# Review

# Meta analysis on acupuncture for postpartum depression\*

针刺治疗产后抑郁症的Meta分析\*

WANG Jin-feng (王金凤)<sup>1</sup>, TAN Ling-jing (谭凌菁)<sup>1</sup>, MEI Qing-xian (梅清鲜)<sup>1,2</sup>, ZHENG Qing-hua (郑清华)<sup>1,2</sup>, YANG Song-bai (杨松柏)<sup>2</sup>, MEI Zhi-gang (梅志刚)<sup>1,2⊠</sup>

1. Medical College of China Three Gorges University, Yichang 443002, Hubei Province, China; 2. Yichang Hospital of TCM Affiliated to Clinical Medical College of TCM of China Three Gorges University (1. 三峡大学 医学院,湖北宜昌 443002,中国;2. 三峡大学中医临床医学院宜昌市中医医院)

#### ARTICLE INFO

# First antthor: WANG Jin-feng (1991-), female, postgraduate student. E-mail: 10877925@qq.com

Corresponding author: MEI Zhi-gang (1977-), male, professor, master student supervisor.

Reseanh field: study on mechanism of nervous system disease treated by TCM. E-mail: zhigangmei@139.com

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#### ABSTRACT

Objective To evaluate the clinical efficacy of acupuncture in treatment of postpartum depression. Methods Pubmed database and Embase database were retrieved online in English, and China National Knowledge Internet (CNKI), China Biology Medicine disc (CBM), VIP database and Wanfang Data were retrieved in Chinese. Literature in recent 10 years relating to clinical randomized controlled trials of acupuncture in treatment of postpartum depression were collected, and Meta analysis was performed by adopting RevMan5.3. Results Fourteen articles were included in the study in total; it was shown from HAMD result that after combination, WMD=-1.27, 95%CI (-2.55, 0.01); according to Z-test, Z=1.95, P=0.05, and the difference in efficacy between treatment group and control group was statistically significant. It was shown from EPDS result that after combination, WMD=-0.53, 95%CI (-0.92, -0.03); according to Z-test, Z=2.08, P<0.05, and the difference in efficacy between treatment group and control group was statistically significant. During the analysis taking estradiol as standard, it was shown from the result that after combination, WMD=63.99, 95%CI (13.39, 114.60); according to Z-test, Z=2.48, P<0.05, and the difference in efficacy between treatment group and control group had remarkably statistical significance. During the analysis taking effective rate as standard, it was shown from the result that after combination, OR=3.15, 95%CI (2.19, 4.55); according to Z-test, Z=6.14, P<0.05, and the difference in efficacy between treatment group and control group had remarkably statistical significance. Conclusion Acupuncture treatment for postpartum depression is effective, but more clinical randomized controlled trials with high quality and large sample size are still needed to verify the

KEY WORDS: acupuncture; postpartum depression; meta analysis

Postpartum depression refers to the depressive disorder suffered from during puerperium, with the main clinical manifestations of a series of emotional disorders, such as depression, grief, dismay, or dysphoria, irascibility, even suicidal tendency<sup>[1]</sup>. According to the epidemiological investigation during puerperium, depression is easily caused after delivery. After pregnancy, delivery, postpartum lactation, and a series of other changes, maternal physiological and

psychological changes appear, once these changes are beyond the normal limit, these changes will be considered as pathological development. Clinically, drug therapy and psychological treatment were mainly administrated according to the specific circumstances of patients. Selective serotonin (5-HT) re-uptake inhibitors were mostly used in western medicine, such as sertraline, paroxetine, citalopram, and etc. However, western medicines have certain toxic

and side effects, which can enter into the infant's body through breast milk. With poor compliance in patients, western medicines have limitation in clinical application. Since the individual difference is great, the efficacy of psychological treatment is uneven. Due to the advantages of easy and simple to operate, inexpensive price, and good efficacy, acupuncture therapy is easy to be accepted by patients clinically, therefore, it is widely used in treatment of this disease. Meta analysis was conducted in the literature in recent 10 years relating to clinical randomized controlled trials of acupuncture in treatment of postpartum depression, which provided references for acupuncture in treatment of postpartum depression.

#### **DATA AND METHODS**

#### Data sources

Pubmed database and Embase database were retrieved online in English, and China National Knowledge Internet (CNKI), China Biology Medicine disc (CBM), VIP database and Wanfang Data were retrieved in Chinese. Literature relating to clinical randomized controlled trials of acupuncture in treatment of postpartum depression were collected completely. "Acupuncture" "postpartum depression" and "depression" were used as key words in English for retrieval, and "针灸" "针刺" "产后抑郁" "产褥期抑郁" "电针" and "耳针" were used as key words in Chinese. The literature must be the ones published from December, 2004 to December, 2015.

## **Inclusion criteria**

① All the literature included were the journal articles relating to efficacy observation of clinical randomized controlled trials published publicly; ② all the patients included in the control group were definitely diagnosed with postpartum depression; ③ intervention: acupuncture, or acupuncture combined with other therapies (drug therapy and psychological treatment) were mainly used in the treatment group, and antidepressant drugs, such as fluoxetine, mirtazapine, and etc., as well as other symptomatic treatment methods were used in the control group; ④ the efficacy evaluation indices included clinical total effective rate, Hamilton Depression Scale(HAMD), Edinburgh Postnatal depression Scale (EPDS) and estradiol ( $E_2$ ).

#### **Exclusion criteria**

① Literature published repeatedly in English or Chinese or in different journals; ② literature with acupuncture used in the control group; ③ literature with unclear data; ④ literature with incomplete experimental design, or too many interventions, or

indeterminable acupuncture efficacy.

## Literature screening and data extraction

Literature screening and data extraction were conducted by two evaluators independently through reading titles, abstracts and full texts and eliminating literature published repeatedly or the ones with incomplete data. The literature were screened and data were extracted based on inclusion and exclusion criteria, and the data extracted were input into Excel from for the purpose of analysis. The quality of randomized controlled trials was evaluated according to Cochrane System Valuator Handbook 5.0.20 with the evaluation contents including: 1 the generation method of randomization sequence; 2 whether allocation concealment existed; 3 whether blind method was applied; 4 whether incomplete data bias existed; (5) whether the results were selectively reported; 6 whether there were other factors which affected the authenticity. The inconsistency between data extraction and quality assessment was judged by the third evaluator.

## Statistical analysis

Statistical analysis was performed via Revman 5.3 statistical software provided by Cochrane Collaboration. According to heterogeneity test of study, it was determined to adopt fixed effect model or random effect model. The clinical total effective rate was analyzed by adopting binary classification index odds ratio (OR), HAMD, EPDS and  $E_2$  were analyzed by adopting weighted mean difference (WMD), and 95% confidence interval (CI) was calculated. The difference was statistically significant when  $P \le 0.05$ . Funnel plot was adopted to test whether there was potential publication bias in the literature, and Egger linear regression method was used for testing whether there was bias in the funnel plot.

#### **RESULTS**

Retrieved result of literature was seen in Figure 1.

The basic information on included articles was seen in Table 1.

## Quality evaluation of included articles

In the 14 included articles, subjects were allocated randomly; random number table method was applied in 7 articles<sup>[4,7-9,12,14-15]</sup>, randomization based on visiting sequence was mentioned in 2 articles<sup>[3,11]</sup>, and randomness was mentioned in 5 articles<sup>[2,5,6,10,13]</sup> without specific allocation method. Double blind method was adopted in 1 articles<sup>[2]</sup>, and the adoption of single blind method or double

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