# INPLASY PROTOCOL

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Effectiveness and safety of different Traditional Chinese medicine therapies for allergic rhinitis: A systematic review and network meta-analysis protocol

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

Conflicts of interest: None.

Review question / Objective: Traditional Chinese medicine has been widely used in the treatment of allergic rhinitis. However, RCTS and meta-analysis currently only compare one or two traditional Chinese medicine therapies, and the comprehensive ranking of efficacy and safety of multiple traditional Chinese medicine therapies in the treatment of allergic rhinitis has not been completed. Therefore, the purpose of this network meta-analysis was to evaluate the efficacy and safety of different traditional Chinese medicine therapies in the treatment of allergic rhinitis.

Condition being studied: Allergic rhinitis.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 August 2020 and was last updated on 28 August 2020 (registration number INPLASY202080119).

#### INTRODUCTION

Review question / Objective: Traditional Chinese medicine has been widely used in the treatment of allergic rhinitis. However, RCTS and meta-analysis currently only compare one or two traditional Chinese medicine therapies, and the comprehensive

ranking of efficacy and safety of multiple traditional Chinese medicine therapies in the treatment of allergic rhinitis has not been completed. Therefore, the purpose of this network meta-analysis was to evaluate the efficacy and safety of different traditional Chinese medicine therapies in the treatment of allergic rhinitis.

Condition being studied: Allergic rhinitis.

#### **METHODS**

Search strategy: For the convenience of management, we searched from 5 databases and imported titles into EndNote Software AQ8 (V.X9). First using the software to remove duplicate articles, then two team members (YT and YSF) independently read the titles and abstractions, deleted the literature that did not meet the requirements, and read the full text of the remaining articles to decide the final inclusion of the experiment. After this step, cross-check the results of both parties. If there is any disagreement, make a decision through group discussion.

Participant or population: Among all adults (over 18 years old) diagnosed with Allergic Rhinitis, The diagnostic criteria were derived from ARIA (Rhinitis and its Impact on Asthma) Guidelines, The Rhinitis - Clinical Investigator Collaborative (AR-CIC), Chinese Journal of otorhinolyngology Head and Neck Surgery.

Intervention: The intervention measures are traditional Chinese medicine (limited to acupuncture, moxibustion and acupoint application) for the treatment of allergic rhinitis. Among them, acupuncture includes electroacupuncture, fire acupuncture, plum flower acupuncture, etc. Moxibustion includes ginger moxibustion, suspended moxibustion, fester moxibustion, etc. There is no limit standard for the traditional Chinese medicine used in acupoint application.

Comparator: The intervention measures are traditional Chinese medicine (limited to acupuncture, moxibustion and acupoint application) for the treatment of allergic rhinitis. Among them, acupuncture includes electroacupuncture, fire acupuncture, plum flower acupuncture, etc. Moxibustion includes ginger moxibustion, suspended moxibustion, fester moxibustion, etc. There is no limit standard for the traditional Chinese medicine used in acupoint application.

Study designs to be included: Considering that the methodological quality of this paper is crucial to the conclusion, we only included the RCTs of traditional Chinese medicine therapy for allergic rhinitis, and the traditional Chinese medicine therapy only limited acupuncture, moxibustion and acupoint sticking, while traditional Chinese medicine and massage would be excluded. Studies of one TCM therapy versus another TCM therapy or placebo will be analyzed, and trials of multiple TCM therapies for allergic rhinitis will also be included.

Eligibility criteria: Types of studies. Considering that the methodological quality of this paper is crucial to the conclusion, we only included the RCTs of traditional Chinese medicine therapy for allergic rhinitis, and the traditional Chinese medicine therapy only limited acupuncture, moxibustion and acupoint sticking, while traditional Chinese medicine and massage would be excluded.Studies of one TCM therapy versus another TCM therapy or placebo will be analyzed, and trials of multiple TCM therapies for allergic rhinitis will also be included. 2.3.2. Type of participant. Among all adults (over 18 years old) diagnosed with Allergic Rhinitis, The diagnostic criteria were derived from ARIA (Rhinitis and its Impact on Asthma) Guidelines 15, The Rhinitis - Clinical Investigator Collaborative (AR-CIC), Chinese Journal of otorhinolyngology Head and Neck Surgery, 2.3.3. Interventions. The intervention measures are traditional Chinese medicine (limited to acupuncture, moxibustion and acupoint application) for the treatment of allergic rhinitis. Among them, acupuncture includes electroacupuncture, fire acupuncture, plum flower acupuncture, etc. Moxibustion includes ginger moxibustion, suspended moxibustion, fester moxibustion, etc. There is no limit standard for the traditional Chinese medicine used in acupoint application.

**Information sources:** PubMed, Cochrane Library, Embase CNKI and Wanfang.

Main outcome(s): The total nasal symptom score (TNSS).

Additional outcome(s): 1.the Rhinoconjunctivitis Quality of Life Questionnaire (RQLQ) 2. The incidence rate of adverse events.

### Quality assessment / Risk of bias analysis:

The two authors (YT and YSF) evaluated the article methodology of inclusive trials independently, by the Cochrane collaboration "bias risk" tool sequences generated from six aspects of allocation concealment, blind (or mask), incomplete data evaluation, evaluation reports and other sources of bias selective results. Finally, for each items, we will made ranking of "Low-risk bias", "High-risk bias" and "Unclear" based on the Cochrane collaboration "bias risk" tool.

Strategy of data synthesis: 2.7.5. Pairwise meta-analysis If there is a direct comparison between the experimental interventions included in the data (TCM versus TCM, TCM versus placebo), the State14.0 state will be used for Pairwise meta-analysis, based on a random-effects model. 2.7.6. Network meta-analysis. Two team members (YT and YSF) used Stata statistical software (version 14.0, Stata Corporation, College Station, Texas, the United States) for analysis. A random effects model was used for network metaanalysis to compare the differences between different interventions.By comparing urface under the Cumulative Ranking Curve (SUCRA), the optimum intervention measures were determined. The range of SUCRA was 0-100%, and the higher the cumulative ranking curve, the better the efficacy was.

Subgroup analysis: If the analysis showed significant heterogeneity, the reason was analyzed according to the PICOS principle, and STATA 14.0 was used for subgroup analysis.

Sensibility analysis: We will evaluate the robustness of the meta-analysis results through sensitivity analysis, and exclude such as small-sample trials and low-quality

trials to explore the impact of trial quality on efficacy estimates.

Country(ies) involved: China.

**Keywords:** allergic rhinitis, network metaanalysis, protocol.

#### Contributions of each author:

Author 1 - Ting Yu - completed the plan, search strategy, research selection, bias risk assessment, data extraction, analysis and evidence quality assessment.

Author 2 - ShiFan Yan - completed the plan, search strategy, research selection, bias risk assessment, data extraction, analysis and evidence quality assessment.

Author 3 - ZhenHai Chi - assisted the plan revision, bias risk assessment.

Author 4 - Pan Cheng - assisted the plan revision, bias risk assessment.

Author 5 - SiYu Qin - assisted the analysis and evidence quality assessment.

Author 6 - HaiYan Li - assisted the analysis and evidence quality assessment.

Author 7 - Lin Jiao - wrote the original manuscript.

Author 8 - RiXin Chen - wrote the original manuscript.