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TCM-based combined therapy for post-stroke limb motor recovery: a systematic review and meta-analysis of buyang huanwu decoction with acupuncture

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Data analysis.

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 17 June 2026 and was last updated on 17 June 2026.

INTRODUCTION

Review question / Objective This systematic review will evaluate whether Buyang Huanwu Decoction combined with acupuncture outperforms monotherapy for post-stroke limb recovery, based on RCTs.

Condition being studied Stroke, mainly caused by ischemia or hemorrhage, is the second leading cause of death and third leading cause of disability worldwide. Up to 80% of survivors suffer persistent motor impairment, which is the primary cause of post-stroke disability, triggering a cascade of secondary consequences including increased fall risk, loss of independence, and higher readmission rates, all of which collectively diminish quality of life.

METHODS

Participant or population Stroke patients with limb dysfunction.

Intervention Buyang Huanwu Decoction (including modified or added-herb variants; modified defined as removing at most one herb) combined with acupuncture (manual, electro, or special methods such as abdominal or scalp acupuncture).

Comparator Monotherapy with either Buyang Huanwu Decoction or acupuncture alone. Both groups also received conventional treatment (blood pressure, glucose, and lipid control, microcirculation improvement, and other rehabilitation therapies).

Study designs to be included RCT.

Eligibility criteria Participants met stroke diagnostic criteria, all confirmed by head CT or MRI.

Information sources CNKI, WanFang, VIP Chinese Journals Database, SinoMed, PubMed, EMBASE, Cochrane Library, and Web of Science.

Main outcome(s) The change scores (pre- and post-treatment) of Fugl-Meyer Assessment (FMA) as the main outcome measure.

Additional outcome(s) The change scores (pre- and post-treatment) of the National Institute of Health Stroke Scale (NIHSS), Barthel Index (BI), and Berg Balance Scale (BBS) as secondary outcome measures.

Quality assessment / Risk of bias analysis Cochrane Risk of Bias 2 (RoB-2) tool for assessing risk of bias in randomized trials.

Strategy of data synthesis Meta-analysis was performed using RevMan 5.4. Heterogeneity was assessed with the χ^2 test (α=0.1) and I^2; a fixed-effect model was used if I^2=0, otherwise a random-effects model was applied. Effect sizes were expressed as mean difference (MD) or standardized mean difference (SMD) with 95% confidence intervals (CI), and results were presented as forest plots.

Subgroup analysis For results with substantial heterogeneity, subgroup analyses were conducted by disease duration (6 months) and treatment duration (≤4 weeks, 4–6 weeks, 12 weeks).

Sensitivity analysis Sensitivity analysis was performed using Stata 19.0 with a leave-one-out approach to verify the robustness of the pooled effect size.

Country(ies) involved Shanghai, China.

Keywords Buyang Huanwu Decoction, acupuncture, stroke, combined therapy, limb motor dysfunction, meta-analysis.

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