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INPLASY

Acupuncture and related therapies as adjuncts to anti-dementia drugs for Alzheimer's disease: retrospective protocol record for a systematic review and meta-analysis

INPLASY2026110089

doi: 10.37766/inplasy2026.11.0089

Received: 23 November 2026

Published: 23 November 2026

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ADMINISTRATIVE INFORMATION

Support - No support.

Review stage at the time of initial registration - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2026110089

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 November 2026 and was last updated on 23 November 2026.

INTRODUCTION

Review question / Objective Among patients with Alzheimer's disease or senile dementia of the Alzheimer type, what are the cognitive, daily-functioning, behavioural and safety outcomes of adding acupuncture or a related procedure to a single anti-dementia drug, compared with the identical drug regimen?

Rationale Existing reviews have considered combinations with donepezil or a broader range of acupuncture comparisons. This review focuses on matched single-drug regimens and distinguishes drug-alone controls from same-drug sham controls. Related reports were identified to avoid counting overlapping outcome data more than once.

Condition being studied Alzheimer's disease or senile dementia of the Alzheimer type.

METHODS

Search strategy Search terms covered Alzheimer's disease or dementia, acupuncture and related procedures, anti-dementia drugs, and randomized trials. The Web of Science and Scopus search exports are dated 27 June 2026. Supplementary Table S1 of the manuscript gives the database-specific search strategies.

Participant or population Patients diagnosed with Alzheimer's disease or senile dementia of the Alzheimer type under accepted diagnostic criteria.

Intervention Manual, electro-, scalp, warm or fire needling, moxibustion, or acupoint catgut embedding alongside one anti-dementia drug at a therapeutic dose.

Comparator The identical anti-dementia drug at the same dose, with or without sham acupuncture. Drug-alone and same-drug sham-controlled comparisons were considered separately.

Study designs to be included Parallel-group randomized controlled trials.

Eligibility criteria The primary syntheses required extractable group means and corresponding standard deviations for at least one cognitive outcome. Studies enrolling other dementia populations or using two or more anti-dementia drugs or a non-acupuncture traditional Chinese medicine therapy in the experimental regimen were excluded. Companion reports from eligible trials could document trial identity or provide additional outcomes. Overlapping outcome data were counted only once in a given synthesis.

Information sources PubMed, Embase, Web of Science Core Collection, Scopus, CNKI and the Chongqing VIP Database were searched from inception through June 2026. Reference lists of included studies and relevant reviews were hand-searched.

Main outcome(s) The Alzheimer's Disease Assessment Scale–Cognitive Subscale (ADAS-Cog) and the Mini-Mental State Examination (MMSE) were the main cognitive outcomes, assessed at treatment completion and reported in parallel. The primary ADAS-Cog synthesis used Hedges g. The MMSE synthesis used mean differences.

Additional outcome(s) Additional outcomes were standard MoCA, MoCA-B, activities of daily living, the reported NPI score, study-defined response and reported adverse reactions. Standard MoCA and MoCA-B were analyzed separately. Response and adverse reactions were summarized without pooling because definitions and ascertainment differed across studies.

Data management Two reviewers independently screened titles and abstracts and examined potentially eligible full texts. Disagreements were resolved by discussion. The same reviewers extracted data using a standardized form. Trial registration, recruitment details and sample characteristics were used to link related reports. Each primary synthesis used one outcome dataset per trial family. Alternative reports were examined in sensitivity analyses when participant overlap was uncertain.

Quality assessment / Risk of bias analysis The review used the Cochrane risk-of-bias tool (RoB 1). Outcome-level evidence certainty was assessed with GRADE during revision.

Strategy of data synthesis Random-effects synthesis used restricted maximum likelihood and Hartung–Knapp confidence intervals. Prediction intervals were reported where applicable. Analyses used treatment-completion means and their corresponding standard deviations. MMSE and standard MoCA used mean differences, and ADAS-Cog and daily functioning used Hedges g. Score direction was harmonized where needed. The primary pooled comparisons used drug-alone controls. The same-drug sham trial was discussed separately given the distinct comparator and its reporting of adjusted changes without the corresponding arm-level endpoint inputs.

Subgroup analysis Exploratory analyses examined treatment duration, study-mean baseline MMSE and daily-functioning instrument groups. Three separate exploratory univariable MMSE meta-regressions considered study-mean baseline MMSE, treatment duration and total sample size.

Sensitivity analysis Sensitivity analyses examined alternative reports within a potentially overlapping trial family, ADAS-Cog scoring assumptions, alternative handling of a discrepant reported outcome denominator, exclusion of influential studies and restriction to donepezil trials.

Language restriction English and Chinese.

Country(ies) involved China.

Other relevant information Prospective registration was not part of the initial plan for this review. The literature search, study selection, data extraction and original quantitative analyses were completed before the manuscript was first submitted on 21 July 2026. This retrospective record was prepared during peer review to document the methods used and the changes made after the original results were available.

During revision, we reassessed trial eligibility and overlap between reports, reported ADAS-Cog and MMSE in parallel, used standardized mean differences in the primary ADAS-Cog synthesis, added outcome-specific GRADE assessments and retained a limited set of exploratory moderator analyses.

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Keywords Alzheimer's disease; acupuncture; adjunctive therapy; systematic review; meta-analysis.

Dissemination plans The review was submitted to a peer-reviewed journal and is currently under review.

Contributions of each author

Author 1 - Jifang Yu - Conceptualization, methodology, literature search, study selection, data extraction, formal analysis, and initial draft.
Author 2 - Wenhui Qiu - Study selection, data extraction, risk-of-bias assessment, and manuscript review and editing.
Author 3 - Xiaoyi Wang - Data curation, validation, formal analysis, and manuscript review and editing.
Author 4 - Limin Cheng - Conceptualization, supervision, project administration, and manuscript review and editing.

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