INPLASY PROTOCOL

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None declared.

The Clinical Effects of Auricular Therapy for Allergic Rhinitis：A Meta-Analysis of Randomized Controlled Trials

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Review question / Objective: **Due to climate change and environmental pollution, the incidence of allergic rhinitis (AR) as well as the frequency of its attacks are on the rise year by year. The purpose of our study is to evaluate the clinical effects of auricular therapy (AT) in AR patients through a meta-analysis. After searching multiple databases from their inception to as late as May 24th, 2022, we identified 36 trials involving 3,017 participants. The results show that the ear-acupressure can obviously enhance clinical effect, control inflammatory response of the nose (especially nasal congestion and sneezing) and reduce recurrence. Over the years, the wide use of AT in clinical practice has accumulated much valuable experience in treating AR. As a new treatment option for chronic disease, AT creates a favourable situation for the development of rehabilitation and nursing careers.The purpose of our study is to evaluate the clinical effects of auricular therapy in allergic rhinitis patients through a meta-analysis. After searching multiple databases from their inception to as late as May 24th, 2022, we identified 36 trials involving 3,017 participants. The results show that the ear-acupressure can obviously enhance clinical effect, control inflammatory response of the nose (especially nasal congestion and sneezing) and reduce recurrence.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 January 2023 and was last updated on 18 January 2023 (registration number INPLASY202310060).

INTRODUCTION

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databases from their inception to as late as May 24th, 2022, we identified 36 trials involving 3,017 participants. The results show that the ear-acupressure can obviously enhance clinical effect, control inflammatory response of the nose (especially nasal congestion and sneezing) and reduce recurrence. Over the years, the wide use of AT in clinical practice has accumulated much valuable experience in treating AR. As a new treatment option for chronic disease, AT creates a favourable situation for the development of rehabilitation and nursing careers.The purpose of our study is to evaluate the clinical effects of auricular therapy in allergic rhinitis patients through a meta-analysis. After searching multiple databases from their inception to as late as May 24th, 2022, we identified 36 trials involving 3,017 participants. The results show that the ear-acupressure can obviously enhance clinical effect, control inflammatory response of the nose (especially nasal congestion and sneezing) and reduce recurrence.

Condition being studied: Allergic rhinitis (AR), a common chronic inflammatory condition triggered by IgE-mediated response after exposure to environmental allergens, is affecting 10%-40% of the global population and the figure continues to be on the rise. Because of the considerable clinical symptomatic (airflow obstruction, nasal itching, sneeze, nasal discharge) burdens, AR will increase the risk of other allergic diseases such as bronchial asthma, interfere with people's daily activities, and even cause global loss of job productivity.

METHODS

Participant or population: With no other diseases or serious complications, participants were of any age, race or gender, with a diagnosis of allergic rhinitis (a nasal hypersensitivity reaction mainly manifested as airflow obstruction, nasal itching, sneeze or nasal discharge) by validated diagnostic criteria.

Intervention: Auricular therapy as a monotherapy or major part of combined therapy.

Comparator: We compared AT with western medication, Traditional Chinese medicine (TCM), nasal saline irrigation, sham AT or placebo regimens studies.

Study designs to be included: RCTs published in any language were included.

Eligibility criteria: As defined in our included criteria, two authors independently removed the duplicate data, screened extracted information (titles and abstracts), and then inspected full text in details to get qualified studies. Any divergences should be solved after discussion and reassessed by the third investigator at last. All retrieved researches above were imported into EndNote X9 (Thompson ISI Research Soft, Philadelphia, Pennsylvania, USA).

Information sources: Relevant literature was systematically searched on May 24th 2022 in the following electronic databases: Medline (via PubMed), Cochrane, Embase, Web of Science, Chinese Biomedical Literature Database, CNKI, China Science and Technology Journal Database, Wanfang Data, Chinese Clinical Trial Registry and clinical trials. Additionally, we searched a series of top journals, major international conference proceedings, digital periodicals, peer reviewed journals and grey literature.

Main outcome(s): Compared with the control group, ear-acupressure intervention was more effective for short-term treatment. Moreover, its follow-up efficacy also showed a significant difference, which was a new finding in the research of AT. In terms of clinical total nasal symptoms and signs score, patients with auricular acupressure were more likely to be improved.

Quality assessment / Risk of bias analysis: The methodological quality of each included study was analyzed according to the methods endorsed by the Cochrane

Risk of Bias tool (ROB) for identifying risk of bias of seven items. Selection bias was judged by whether the process of random sequence generation and the method of allocation concealment were described. For performance bias and detection bias, we assessed them mainly based on whether the participants, personnel and outcome evaluators were blinded. We appraised attrition bias according to whether each primary outcome indicator was reported in full. Adequacy of data would make it possible to evaluate selective bias; otherwise, authors of the original text should be contacted to obtain complete data to control selective bias. For any other potential bias, we reviewed full text to search for specific evidence of possible bias such as inconsistency of data, etc. Each bias domain above would be separately rated as unclear, low or high degree, and cross-checked after completion by two authors. Inconsistencies should be refereed by an experienced expert when necessary.Our study was performed in accordance with the Cochrane Collaboration Handbook and adhered to the guidance of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA-2020) statement.

Strategy of data synthesis: Following the Cochrane Collaboration Handbook recommendations, a meta-analysis on the final included literature was conducted. The statistical heterogeneity across trials was summarized using the I^2 statistic. The P-value assessed the presence of heterogeneity with threshold as 0.1. For continuous outcomes, differences were expressed through WMD or SMD by calculating the mean and SD of the change from baseline on individual studies whereas Risk ratios represented dichotomous outcome data. Random-effect model was utilized to pool the above Effect sizes, along with their 95% CI to estimate uncertainty.

Subgroup analysis: The specific contents were as follows: therapeutic course (duration weeks 4); total sample size (sample size < 100 vs. sample size >= 100); the ratio of men to women (ratio < 1 vs. ratio >= 1); publication year (year < 2015 vs. year >= 2015); region (economically backward vs. economically developed). The above battery of analyses was performed by means of STATA, version 14.2 (StataCorp, College Station, TX).The specific contents were as follows: therapeutic course (duration weeks 4); total sample size (sample size < 100 vs. sample size >= 100); the ratio of men to women (ratio < 1 vs. ratio >= 1); publication year (year < 2015 vs. year >= 2015); region (economically backward vs. economically developed).

Sensitivity analysis: N/A.

Country(ies) involved: China (The Third Affiliated Hospital of Guangzhou University Of Chinese Medicine).

Keywords: Auricular therapy; Allergic rhinitis; Randomized Controlled Trials; Meta-analysis; Clinical effects.

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