

Tuina for Chronic Diarrhea in Children: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 April 2024 and was last updated on 03 April 2024.

INTRODUCTION

Review question / Objective This study aims to provide evidence for clinical decision-making.

Condition being studied Childhood diarrhea is a common pediatric disease characterized by an increase in the frequency of bowel movements or a change in stool consistency, caused by multiple factors. Clinically, a course of the disease lasting more than two months is often considered chronic diarrhea, while some foreign scholars define chronic diarrhea or intractable diarrhea as lasting more than two weeks. Studies show that 19% of children with diarrhea will develop chronic diarrhea, and 1% will have intractable diarrhea, with a mortality rate of 15% for children with persistent diarrhea, severely endangering their health. Children with chronic diarrhea are prone to recurrent attacks, and if not treated in time or improperly, may lead to complications such as

various degrees of digestive system disorders, immune system issues, and malnutrition, resulting in the child's body wasting and loss of appetite, which is not conducive to the child's growth and development. Currently, clinical treatments mainly focus on preventing and correcting dehydration, stopping diarrhea, and using antibacterial treatments, but there are issues such as difficulty in administering medication to children, fear of needles, poor compliance among children, and adverse drug reactions. Therefore, there is an urgent need for painless and green diagnostic and treatment methods to prevent and treat chronic diarrhea in children. In recent years, more and more traditional Chinese medicine (TCM) therapies have been applied to the treatment of chronic diarrhea in children, and a large number of studies have shown that Tuina is effective in treating chronic diarrhea in children, improving their appetite and stool characteristics among other aspects. However, there has not yet been a quantitative analysis and evaluation of its efficacy.

Therefore, this study aims to systematically evaluate the clinical efficacy and safety of Tuina therapy in treating chronic diarrhea in children.

METHODS

Participant or population Participants who were definitely diagnosed with chronic diarrhea would be included, and there will be no limitation on gender, ages, and other factors.

Intervention Using Tuina therapy.

Comparator Using Conventional Western medicine treatment (such as Smecta, multi-enzyme tablets, probiotics, etc.).

Study designs to be included Randomized Controlled Trial.

Eligibility criteria Standard for Chronic Diarrhea in Diarrhea Diagnosis and Treatment Program of China, Beijing, Ministry of Health of the People's Republic of China, October 1993.

Information sources The following online databases will be comprehensively searched including: The Cochrane Library, PubMed, EMBASE, Chinese Biomedical Literature Database, Chinese National Knowledge Infrastructure Database, Chinese Science and Technique Journals Database and the Wanfang Database. All the literature retrieved is from the inception of the database to 20 March 2024. In Chinese, searches will combine 'diarrhea' or 'dysentery' with 'Tuina therapy' or 'Tuina treatment' or 'Tuina technique' or 'Tuina' or 'spine pinching' and 'child' or 'children' or 'infant' or 'baby' and 'chronic' or 'protracted'. In English, free word searches will be conducted with terms such as 'chronic diarrhea' or 'chronic diarrhoea' or 'protracted diarrhea' and 'Tuina therapy' or 'tuina' or 'massage' or 'manipulation' or 'spine pinching' and 'children' or 'child' or 'infant' or 'pediatric'.

Main outcome(s) Clinical efficacy rate, Traditional Chinese Medicine syndrome scores, stool characteristics scores, stool frequency scores, etc.

Data management Two researchers respectively imported the retrieved literature into Endnote X9.0 software for management and screening. For the controversial literature, they the decision or leave it to the third researcher to decide.

Quality assessment / Risk of bias analysis The quality of the literature was evaluated using the Cochrane bias risk tool V.2.0. The two researchers

independently evaluated the literature and cross-checked it, and the questionable part of the discussion was resolved or left to the third researcher to decide.

Strategy of data synthesis Meta-analysis was performed using Stata17.0 software. The odds ratio (OR) was used as the effect analysis statistic for the count data, and the mean difference (MD) or standardized mean difference (SMD) was used as the effect analysis statistic for the measurement data. The 95 % confidence interval (CI) was calculated for all effect quantities. The heterogeneity between the results of the included studies was analyzed by χ^2 test (test level $\alpha = 0.1$), and the heterogeneity was quantitatively judged by I^2 . When $P \geq 0.10$ and $I^2 \leq 50\%$, the heterogeneity between studies was small, so the fixed effect model was used for analysis. When $P < 0.10$ and $I^2 > 50\%$, it suggested that the heterogeneity between studies was large, so the random effect model was used for analysis.

Subgroup analysis If there is significant heterogeneity between studies, subgroup analysis will be performed on patients of different ages and genders.

Sensitivity analysis Furthermore, if necessary, a sensitivity analysis will be performed.

Country(ies) involved China.

Keywords Tuina, massage, Chronic Diarrhea in children, randomized controlled trial, meta-analysis.

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