

# INPLASY PROTOCOL

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submission:** The review has  
not yet started.

**Conflicts of interest:**  
None declared.

## Pediatric TuiNa for Tourette syndrome in children: A systematic review and meta-analysis of randomized controlled trials

Wang XY<sup>1</sup>.

**Review question / Objective:** Efficacy and Safety of Pediatric TuiNa for Tourette Syndrome: A Systematic Review and Meta-Analysis of randomized controlled trials.

**Condition being studied:** Tourette syndrome (TS) is a common psychological, behavioural and neuropsychiatric disorder characterized by chronic, fluctuating, multiple muscle convulsions, or accompanied by involuntary laryngeal abnormalities and indecent language. It mainly appears in childhood. At present, Tourette syndrome generally has a long course of the disease and is difficult to cure, which seriously affects the children's learning and physical and mental health, and also causes panic and anxiety to many parents. The incidence of Tourette syndrome was increasing year by year. Clinical studies found that only relying on Western medicine for treatment was easy to have recurrent symptoms and serious adverse reactions. Traditional Chinese medicine has great advantages in the treatment of Tourette syndrome, especially in children's massage, because it has no side effects and is more likely to be favoured by parents. To provide a better basis and guidance for clinical treatment by Meta-analysis of the literature on tuina treatment of Tourette syndrome in children.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 April 2023 and was last updated on 21 April 2023 (registration number INPLASY202340077).

### INTRODUCTION

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**Condition being studied:** Tourette syndrome (TS) is a common psychological, behavioural and neuropsychiatric disorder characterized by chronic, fluctuating, multiple muscle convulsions, or accompanied by involuntary laryngeal

abnormalities and indecent language. It mainly appears in childhood. At present, Tourette syndrome generally has a long course of the disease and is difficult to cure, which seriously affects the children's learning and physical and mental health, and also causes panic and anxiety to many parents. The incidence of Tourette syndrome was increasing year by year. Clinical studies found that only relying on Western medicine for treatment was easy to have recurrent symptoms and serious adverse reactions. Traditional Chinese medicine has great advantages in the treatment of Tourette syndrome, especially in children's massage, because it has no side effects and is more likely to be favoured by parents. To provide a better basis and guidance for clinical treatment by Meta-analysis of the literature on tuina treatment of Tourette syndrome in children.

## METHODS

**Search strategy:** We searched Cochrane Library, PubMed, Web of Science, EMBASE, Wanfang Data, CNKI, VIP and CBM databases for determining the randomized controlled trials (RCTs) that applied pediatric tuina in treating Tourette syndrome RRTIs in children, from inception to May 2023.

**Participant or population:** Pediatric patients diagnosed with TS.

**Intervention:** Intervention group used pediatric tuina alone or plus drug treatment.

**Comparator:** Drug Treatment.

**Study designs to be included:** Randomised controlled trials(RCTs) published will be eligible for inclusion.

**Eligibility criteria:** (1) Participants: Patients with confirmed diagnosed TS, regardless of type, gender, age, and country. The diagnostic criteria from(DSM-IV),(DSM-V), (ICD-11),and(CCMD-4). (2) Intervention: Intervention group used pediatric tuina alone or plus drug treatment. (3) Control group: Drug Treatment.(4) Research:

Randomized controlled trials will be included.

**Information sources:** We searched Cochrane Library, PubMed, Web of Science, EMBASE, Wanfang Data, CNKI, VIP and CBM databases for determining the randomized controlled trials (RCTs) that applied pediatric tuina in treating Tourette syndrome RRTIs in children, from inception to May 2023.

**Main outcome(s):** The Yale Global Tic Severity Scale (YGTSS), the total score is used to assess the severity of clinical tic symptoms in TS.

**Additional outcome(s):** Total effective rate and adverse events.

**Quality assessment / Risk of bias analysis:** The quality of the included literature was assessed by two evaluators using the risk of bias assessment tool recommended in the Cochrane Handbook 5.3, and if disagreements arose they were resolved by discussion or a third evaluator was consulted for a decision. Criteria included: correct use of randomisation; correct use of allocation concealment; correct use of blinding of patients; correct use of blinding of researchers; completeness of results and data; selective reporting of results; and presence of relevant bias. The standard for assessing the risk of bias adopts three levels "low risk of bias", "high risk of bias", and "unclear risk of bias".

**Strategy of data synthesis:** Meta-analysis was performed using RevMan 5.4 software. Relative risk (RR) and 95% confidence interval were used for the count data, and SMD and 95% confidence interval were used for the measurement data as effect measures; if there was heterogeneity among the intervention protocols included in the studies, the heterogeneity test was performed between the studies using the karyotype test (test for  $\alpha = 0.05$ ), when  $P < 0.1$  or  $I^2 > 50\%$ . perceived heterogeneity, using the random-effects should model to calculate the RR of the overall result; conversely, the fixed-effects model was

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used to calculate, and publication bias was analyzed using funnel plots. Subgroup analyses were performed based on factors that could be heterogeneous, and sensitivity analyses were performed when heterogeneity originated from low-quality studies.

**Subgroup analysis:** If the included studies are highly heterogeneous, we will perform a subgroup analysis based on age, sample size, methodological quality, etc.

**Sensitivity analysis:** If heterogeneity is significant, we will conduct a sensitivity analysis to assess the robustness and quality of the findings by excluding each included study individually and varying the study's impact scale.

**Language restriction:** Chinese and English.

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

**Keywords:** Paediatric tuina, Tourette syndrome in children, randomized controlled trials, meta-analysis.

**Contributions of each author:**

Author 1 - Wang Xiaoyu - Author 1 drafted the manuscript.

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