Use of Acupuncture in Overweight/Obese Women with Polycystic Ovary Syndrome

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ABSTRACT

Overweight/obesity has been identified as the most common chronic condition associated with patients who have polycystic ovary syndrome (PCOS). This increases the overall cost of public health care. While current effective and safe conventional medical treatments for overweight and obesity exist, such treatments are limited because of their poor feasibility and side-effects. As a complementary therapy, acupuncture has recently received overwhelming attention to assist weight loss in women who have PCOS, as well as addressing other elements of the disorder, such as stress, irregular menstrual cycles, and infertility. Despite acupuncture's efficacy and safety, questions remain as to its robust evidence. Therefore, the purpose of this clinical commentary is to summarize the current status of associated clinical practices and the action mechanisms of acupuncture treatment for weight control in patient with PCOS. This commentary also outlines relevant concerns for future research.

POLYCYSTIC OVARY SYNDROME (PCOS) is a common endocrine and metabolic disorder characterized by hyperandrogenism, ovulatory dysfunction, and polycystic ovaries in 6%–10% women of reproductive age.¹ Comorbidities—such as obesity, infertility, insulin resistance, cardiovascular disease, and cancer—and diminished well-being are common.²

Women with PCOS are more likely to be overweight than their lean counterparts,³ and excess weight worsens the features of PCOS.^{4,5} Overweight and obesity also are increasingly prevalent chronic conditions associated with serious morbidity and mortality.^{6,7} Therefore, the importance of weight loss for overweight or obese patients with PCOS is critical.

Lifestyle modifications through dietary change and enhanced exercise and physical activity comprise the first-line treatment for weight loss.⁸ However, compliance with this behavioral therapy is an issue. Various pharmacologic therapies and surgery have been investigated for effectiveness and safety in weight management, but high-quality evidence is lacking. For patients with PCOS, lifestyle modification, medication, and weight-loss surgery are also

the main medical therapies in managing overweight/obesity and preventing metabolic comorbidities.⁹ Yet, sustained, significant weight loss is difficult to achieve with these interventions or is frequently complicated by significant side-effects. Thus, development of a safe and effective body weight-control strategy is an important medical need for patients with PCOS.

Acupuncture is a complementary therapy that is increasingly being integrated into conventional medicine to assist with symptom management and disease control across a wide spectrum of disorders. Acupuncture has been shown in small studies to be helpful with weight loss, and it could be an especially attractive option for patients with PCOS, because this modality might also help address other elements of the disorder, such as stress, irregular menstrual cycles, and infertility. The use of acupuncture for overweight/obese individuals with PCOS has been a long-standing practice in Chinese medicine, and a systematic review suggested that acupuncture has favorable effects in overweight patients who have PCOS.⁹ In a 2016 trial of 17 overweight women with PCOS, 5 weeks of electroacupuncture (EA) treatment

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improved glucose regulation and adipose tissue androgens.¹⁰ In contrast to exercise, EA improved insulin sensitivity and modulated adipose tissue gene expression without influencing adipose tissue in a rat PCOS model.¹¹

Future research into acupuncture treatment for weight control in patients with PCOS should be focused in the following main areas:

First, there is a clear need for reasonable, rigorous randomized controlled trials to investigate the impact of acupuncture on overweight/obesity in populations of patients who have PCOS. Given the heterogeneity and methodological weakness of the current trials, strong conclusions regarding the effectiveness and safety of acupuncture cannot be made at this time.

Second, more preclinical research on the effect of acupuncture on body weight control are required. The actual mechanisms of acupuncture for overweight/obese patients with PCOS are still not fully known.

Third, greater attention to the various types of acupuncture methods (e.g., body acupuncture, auricular acupuncture, abdominal acupuncture and EA) is required. Different acupuncture methods could produce different effects, and clearly identifying each practice in future reviews can help differentiate the relative contribution of each method to the challenge of weight control.

Thus, there is a clear need for *high quality* systematic research to provide more robust evidence to advance the field of acupuncture treatment in the overweight/obese PCOS population.

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