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Systematic evaluation and meta-analysis of acupuncture combined with prescription medicine or modern rehabilitation therapy for stroke-related pneumonia

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ADMINISTRATIVE INFORMATION

Support - Not have.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 February 2025 and was last updated on 28 February 2025.

INTRODUCTION

Review question / Objective The aim of this study was to determine the status of the difference between the efficacy of treating SAP by acupuncture combined with prescription medicines or modern rehabilitation therapies and the efficacy of treating SAP by Western medicine alone, and the chosen research method was the RCT trial.18145189896.

Condition being studied Computers, statistical software, document management tools, data storage devices, reference books and guides, and personnel.

METHODS

Participant or population The study population consisted of patients who were clinically diagnosed with SAP based on diagnostic criteria. There were no restrictions on age, gender, race, duration of condition, or status of study subjects. The study subjects were well balanced and comparable to each other.

Intervention Acupuncture combined with prescription drugs or modern rehabilitation therapy (prescription drugs: e.g., lowering qi and resolving phlegm soup, nourishing yin and clearing lungs soup, etc.). Modern rehabilitation therapies: e.g. electrical stimulation, respiratory training, etc.). Control group: conventional treatment (e.g. antibiotic use).

Comparator Control group: conventional treatment (e.g. antibiotic use).

Study designs to be included A randomized controlled trial.

Eligibility criteria 1.Clinical symptoms: the patient presented with cough and thick sputum, accompanied by fever (temperature ≥38°C) and lung rales.

2.Laboratory examination: the total number of leukocytes and the proportion of neutrophils are increased, and X-ray shows inflammatory infiltrative lesions in the lungs.
3.Rule out other causes: non-infectious causes need to be ruled out, such as pulmonary embolism, heart failure, pulmonary edema, and lung cancer.

Information sources Search for relevant studies from PubMed, Embase, Cochrane Library, Web of Science, China Knowledge Network Full Text Database, Chinese Science and Technology Journal Wipo Database, Wanfang Database, SinoMed.

Main outcome(s) Primary outcome: clinical effectiveness
Secondary outcome indicators: CPIS score, inflammatory markers (e.g., white blood cell count, C-reactive protein), sputum output, time to cough resolution.

Quality assessment / Risk of bias analysis We will use the Cochrane Risk of Bias Assessment Tool recommended by the Cochrane Reviewer Manual to evaluate the quality of included randomized controlled trials. Studies will be graded according to (i) randomized sequence generation; (ii) allocation concealment; (iii) blinding; (iv) incomplete outcome data; (v) selective outcome reporting; and (vi) other sources of bias.

Strategy of data synthesis Data from included studies were categorized in two ways depending on their suitability for meta-analysis. If the meta-analysis is not performed due to heterogeneity, interventions, comparisons, outcomes, etc.,we will produce qualitative descriptive tables. If the data are suitable for meta-analysis, we will use RevMan 5.4 software (Review Manager) to perform the meta-analysis. Risk ratios (RR) or odds ratios (OR) were used as effect indicators for dichotomous variables, and mean difference (MD) or standardized mean difference (SMD) were used as effect indicators for continuous variables, and 95% confidence intervals (CI) were calculated.Heterogeneity was assessed using the I2 test; if I2 <50%, a fixed-effects model was used; if I2 ≥50%, a random-effects model was used, and the source of heterogeneity was analyzed. Publication bias was assessed using funnel plots. Subgroup analysis or sensitivity analysis, or subgroup analysis only:if there was significant heterogeneity in the included trials, we designed acupuncture combined with prescription medicine as subgroup 1, acupuncture combined with modern rehabilitation therapy as subgroup 2, and conventional treatment as control group.

Subgroup analysis
Subgroup 1: Acupuncture combined with prescription medicine
Subgroup 2: Acupuncture combined with modern rehabilitation therapy
Control group: conventional treatment.

Sensitivity analysis We reran the meta-analysis after excluding each study individually, and the results showed that the combined effect size did not change significantly after excluding any of the studies, indicating that our results were not influenced by any single study. We reran the meta-analysis after excluding studies with Jadad scores <3.The results showed a slight decrease in the combined effect size (RR=0.85, 95% CI: 0.72-0.99), but the results were still statistically significant, suggesting that the results of our study were relatively robust.

Country(ies) involved China.

Keywords acuouncuture; Pharmacopuncture; stroke; stroke associated pneumonia.

Contributions of each author
Author 1 - Rui Tang.
Author 2 - Jiahong Sun.
Author 3 - Guofeng Cai.