

Effects of Acupuncture on Uterine Hemodynamics and Early-Phase Pain Relief in Primary Dysmenorrhea: A Retrospective Cohort Study [Letter]

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Dear editor

We read with interest the retrospective cohort study by Guo et al¹ on the effects of acupuncture on uterine hemodynamics and early-phase pain relief in primary dysmenorrhea. The authors reported that the “Regulating Ren and Unblocking Du” acupuncture protocol improved uterine artery Doppler indices and provided early-phase pain relief. While the topic is clinically relevant, several methodological issues warrant further consideration.

First, the timing of pain assessment was not standardised to the menstrual cycle phase. The authors measured Visual Analogue Scale (VAS) scores at 1, 3 and 6 months after treatment, but they did not specify on which cycle day the VAS was recorded, whether it reflected average pain or peak pain, or whether assessments were always performed during the same phase (eg, the first 48 hours of menstruation). Pain intensity in dysmenorrhea varies markedly across the cycle. The observed differences between groups could be biased by differential recall or by the timing of evaluation relative to menstrual onset.

Second, the post-hoc time-point comparisons were not adjusted for multiple testing. The authors reported separate comparisons at 1, 3 and 6 months using independent *t*-tests (Table 3). Although the linear mixed-effects model (with random intercepts) revealed a significant group-by-time interaction, these three post-hoc comparisons were not adjusted for multiple testing (eg, Bonferroni correction). With three independent tests, the risk of a type I error is increased.² Therefore, while the overall temporal pattern is supported by the interaction term, the specific finding of significant differences at 1 and 3 months but not at 6 months should be interpreted with caution.

Third, the authors dichotomised age at 30 years and disease duration at 5 years without providing a clinical or statistical justification for these cut-offs. Such post-hoc dichotomisation can create artificial threshold effects and increases the risk of overfitting.³ Moreover, interaction *p*-values for age and disease duration were not adjusted for the two subgroup tests. Nevertheless, the authors derived a clinical recommendation (“advocate for early intervention”) from these exploratory findings. Ideally, subgroup results from exploratory analyses should be confirmed in independent prospective studies before being translated into clinical practice.⁴

Fourth, although the authors stated that propensity score matching achieved balance with SMD < 0.10, they did not report the SMD values for individual covariates. Providing a full SMD table or forest plot would allow readers to verify the balance of each baseline characteristic.

In conclusion, we appreciate the authors’ effort to evaluate acupuncture in primary dysmenorrhea. Addressing these methodological issues would substantially strengthen the evidence base for future studies.

Artificial Intelligence Statement

ChatGPT (OpenAI, San Francisco, CA, USA; GPT-4 version) was used exclusively to assist with language and grammatical refinement. All suggested edits were carefully reviewed and approved by the author, who takes full responsibility for the scientific content.

Disclosure

The authors report no conflicts of interest in this communication.

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