

Treatment of polycystic ovary syndrome with acupuncture

Polycystic ovarian syndrome (PCOS) is a common endocrine and metabolic disorder. Acupuncture has been investigated as a treatment option for PCOS. A recent randomised clinical trial published in the *Journal of the American Medical Association* failed to show any increase in live births in patients with PCOS following acupuncture.¹ However, we have a few concerns regarding the design and reporting of this study, which we feel could potentially mislead the application of acupuncture in women with PCOS.

Patients with PCOS show highly diverse symptoms. Among them, obesity exerts a particularly significant impact on PCOS phenotypes, by worsening metabolic and reproductive outcomes, increasing cardiovascular risks and affecting metformin treatment outcomes.² Some researchers categorise women with PCOS based on their body mass index (BMI), and it appears that acupuncture is more effective in non-obese patients with PCOS than obese ones unless lifestyle interventions are included.³ Indeed, patients with PCOS experiencing positive effects following EA had a less androgenic hormonal profile and lower BMI prior to treatment compared with patients who were unaffected by EA.³ Furthermore, among overweight women with PCOS, acupuncture and lifestyle interventions (such as exercise and diet) improve menstrual frequency and decrease the levels of several sex steroids.⁴ Similar conclusions have also been drawn by other groups.⁵ This line of evidence points to the strong possibility that obese patients with PCOS may be

less responsive to acupuncture treatment without concurrent lifestyle interventions. Incidentally, the study by Wu *et al*¹ recruited mainly overweight patients (with mean BMI ≥ 23) but did not apply lifestyle interventions, raising the possibility that acupuncture alone may not have been the best treatment for this population.

In addition, the primary outcome measure in Wu *et al*'s study was live birth.¹ It needs to be noted that acupuncture's beneficial effects could be restricted to certain outcomes in patients with PCOS, such as altered levels of sex hormones.⁴ Indeed, a recent review found low level of evidence suggesting that acupuncture improves ovulation rate and menstrual regularity compared with no acupuncture.³ Repeated EA treatments may induce regular ovulation in greater than one-third of women with PCOS, and attenuate affective symptoms and improve health-related quality of life.^{3,4} Acupuncture at an early stage of oocyte recruitment has a beneficial effect on embryo quality, but not on other outcomes of *in vitro* fertilisation or intracytoplasmic sperm injection in women with PCOS.⁵ Accordingly, the primary outcome of live birth in the trial by Wu *et al*¹ may be considered relatively short term. The possibility that acupuncture may have improved endocrine parameters in their study, and could therefore impact reproductive outcomes including live birth in the longer term (ie, future cycles), cannot be excluded. Consequently, a more comprehensive perspective of acupuncture's effects on various aspects of PCOS is required.

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Contributors HZ, DL and JQ raised the scientific question. HZ performed the literature review and wrote the manuscript. All authors discussed and finalised the manuscript, and all approved the final version accepted for publication.

Competing interests None declared.

Provenance and peer review Not commissioned; internally peer reviewed.

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To cite Zhang H, Li D, Li R, *et al.* *Acupunct Med* Epub ahead of print: [please include Day Month Year]. doi:10.1136/acupmed-2017-011570

Accepted 30 December 2017

Acupunct Med 2018;**0**:1
doi:10.1136/acupmed-2017-011570

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