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Electromagnetic Acupuncture: A Scoping Review of Preclinical and Clinical Evidence

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ADMINISTRATIVE INFORMATION**Support** - Pusan National University.**Review Stage at time of this submission** - Piloting of the study selection process.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202670114**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 July 2026 and was last updated on 29 July 2026.**INTRODUCTION**

Review question / Objective This scoping review aims to identify the types of available evidence on electromagnetic acupuncture across preclinical and clinical studies for various health conditions.

1. What health conditions have been investigated using electromagnetic acupuncture in preclinical and clinical studies?
2. What types of electromagnetic acupuncture interventions and outcome measures have been reported?
3. What types of study designs have been employed in electromagnetic acupuncture research?

Background Electromagnetic acupuncture is an emerging therapeutic approach that combines conventional acupuncture with electromagnetic stimulation. Acupuncture has been widely used for various health conditions, while electromagnetic stimulation has demonstrated potential biological effects such as neuromodulation, nerve

regeneration, and tissue repair. Although pulsed electromagnetic field therapy has been extensively investigated in both preclinical and clinical research, studies specifically evaluating electromagnetic acupuncture remain relatively limited and have been conducted across diverse conditions and study designs.

Rationale The current evidence on electromagnetic acupuncture has not been comprehensively synthesized, and the scope and characteristics of the available literature remain unclear. A scoping review is therefore warranted to systematically identify and map the available preclinical and clinical evidence, highlight research trends and knowledge gaps, and provide a foundation for future research and clinical applications.

METHODS

Strategy of data synthesis Data will be synthesized using descriptive summary and evidence mapping. Extracted data will be

summarized according to study characteristics, target conditions, intervention characteristics, outcome measures, and key findings. No quantitative synthesis or meta-analysis will be performed.

The following information will be extracted from each included study: (1) study characteristics (authors, publication year, country, and study design); (2) population characteristics (sample size, age, sex, target condition, and disease duration); (3) intervention characteristics (acupoints, needling details, device specifications, electromagnetic stimulation parameters, treatment duration, and needle retention time); and (4) outcomes and findings (outcome measures, assessment time points, key findings, and adverse events).

Eligibility criteria Studies evaluating pulsed electromagnetic fields or magnetic therapy alone, without acupuncture or acupoint intervention, will be excluded.

The following will be excluded: Editorials, commentaries, letters to the editor, news articles, and conference abstracts without full-text data.

Where multiple publications report the same study, the most comprehensive report will be included.

Source of evidence screening and selection A comprehensive literature search will be conducted across seven electronic databases: PubMed, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), Research Information Sharing Service (RISS), ScienceON, and Korean Studies Information Service System (KISS), covering publications from database inception to July 10, 2026. The search strategy will use combinations of free-text terms, including "electromagnetic acupuncture," "electromagnetic field acupuncture," and "magnetic field acupuncture," with search syntax adapted for each database. No publication date restrictions will be applied. All retrieved records will be exported to reference management software for duplicate removal.

One researcher (YHJ) will conduct the literature search. Title and abstract screening will be performed independently by two reviewers (HJY and KHL), followed by independent full-text screening by the same reviewers. Any disagreements will be resolved through discussion or, if necessary, by consultation with a third reviewer (YNO). When required, corresponding authors of ongoing studies or grey literature will be contacted to obtain additional information or full-text articles.

Data management We will use Endnote version 21 to manage records during the review process.

Bibliographic information and the extracted data will be summarized using the Excel spreadsheet. A pre-defined data extraction sheet per individual studies will be used to aid data extraction sheet. One researcher (HJY) will manage and extract the data under supervision of the principal investigator(YNO).

Reporting results / Analysis of the evidence The findings will be interpreted narratively to describe the current evidence landscape of electromagnetic acupuncture, including research trends, characteristics of the available evidence, and existing knowledge gaps. The review will be reported in accordance with the PRISMA-ScR guidelines. The findings will be disseminated through presentations at academic conferences and publication in a peer-reviewed journal.

Presentation of the results The results will be presented using a PRISMA flow diagram, summary tables, figures, and evidence maps. Included studies will be organized according to study design, target conditions, intervention characteristics, outcome measures, and key findings. Clinical and preclinical evidence will be presented separately where appropriate to facilitate comparison and identify evidence gaps.

Language restriction No language restriction will be imposed.

Country(ies) involved Republic of Korea.

Keywords Electromagnetic acupuncture, Electromagnetic stimulation Acupuncture, Scoping review.

Contributions of each author

Author 1 - Yoona Oh - Conceptualization, supervision, arbitration of study selection, interpretation of findings, and final approval of the manuscript.

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