The efficacy and safety of acupuncture in women with primary dysmenorrhea : a systematic review and meta-analysis

Hye Lin Woo^a, Su Jeong Heo^b, Kyoung Sun Park^a, Jin Moo Lee^a

^aDepartment of Korean Medicine Obstetrics & Gynecology, College of Korean Medicine, Kyung Hee University, Seoul, Republic of Korea
^bDepartment of Korean Medicine Obstetrics & Gynecology, Dongbu Central Hospital, Seoul, Republic of Korea

Introduction

Primary dysmenorrhea is defined as cramping pain during menstruation without any pelvic pathology, causing the restriction of daily activities. Nonsteroidal anti-inflammatory drugs (NSAIDs) and oral contraceptives is recommended as conventional treatments. However, with these medications, some patients could not get pain reduction and others experience side effects such as nausea, dyspepsia, or vaginal bleeding. Acupuncture has been widely used to alleviate diverse pains. Many clinical studies were conducted to show its efficacy on menstrual pain, but previous reported systematic reviews (SRs) concluded the conflicting results of the efficacy. Therefore, we aimed to evaluate the current evidence regarding the efficacy and safety of acupuncture on primary dysmenorrhea.

Results

This review included 35 RCTs; the meta-analysis included 24 RCTs. Most studies showed low or unclear risk of biases. After pooling, manual acupuncture (MA) was more effective at reducing menstrual pain, compared to the control groups receiving no treatment (SMD = -10.90, 95% CI [-15.88, -5.93], Fig. 1(A)), or NSAIDs (SMD = -0.47, 95% CI [-0.73, -0.22]). Electro-acupuncture was more effective at reducing pain, compared to no treatment and placebo acupuncture (MD = -3.97, 95% CI [-7.84, -0.11], Fig. 1(B)). Some studies showed that the efficacy of acupuncture was maintained after a short-term follow-up. However, there was no significant difference between MA and placebo acupuncture (SMD = -0.36, 95% CI [-0.74, 0.01], P = 0.06).

Methods

We searched the following 10 databases for relevant articles published before November 2016: MEDLINE, EMBASE, CENTRAL, Allied and Complementary Medicine Database (AMED), three Chinese databases, two Korean databases, and one Japanese database. Our study included randomized controlled trials (RCTs) that measured menstrual pain intensity and its associated symptoms. The intervention groups were received all types of acupuncture that penetrate skins using needle insertion, and the control groups were no treatment, usual care, placebo acupuncture, and oral medications. Risk of bias in each article was assessed according to Cochrane risk of bias tool for RCTs. For the statistical pooling, the risk ratio (RR), mean differences (MD) or standardized mean differences (SMD) was calculated with 95% confidence intervals (CIs) using the Review Manager software (RevMan v5.3).

Conclusion

The results of this study suggest that acupuncture might reduce menstrual pain and associated symptoms more effectively compared to no treatment or NSAIDs, and the efficacy could be maintained during a short-term follow-up period. However, the efficacy of MA compared to a placebo was not convincing. Despite limitations due to the moderate quality and methodological restrictions of the included studies, acupuncture might be used as an effective and safe treatment for females with primary dysmenorrhea.

Fig. 1. Meta-analysis of the studies evaluating the effects of acupuncture on primary dysmenorrhea.