

INPLASY PROTOCOL

To cite: Lee et al. Acupuncture for postmenopausal osteoporosis: a protocol for systematic reviews and meta-analysis. Inplasy protocol 2022110146. doi: 10.37766/inplasy2022.11.0146

Received: 28 November 2022

Published: 28 November 2022

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**Review Stage at time of this
submission:** The review has
not yet started.

Conflicts of interest:
None declared.

INTRODUCTION

Review question / Objective: To evaluate the efficacy of acupuncture for treating osteoporosis in postmenopausal women.

Condition being studied: Postmenopausal women with osteoporosis.

METHODS

Participant or population: This study will include women diagnosed with postmenopausal osteoporosis.

Intervention: Any acupuncture type will be accepted, including acupuncture, electroacupuncture, warm needle acupuncture, acupressure, auricular acupuncture, pharmacopuncture, and acupuncture with heating treatment. Control interventions will include placebo/

Acupuncture for postmenopausal osteoporosis: a protocol for systematic reviews and meta-analysis

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Review question / Objective: To evaluate the efficacy of acupuncture for treating osteoporosis in postmenopausal women.

Information sources: The following electronic databases will be searched from their inception to November 11, 2022: MEDLINE, EMBASE, Cochrane Library, Korean Medical Databases(KoreaMed, Korean studies Information Service System, Korean Traditional Knowledge Portal, Oriental Medicine Advanced Searching Integrated System, Research Information Sharing Service, and National Digital Science Library), and Chinese databases (CNKI).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 November 2022 and was last updated on 28 November 2022 (registration number INPLASY2022110146).

sham acupuncture, no treatment, conventional treatment, or traditional treatment.

Comparator: The following treatment comparisons will be considered. 1) Acupuncture versus placebo/sham acupuncture 2) Acupuncture versus no treatment 3) Acupuncture versus conventional treatment 4) Acupuncture plus conventional treatment versus identical conventional treatment alone 5) Acupuncture plus traditional treatment versus identical traditional treatment alone.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: All randomized controlled trials (RCTs) evaluating the acupuncture treatment effect on osteoporosis in postmenopausal women will be included. Other studies, including non-RCTs, case series, case reports, crossover studies, letters, or laboratory studies, will be excluded. Study eligibility will not be restricted by language or publication date.

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Main outcome(s): 1) bone mineral density; 2) total effectiveness rate.

Additional outcome(s): 1) levels of osteoporosis-related hormones and cytokines; 2) Adverse events.

Quality assessment / Risk of bias analysis: Two review authors will independently evaluate the risk of bias using the Cochrane risk of bias assessment tool. The following domains will be assessed: random sequence generation, allocation

concealment, blinding of participants, blinding of outcome assessors, incomplete outcome data, selective outcome reporting, and other sources of bias (including factors likely to influence the results, such as extreme baseline imbalance of age, comorbidity, onset, or physical conditions). The risk of bias will be classified into three levels: low, high, and unclear.

Strategy of data synthesis: For meta-analysis, RevMan version 5.4 software will be used to combine the relative risks for dichotomous outcomes and mean differences of standardized mean differences for continuous outcomes, with both having 95% confidence intervals. We will pool data across the studies for meta-analysis using random-effect or fixed-effect models.

Subgroup analysis: If data are available, subgroup analysis will be conducted based on the types of acupuncture treatment (e.g. acupuncture, electroacupuncture, warm needle acupuncture, acupressure, auricular acupuncture, pharmacopuncture, and acupuncture with heating treatment) and postmenopausal osteoporosis.

Sensitivity analysis: Sensitivity analysis will be performed to determine the robustness of the review results with respect to the following aspects: impact of sample size, effect of missing data, and methodological quality.

Country(ies) involved: Republic of Korea.

Keywords: postmenopausal osteoporosis, postmenopausal women, osteoporosis, acupuncture, protocol, systematic review, meta-analysis.

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