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Mapping the Impact of Treatment Frequency on Acupuncture Efficacy: A Scoping Review of Clinical Trials

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ADMINISTRATIVE INFORMATION

Support - 2023-HXFZJJ-021.

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 20 July 2025 and was last updated on 20 July 2025.

INTRODUCTION

Review question / Objective What are the current status and characteristics of clinical research evidence on the relationship between acupuncture frequency and efficacy? Is there any difference in the effect of acupuncture frequency on different disease or disease stage? What are the gaps between the research results and the standardization requirements for acupuncture protocols?

Background 1.Acupuncture treatment frequency refers to the rate and number of acupuncture treatment sessions. It encompasses both the interval time between consecutive sessions and the total number of sessions administered.

2.As a complex intervention, the efficacy of acupuncture therapy is influenced by multiple dosage parameters, including point selection/formula, needle manipulation techniques, needle retention time, and treatment frequency. Among these, acupuncture treatment frequency, as an important quantifiable operational factor, directly relates to the accumulation and maintenance of clinical effects.

3. Current research on acupuncture frequency is fragmented. There is no unified threshold standard defining high versus low frequency, and evidence regarding its impact on clinical efficacy across different diseases remains unclear.

4. A review analyzing 62 studies on acupuncture frequency and treatment course from the past decade, using subgroup analysis by disease category and clinical stage, summarized dose-effect patterns. The results indicated a dynamic association between frequency and efficacy: within a certain treatment course, efficacy positively correlated with frequency; increasing frequency could lead to faster onset of effect. The optimal frequency differed according to the clinical stage of the disease, with the acute phase often requiring higher frequency. However, this review did not comprehensively include all relevant studies on acupuncture frequency and its definition of high/low frequency was ambiguous.

5. A qualitative interview study revealed that, due to time and energy constraints, patient acceptance of acupuncture treatments exceeding three times per week was low. According to the current status of published systematic reviews, however, the frequency in most acupuncture studies exceeds three times per week, while studies with frequencies less than or equal to three times per week are relatively scarce. For example, a systematic review of acupuncture for primary insomnia showed that among the 73 included RCTs, only one study used a frequency of three times per week; the frequency in the remaining studies was daily (once per day).

6. Therefore, integrating clinical experience, patient values, and clinical evidence, frequencies exceeding three times per week are defined as high-frequency, and frequencies of three times per week or less are defined as low-frequency. Given the conflict between clinical experience and patient preference, it is necessary to further summarize the dose-effect relationships of different frequency thresholds.

7.This study employs the scoping review methodology to comprehensively integrate and investigate clinical research evidence on the impact of acupuncture frequency on efficacy. It aims to systematically summarize the dose-effect relationships for different disease types within acupuncture frequency research, the limitations of existing studies, and implications for future research.

Rationale Existing research on acupuncture frequency remains fragmented, with inconsistent threshold standards for what constitutes high or low frequency, and inconclusive evidence regarding its impact on clinical efficacy across different conditions. However, in clinical practice, practitioners commonly adopt relatively high treatment frequencies, often three sessions per week or more. For instance, a systematic review concerned acupuncture for primary insomnia included 73 randomized controlled trials (RCTs), of which only one trial employed a frequency of three sessions per week, while all others utilized a daily treatment regimen. Conversely, patients demonstrate reluctance towards higher-frequency regimens. An in-depth interview study indicated that due to time and energy constraints, patients were generally unwilling to undergo acupuncture more than three sessions per week. Given the divergence between physician practice patterns and patient willingness, further research is warranted to elucidate the frequency-response relationship across different frequency thresholds.

METHODS

Strategy of data synthesis Heatmaps were constructed using Python 3.12.3 to present the association between acupuncture frequency and therapeutic advantage in RCT studies.
Bubble charts of frequency distribution were plotted using WPS Office 12.1 to present inter-group frequency magnitudes and disparities in RCT studies.

Eligibility criteria
1.Study Types
Relevant clinical study types include randomized controlled trials, non-randomized controlled clinical studies, cohort studies, case-control studies, cross-sectional studies, case series, case reports, systematic reviews and meta-analyses.
2.Interventions
The research focuses on the dose-effect relationship of acupuncture treatment frequency (with no restrictions on needle type, point selection, needle retention time, treatment course, etc.). The experimental group receives acupuncture therapy, either as monotherapy or combined with other treatments (e.g., acupuncture combined with tuina or moxibustion), all deemed eligible for inclusion. The control group receives acupuncture interventions with different frequencies but identical in all other characteristic elements.
3.Participants
No restrictions on disease types.

Source of evidence screening and selection
Two researchers (GD Land XYH) independently screened the literature. Initial management and duplicate removal was utilized NoteExpress 4.0.0.9855. Primary screening occurred through title and abstract review. Full-text assessment was then followed established inclusion criteria. Upon identifying relevant publications, data extraction proceeded independently. Any discrepancies underwent arbitration by a third investigator (HJC). Extracted parameters included authors, publication year, study design, disease classification, sample size, therapeutic protocols, treatment duration, outcome measures, key findings, and conclusions.

Data management NoteExpress 4.0.0.9855 was employed for literature screening, management, and duplicate removal. Data extraction was performed using Excel worksheets, including: author, publication year, study type, disease type, sample size, interventions, treatment course, outcome measures, research results, and research conclusions.

Language restriction No restriction on language.

Country(ies) involved China.

Keywords Acupuncture; Frequency; Stimulation dose; Dose-response relationship; Scoping review.

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