

# INPLASY PROTOCOL

To cite: Wang et al.  
Effectiveness of Tango  
Intervention on Motor  
Symptoms in Patients with  
Parkinson's Disease: A  
Protocol for Systematic  
Review and Meta-Analysis.  
Inplasy protocol 202250009.  
doi:  
10.37766/inplasy2022.5.0009

Received: 03 May 2022

Published: 03 May 2022

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**Support:** National Social  
Science Fund.

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

**Conflicts of interest:**  
None declared.

## INTRODUCTION

**Review question / Objective:** Parkinson's disease (PD) is a degenerative neurological disease caused by the loss of dopaminergic neurons in the pars compacta of the substantia nigra of the brain, resulting in lesions in the basal

## Effectiveness of Tango Intervention on Motor Symptoms in Patients with Parkinson's Disease: A Protocol for Systematic Review and Meta-Analysis

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**Review question / Objective:** Parkinson's disease (PD) is a degenerative neurological disease caused by the loss of dopaminergic neurons in the pars compacta of the substantia nigra of the brain, resulting in lesions in the basal ganglia. The main motor symptoms of PD include resting tremor, rigidity, akinesia or bradykinesia and postural instability. As an exercise intervention based on musical accompaniment, tango dance has shown positive effects on the rehabilitation of motor symptoms in PD patients in recently. In this study, we systematically reviewed the efficacy of tango intervention in alleviating the motor symptoms of patients with PD.

**Condition being studied:** Parkinson.

**Information sources:** The following electronic databases will be searched: PubMed, Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science Core collection, and China National Knowledge Infrastructure Database (CNKI) and WanFang Database.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 May 2022 and was last updated on 03 May 2022 (registration number INPLASY202250009).

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the efficacy of tango intervention in alleviating the motor symptoms of patients with PD.

**Condition being studied:** Parkinson.

## METHODS

**Participant or population:** Patients of any age or sex with confirmed diagnosis of PD, and in all stages and duration of PD, will be eligible for inclusion in this study.

**Intervention:** Tango dance.

**Comparator:** Comparison groups that will include non-dance interventions, including, but not limited to, exercise, education or daily care.

**Study designs to be included:** Randomized controlled trials.

**Eligibility criteria:** 1. Types of studies. Only RCTs investigating the effect of tango intervention on motor symptoms in patients with PD will be analyzed in this systematic review. Reviews, case reports, conference papers, and quasi-randomized trials will not be eligible for inclusion in this review. 2. Participants. Patients of any age or sex with confirmed diagnosis of PD, and in all stages and duration of PD, will be eligible for inclusion in this study. 3. Types of interventions. Considering the consistency of rhythm and beat in different kinds of tango and the similarity of tango movements adapted for PD patients, all types of tango-based interventions (i.e., tango in Ballroom dance, Argentine tango, and Adapted tango) will be included in this review. Intervention format (individual/group, partnered/non-partnered), setting (community/ hospital), duration, and frequency will not be restricted. 4. Types of comparisons. Comparison groups that will include non-dance interventions, including, but not limited to, exercise, education or daily care. 5. Types of outcomes. The primary outcome will be motor component of the Movement Disorder Society-Unified Parkinson's Disease Rating Scale motor subsection (MDS-UPDRS-III). The

secondary outcomes will be balance, functional mobility and gait.

**Information sources:** The following electronic databases will be searched: PubMed, Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science Core collection, and China National Knowledge Infrastructure Database (CNKI) and WanFang Database.

**Main outcome(s):** The primary outcome will be motor component of the Movement Disorder Society-Unified Parkinson's Disease Rating Scale motor subsection (MDS-UPDRS-III). The secondary outcomes will be balance, functional mobility and gait.

**Quality assessment / Risk of bias analysis:** The Cochrane Collaboration's risk of bias assessment tool will be used to evaluate the methodological quality of each trial included in this review with respect to the following factors: random sequence generation and allocation concealment (selection bias); blinding of participants and personnel (performance bias); blinding of outcome assessment (detection bias); incomplete outcome data (attrition bias); selective reporting (reporting bias); and other bias. Each project will be classified as high risk, low risk or unclear risk as the result of the evaluation. Disagreements between authors will be resolved by third-party adjudication.

**Strategy of data synthesis:** The retrieved literature will be imported into EndNote X9 software and duplicate literature will be removed. 2 researchers will independently assess the included literature and abstracts, extract details of the assessed trials and outcome data, and create a record of the extracted data. 3 researchers independently conducted the literature review and evaluated the final included studies; disagreements were resolved by consensus.

**Subgroup analysis:** The subgroup analyses may include: The subgroup analysis includes: balance, functional mobility, fast

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gait velocity, preferred gait velocity, stride length, and gait cadence.

**Sensitivity analysis:** The study will adopt the leave one out method for the sensitivity analysis.

**Language:** English.

**Country(ies) involved:** China.

**Keywords:** Parkinson's disease; Motor symptoms; tango; Meta-analysis.

**Contributions of each author:**

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Author 2 - Hong Shen.

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