

INPLASY PROTOCOL

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None declared.

Efficacy of multiple non-pharmacological interventions in Parkinson's disease: A Bayesian Network Meta-Analysis

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Review question / Objective: Parkinson's disease (PD), as a high incidence of nervous system diseases, is characterized by high disability rate and high mortality. However, the current medication does not bring satisfactory results. In recent years, more and more researchers have found that some non-pharmacological interventions can bring benefits to Parkinson's patients to some extent. Traditional meta-analyses have the limitation of comparing only two interventions. Therefore, this study introduced bayesian network meta-analysis to analyze the efficacy and safety of multiple non-pharmacological interventions in Parkinson's disease, in order to provide reference for clinicians and patients.

Condition being studied: At present, many randomized controlled trials and systematic reviews have reported that complementary and alternative therapies for PD have good clinical efficacy. However, due to the limitation that traditional meta-analysis can only compare two interventions, it is difficult for clinicians to compare and choose the optimal plan among multiple interventions. Network meta-analysis has the characteristic of comparing multiple interventions simultaneously. Therefore, by using the characteristics of bayesian network meta-analysis, this study compared a variety of non-pharmacological interventions for the treatment of Parkinson's disease, and evaluated their efficacy and safety, in order to provide corresponding help for clinicians and patients.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 October 2022 and was last updated on 27 October 2022 (registration number INPLASY2022100109).

INTRODUCTION

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by high disability rate and high mortality. However, the current medication does not bring satisfactory results. In recent years, more and more researchers have found that some non-pharmacological

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METHODS

Participant or population: Patients with Parkinson's disease diagnosed according to International Parkinson and Movement Disorders Association criteria.

Intervention: The intervention measures in the treatment group include acupuncture (various acupuncture therapies are included) 、 Tai Chi、 Qi Gong、 yoga、 dance、 music、 massage.

Comparator: The control group was treated with medicine, placebo, or no intervention.

Study designs to be included: Randomized control trials.

Eligibility criteria: Patients who have been diagnosed according to International

Parkinson and Movement Disorders Association criteria. And language will be restricted to English and Chinese.

Information sources: The databases we searched including PubMed, Cochrane Library, Embase, Web of Science and EBSCO CINAHL Ultimate, and manually searched relevant journals and library books.

Main outcome(s): The main results include the score of Unified Parkinson's Disease Rating Scale part III (UPDRS III), the score of Timed Up and Go (TUG) and the Parkinson's Disease Questionnaire-39 (PDQ-39) score.

Additional outcome(s): Secondary results include the total score of UPDRS, the score of UPDRS I and the score of UPDRS II.

Quality assessment / Risk of bias analysis: The PRISMA 2020 tool will be used to assess the quality of included studies.

Strategy of data synthesis: Statistical analysis included direct comparison meta-analysis and network meta-analysis. Direct comparisons between interventions were made using Addis 1.16.8 under the condition of a random effects model. Plot using Stata 14 and perform network meta-analysis at Addis 1.16.8. Consistency models can assess the size of effects between interventions and calculate their ranking. When the 95%CI of the results did not include 0, the comparison between interventions was statistically significant ($P < 0.05$).

Subgroup analysis: None.

Sensitivity analysis: After the quality assessment of the included studies, sensitivity analysis should be conducted to assess the impact of studies that may be of low quality on the results.

Country(ies) involved: China.

Keywords: Parkinson's disease; non-pharmacological interventions; Bayesian Network Meta-Analysis.

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