with acupuncture methods different from those in the treatment group; O: Visual Analogue Scale (VAS), Fugl-Meyer Assessment Upper Extremity Scale (FMA-UE), Barthel Index (BI); S: Randomized Controlled Trials (RCTs).

Condition being studied Post-stroke shoulder pain is a common complication following stroke. In recent years, rehabilitation combined with traditional Chinese acupuncture therapy has attracted increasing attention. However, there are various acupuncture therapies available. The purpose of this study is to evaluate the efficacy of rehabilitation combined with different traditional acupuncture methods in treating shoulder pain after stroke.

METHODS

Search strategy

Searches

1 ("Hemiplegia"[MeSH Terms] OR "Stroke"[MeSH Terms] OR ("Stroke*" [Title/Abstract] OR "Cerebrovascular accident*" [Title/Abstract] OR "Cerebral stroke*" [Title/Abstract] OR "Cerebrovascular apoplexy" [Title/Abstract] OR "Brain vascular accident*" [Title/Abstract] OR "Cerebrovascular stroke*" [Title/Abstract] OR

"Apoplexy"[Title/Abstract] OR "CVA"[Title/Abstract] OR "Acute cerebrovascular accident"[Title/Abstract] OR "Intracerebral hemorrhage"[Title/Abstract] OR "Hemiplegia"[Title/Abstract] OR "Hemiparesis"[Title/Abstract]) AND ("Shoulder Pain"[MeSH Terms] OR ("Shoulder pain"[Title/Abstract] OR "Shoulder"[Title/Abstract] OR "Pain"[Title/Abstract]))

2 (("Acupuncture Therapy"[Mesh]) OR "Moxibustion"[Mesh]) OR (((((((Acupuncture Therapy[Title/Abstract]) OR (Acupuncture[Title/Abstract])) OR (Acupuncture Treatment*[Title/Abstract])) OR (Acupotomy[Title/Abstract])) OR (Warm-needling acupuncture[Title/Abstract])) OR (Fire Needle[Title/Abstract])) OR (Moxibustion[Title/Abstract])) OR (Sham acupuncture[Title/Abstract]))

3 #1 AND #2

4 (("Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Network Meta-Analysis"[Mesh] OR ("Review" [Publication Type] OR "Review Literature as Topic"[Mesh])) OR ((Meta Analysis[Title/Abstract] OR (Review[Title/Abstract]))

5 #3 NOT #4

6 (((((Randomized Controlled Trial*[Title/Abstract]) OR (Controlled Clinical Trial*[Title/Abstract])) OR (Random*[Title/Abstract])) OR (trail*[Title/Abstract])) OR (RCT[Title/Abstract])) OR (((("Randomized Controlled Trial" [Publication Type] OR "Randomized Controlled Trials as Topic"[Mesh] OR ("Controlled Clinical Trial" [Publication Type] OR "Controlled Clinical Trials as Topic"[Mesh])) OR "Random Allocation"[Mesh]) OR ("Clinical Trial" [Publication Type] OR "Clinical Trials as Topic"[Mesh]))

7 #5 AND #6.

Participant or population Patients with shoulder pain after stroke.

Intervention Rehabilitation training combined with traditional acupuncture methods (acupuncture, moxibustion, acupotomy, warm-needle, fire needle, etc.)

Comparator Rehabilitation training alone or rehabilitation training combined with acupuncture methods different from those in the treatment group.

Study designs to be included RCT.

Eligibility criteria This study includes Chinese and English Randomized Controlled Trials (RCTs): (1) Patients diagnosed with Post-Stroke Shoulder Pain (PSSP), with no restrictions on age, gender, disease duration, or stroke type; (2) ①The control

group receives Rehabilitation Training (RT) or RT combined with Sham acupuncture (SAP), and the observation group receives RT combined with one traditional acupuncture method, including Acupuncture (AP), Moxibustion (Mox), Acupotomy, Warm-needling acupuncture (WNA), Fire Needle (FN), etc., on this basis; ②The control group receives RT combined with one traditional acupuncture method, and the observation group receives another traditional acupuncture method combined with RT or adds one more traditional acupuncture method on the basis of the control group; (3) The outcome measures of the study are the Visual Analogue Scale (VAS), the upper extremity part of the Fugl-Meyer Assessment (Fugl-Meyer Assessment Upper Extremity Scale, FMA-UE), and the Barthel Index (BI) in Activities of Daily Living (ADL). Studies will be excluded if they meet any of the following conditions: (1) Shoulder pain not caused by stroke; (2) The intervention methods of the observation group and the control group do not include RT; (3) The control group receives RT, and the observation group combines two or more acupuncture methods on the basis of RT; (4) Intervention methods other than RT and traditional acupuncture methods are used to treat PSSP, such as analgesic drugs, transcutaneous electrical stimulation, intra-articular steroid injection, botulinum toxin injection, nerve block, etc.; (5) Non-traditional acupuncture methods are used for intervention, such as electroacupuncture, internal heat needle, embedding thread, acupoint injection, etc.; (6) Studies that are duplicate publications; (7) Literature whose full text and required data cannot be obtained.

Information sources The following four English databases were searched: PubMed, Web of Science, EMBASE, and Cochrane Central Register of Controlled Trials. Additionally, four Chinese databases were searched: China National Knowledge Infrastructure (CNKI), Wanfang Data Knowledge Service Platform (Wanfang), VIP Chinese Journal Service Platform (VIP), and China Biology Medicine disc (SinoMed, CBM). The search time spanned from the inception of each database to November 1, 2024.

Main outcome(s) The Visual Analogue Scale (VAS); the upper extremity part of the Fugl-Meyer Assessment (Fugl-Meyer Assessment Upper Extremity Scale, FMA-UE), and the Barthel Index (BI).

Data management Version 2 of the Cochrane risk-of-bias tool for randomized trials (RoB 2).

Quality assessment / Risk of bias analysis

Version 2 of the Cochrane risk-of-bias tool for randomized trials (RoB 2).

Strategy of data synthesis The frequency framework model was adopted, and Stata 18 software was used to conduct a network meta-analysis and draw a network diagram. If a closed loop exists, a global inconsistency test is performed on the data. The Node-Splitting Method (NSM) is used for local inconsistency testing. If $P > 0.05$, it indicates that the consistency between direct and indirect comparisons is good, and a consistency model can be used for analysis. If $P < 0.05$, it suggests that the inconsistency model is significant and a consistency model analysis cannot be conducted. Instead, traditional meta-analysis is used for pairwise comparisons. Through analysis using a consistency model, the Surface Under the Cumulative Ranking curve (SUCRA) and a league table are drawn to determine the best treatment option.

Subgroup analysis None.

Sensitivity analysis If the combined results of the remaining studies show little difference after deleting any one of them, it means that the sensitivity analysis has been passed.

Country(ies) involved China - Guangxi University of Chinese Medicine.

Keywords Post-Stroke Shoulder Pain, Rehabilitation Training, Traditional Acupuncture Therapy, Network Meta-analysis.

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