INPLASY

Integrating meta-analysis with network pharmacology to explore the therapeutic effect and mechanism of Tongxie Yaofang in the treatment of ulcerative colitis

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ADMINISTRATIVE INFORMATION

INTRODUCTION

*R*eview question / Objective This study aimed to integrate meta-analysis with network pharmacology analyses to determine the efficacy and mechanism of TXYF in treating UC.

Rationale The efficacy and safety of TXYF in treating UC were explored through meta-analysis, and the mechanism by which TXYF treats UC was explored through network pharmacology technology.

Condition being studied Ulcerative colitis (UC) is a chronic, recurrent intestinal inflammatory disease characterized clinically by mucous, bloody stools, and abdominal pain.Tongxie Yaofang (TXYF), a classic traditional Chinese medicine (TCM) prescription, is mostly used for the treatment of irritable bowel syndrome, and its efficacy in treating UC is still controversial. There is relatively little research on the mechanism and pharmacodynamics of TXYF in treating UC, and the underlying mechanism is not yet clear. This study aimed to integrate meta-analysis with network pharmacology analyses to determine the efficacy and mechanism of TXYF in treating UC.

METHODS

Participant or population The study subjects were adult patients who met the diagnostic criteria for UC.

Intervention In the intervention, the control group received only Western medicine (WM), and the experimental group received either TXYF or TXYF combined with WM.

Comparator Western medicine.

Study designs to be included Randomized controlled trial.

Eligibility criteria 1) The study subjects were adult patients who met the diagnostic criteria for UC. 2) The research type was a randomized controlled trial (RCT). 3) In the intervention, the control group received only Western medicine (WM), and the experimental group received either TXYF or TXYF combined with WM. 4) Studies included at least one of the following relevant safety or efficacy indicators: Efficacy indicators included the total effective rate, auxiliary examination results, TCM symptom score, Geboes index, Baron score, Mayo score, Sutherland index, and anxiety score and depression score. The safety indicators included adverse reactions and the recurrence rate.

Information sources Two researchers independently searched the Chinese and English databases, including CNKI, CBM, VIP, WanFang Data, Web of Science, Pubmed, Cochrane, Embase, and Medline. The search period ranged from the establishment of the database until December 2023.

Main outcome(s) The total effective rate.

Additional outcome(s) Efficacy indicators included auxiliary examination results, TCM symptom score, Geboes index, Baron score, Mayo score, Sutherland index, anxiety score and depression score. The safety indicators included adverse reactions and the recurrence rate.

Quality assessment / Risk of bias analysis Cochrane Bias Risk Assessment Tool.

Strategy of data synthesis RevMan 5.3 software was used for the data analysis. When the heterogeneity criteria were $I2 \leq 50\%$ and $P \geq 0.1$, there was no significant heterogeneity between RCTs, and a fixed effects (FE) analysis was used. In contrast, if the heterogeneity criteria were $I2 > 50\%$ and $P < 0.1$, then significant heterogeneity was indicated, and a random effects (RE) analysis was used. For binary data, the risk ratio combined effect size was used, while for the continuous variables, the mean difference combined effect size was used (if there was inconsistency in units between studies for continuous variables, the standardized mean difference was used for representation). The final result was represented by a 95% confidence interval. When more than 9 studies were included, a funnel plot was generated to evaluate publication bias.

Subgroup analysis According to the treatment of TXYF or TXYF combined with WM, subgroup analysis was carried out.

Sensitivity analysis When there is significant heterogeneity in the main outcome, sensitivity analysis is conducted to determine the source of heterogeneity.

Country(ies) involved China.

Keywords Traditional Chinese medicine; ulcerative colitis; meta-analysis; network pharmacology.

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