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A network meta-analysis of different acupuncture and moxibustion methods for the treatment of endometriosis

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ADMINISTRATIVE INFORMATION

Support - None.

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 17 August 2023 and was last updated on 17 August 2023.

INTRODUCTION

Review question / Objective P: Patients who meet the relevant diagnostic criteria for endometriosis; I: The treatment group consisted of various acupuncture and moxibustion therapies, mainly including electroacupuncture, abdominal acupuncture, acupoint catgut embedding, warming needle moxibustion, herb-partition moxibustion, acupuncture, moxa stick moxibustion, buccal acupuncture, midnight-noon ebb-flow low-frequency therapy, laser moxibustion, ear acupuncture; C: The control group is controlled by placebo, sham acupuncture, western medicine or traditional Chinese medicine, blank; O: Clinical efficacy rate, Visual Analogue Score (VAS) and adverse events; S: Published clinical randomized controlled trials of acupuncture and moxibustion methods for endometriosis.

Rationale In recent years, traditional Chinese acupuncture and moxibustion have been applied more and more in the clinical treatment of EMs, and the relevant mechanism suggests that acupuncture and moxibustion can improve pelvic circulation, relieve uterine smooth muscle spasm and regulate hormone levels. There are many methods of acupuncture and moxibustion for the treatment of endometriosis in clinical practice, including routine acupuncture, electroacupuncture, abdominal acupuncture, and moxibustion, etc. Most of them have achieved good therapeutic effects. However, due to the lack of direct efficacy and safety comparison between various acupuncture and moxibustion therapies, it is not possible to form a relatively accurate assessment of the differences in outcome improvement indicators in patients with endometriosis treated by different acupuncture and moxibustion therapies. Through the comparison of different acupuncture

and moxibustion methods to provide evidence-based medical evidence to treat endometriosis.

Condition being studied Endometriosis is a common gynecological disease, which is mainly featured by pelvic abdominal pain, dysmenorrhea, infertility, dyspareunia and so on. It is a chronic disease due to its incompletely clear cause, difficulty to cure, and the risk of suffering cancer. According to incomplete estimates, the incidence of endometriosis in women of childbearing age is about 10% to 15%, the incidence of endometriosis in infertile women is about 20% to 50%, and the incidence of endometriosis in women with clinical manifestations of menstrual pelvic pain is about 71% to 87%. At present, the main treatment methods of Western medicine for endometriosis are drug therapy, surgical therapy, interventional therapy and auxiliary therapy. At present, Western medicine treatment has the characteristics of drug toxicity, postoperative trauma, poor prognosis and high recurrence rate, so seeking a safe and effective treatment has become an urgent need for the treatment of endometriosis. In recent years, traditional Chinese acupuncture and moxibustion has been applied more and more in the clinical treatment of this disease, and the relevant mechanism suggests that acupuncture and moxibustion can improve pelvic circulation, relieve uterine smooth muscle spasm and regulate hormone levels. There are many methods of acupuncture and moxibustion in clinical treatment of endometriosis, including routine acupuncture, electroacupuncture, abdominal acupuncture, and moxibustion, etc. Most of them have achieved good therapeutic effect.

METHODS

Search strategy Databases : SinoMed.CNKI.Wanfang.VIP.PubMed、EMbase, Cochrane Library、Web of science. Search dates range : from Building a library to 2023/05/01 Restrictions:language is Chinese or English. I will check again prior to the final analysis. I will seek publication.

Participant or population Inclusion criteria:Patients with EMs with clear diagnostic criteria.Exclusion criteria: ① Review, case report, systematic review, experience summary, animal experimental research articles; ②Repeated publications, repeated citations, or similar (same) methods and results published recently by the same author, only 1 most authoritative literature is

selected; ③ The purpose of the study could not reflect the efficacy of acupuncture in the treatment of endometriosis; ④ Unable to provide complete and effective data; ⑤There are obvious methodological errors in the literature, such as statistical errors and improper random allocation.

Intervention The intervention mainly included electroacupuncture,abdominal acupuncture,catgut embedding, warming needle moxibustion, herb-partition moxibustion, moxa stick moxibustion, buccal acupuncture, midnight-noon ebb-flow low frequency therapy, laser moxibustion,ear acupuncture.It can also be used alone or in combination with multiple therapies.

Comparator The comparators were placebo, sham acupuncture, western medicine or traditional Chinese medicine, blank.

Study designs to be included Network meta-analysis, systematic review of randomized controlled trials to assess the beneficial effects of different acupuncture and moxibustion methods.

Eligibility criteria Inclusion criteria :① Study type: Randomized Controlled trials (RCT) involving different acupuncture and moxibustion methods for endometriosis; ③ Intervention measures: The treatment group was mainly treated with acupuncture therapy, and the control group was controlled with placebo, sham acupuncture, drugs or blank. (4) Outcome measures: The primary outcome measures were clinical effective rate, and the secondary outcome measures were visual analogue score (VAS) and the occurrence of adverse events.1.2.2 Exclusion criteria ① Review, case report, systematic review, experience summary, animal experimental research articles; (2) Repeated publications, repeated citations, or similar (same) methods and results published recently by the same author, only 1 most authoritative literature is selected; ③ The purpose of the study could not reflect the efficacy of acupuncture in the treatment of endometriosis; ④ Unable to provide complete and effective data; (5) There are obvious methodological errors in the literature, such as statistical errors and improper random allocation.

Information sources Databases : SinoMed.CNKI.Wanfang.VIP.PubMed、EMbase、Cochrane Library、Web of science Contact details

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Citation: Listing data sources in the references

Data use license: The information quoted is all referred to.

Data availability: Data availability is not applicable to this article as no new data were created or analyzed in this study.

Ensure that information data sources are clear, accurate, complete, and easily accessible.

Main outcome(s) The primary outcome was clinical efficacy rate.

Additional outcome(s) Visual Analogue Score (VAS) and adverse events.

Data management In this study, two researchers independently conducted literature retrieval and screening at all levels, carried out cross-check, extracted relevant data, exported the title and abstract of the retrieved articles, and then imported the data into NoteExpress software for literature management, eliminated duplicate literatures and excluded literatures that did not meet the requirements of the articles. After browsing the title and abstract of the articles, download the full text of the article and read it carefully. Using excel tables to record and summarize useful data, and then summarizing the literature in the next step. If the data diverges, a third researcher can make a decision. The content of data extraction mainly includes: 1) the subject of the included study, the abstract of the literature, the year of publication, the test method, the type of study, and the number of cases; 2) Basic characteristics of the subjects, including baseline data of each group, such as age, gender, duration of disease, follow-up time, etc.; 3) Specific intervention measures and relevant relevant indicators, such as randomization, diagnostic criteria, course of disease, baseline data, treatment time, follow-up time, adverse reactions and other records, including outcome indicators and related factors causing the risk of deviation.

Quality assessment / Risk of bias analysis The literature quality was evaluated by two researchers. The risk of bias was assessed using the literature quality assessment tool provided by the Cochrane Collaboration network. The quality of the selected literature was evaluated through 7 articles. Specific articles include random sequence generation, assignment concealment, double blindness of subjects and researchers, blind evaluation of results, loss of follow-up and withdrawal, selective reporting, and other sources of bias. The bias of

the above mentioned projects can be classified into three levels of bias: low risk, uncertain and high risk. In addition, when the selection decisions of two researchers are inconsistent, it can be resolved by negotiation or by asking a third party to intervene and coordinate.

Strategy of data synthesis When closed loops appear in the study, the "ring method" is used to test for inconsistencies. The inconsistency factor (IF value) can be judged: when $P > 0.05$ or its 95% CI starting point is 0, it indicates that the direct evidence and indirect evidence are in good agreement; When $P < 0.05$, indicating good agreement between direct and indirect evidence. If there is inconsistency, the inconsistency model is fitted, and sensitivity analysis is performed to test the stability of the outcome measures, and vice versa.

The primary outcome was clinical efficacy rate. Considering the comprehensive factors in acupuncture techniques, acupuncture therapies, stimulation intensity and frequency, differences in drug components, timing of treatment in the original studies, acupoint prescription and so on, this analysis used a random-effects model.

Subgroup analysis Subgroup analysis is not set up at this time.

Sensitivity analysis

1. Type and quality of studies, such as excluding only individual observational studies or studies of low quality;
2. Definition and measurement of study subjects, interventions and outcomes, such as excluding only studies with different therapeutic doses;
3. Inclusion and exclusion criteria, such as studies that exclude ethnic minorities;
4. Data extraction method and estimation method of missing data, such as extracting a certain data point by another method;
5. Statistical models, such as using different weighting methods.

Language restriction Chinese or English.

Country(ies) involved China.

Keywords acupuncture; moxibustion; endometriosis; randomized controlled trials; network meta-analysis.

Contributions of each author

Author 1 - Yang Su - Author 1 drafted the manuscript.

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Author 3 - Hao Zhu - Author 3 collected data and extracted the data. Meanwhile, quality assessment was checked.

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Author 5 - Jie Yang - Author 5 Checked the writing of the article and the authenticity of the content of the paper, the reliability of the data, the credibility of the conclusion, whether it conformed to the legal norms, academic norms and moral norms.

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