

The non-pharmacological therapy on Tinnitus: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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ADMINISTRATIVE INFORMATION

Support - This study was supported by the Natural Science Foundation of Hubei Province.

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

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480135

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 August 2024 and was last updated on 29 August 2024.

INTRODUCTION

Review question / Objective The purpose of this study is to investigate the difference in the efficacy of non-pharmacological therapy in the treatment of tinnitus, and the study method of choice was RCT test.

Condition being studied Tinnitus is the perception of sound in the absence of auditory stimulation, In severe tinnitus, distress, depression, cognitive dysfunction and insomnia are major debilitating factors that can interfere with the daily activities. Currently, a series of non-pharmacological therapy have been developed for tinnitus. Some meta-analysis has proved the efficacy of non-pharmacological therapy. However, it is still unclear which therapy is best. Therefore, we will conduct the problem by network meta-analysis.

METHODS

Participant or population Patients diagnosed with tinnitus.

Intervention Non-pharmacological regimens of unlimited forms including cognitive behavioral therapy(CBT), transcranial magnetic stimulation(TMS), transcranial direct current stimulation(tDCS), sound therapy(ST), tinnitus retraining therapy(TRT).

Comparator Sham-control or active control.

Study designs to be included Randomized control trials.

Eligibility criteria Peer-reviewed randomized control trails will be eligible for inclusion. And language will be restricted to English.

Information sources Four electronic databases will be searched from set up to September 5, 2024 including PubMed, Cochrane library, Web of Science, and Embase.

Main outcome(s) The total score of Tinnitus Handicap Index(THI).

Additional outcome(s) Visual Analog Scale(VAS).

Quality assessment / Risk of bias analysis We will use Cochrane risk-of-bias tool (ROB 2.0) to evaluate the quality of included studies.

Strategy of data synthesis Pair-wise meta-analysis will be performed by STATA. Network meta-analysis will be performed by OpenBUGS, STATA. We will express continuous outcomes in terms of mean differences, with corresponding 95 % confidence intervals. Global inconsistency and local inconsistency will be assessed by STATA. Finally, league figure and surface under the cumulative ranking curve will be conducted by OpenBUGS.

Subgroup analysis Subgroup analysis will be conducted if heterogeneity is too great.

Sensitivity analysis Before selecting model, sensitivity analysis will be accomplished if sufficient studies are available and necessary.

Country(ies) involved China.

Keywords Tinnitus, non-pharmacological therapy, Network Meta-analysis.

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