

USE OF ACUPUNCTURE WITH IVF TREATMENT: WHAT IS THE EVIDENCE AND HOW SHOULD WOMEN BE COUNSELLED?

by KERRY HAMPTON and ENSEIH FALOODI



Kerry Hampton RN, RM, MA, PhD, is a lecturer in the School of Monash Nursing and Midwifery at Monash University. She is also a fertility awareness counsellor in clinical practice.

Enseih Faloodi, BMid, MMid Edu, PhD, is a reproductive epidemiologist. She is also a lecturer in the School of Monash Nursing and Midwifery at Monash University.

Introduction

Use of acupuncture to improve the success of in vitro fertilization (IVF) treatment is an area of interest among orthodox and complementary health practitioners. Much research attention has been given to determine the effectiveness of acupuncture as adjuvant therapy with IVF treatment^{6,7,11,18} yet little is known about couples' decision-making experience in this health context. In my role as a fertility counsellor I see many couples who are trying to conceive and who express heartfelt confusion about the effectiveness of some of the commonly promoted treatment options, including use of acupuncture as adjunctive therapy with IVF treatment.

Sally's story (not her real name) is just one clinical case that I can share on this topic. Teary and exasperated, Sally confided that she was feeling very stressed because she had been trying for a baby for nearly two years. After the first five months of trying, a friend suggested she see a fertility specialist because of her age. Sally was 34 at the time. The fertility specialist she saw worked closely with an acupuncturist, so she had been having IVF treatment with acupuncture for nearly 18 months. She said that not getting pregnant was very hard emotionally and so were the high costs of the treatments. The financial strain was

causing a lot of problems between her and her husband. He wanted Sally to stop having acupuncture because of the expense and also because he didn't believe in it. Sally said she felt frightened that if she didn't continue with acupuncture she might not get pregnant and would feel forever guilty - and that contemplating this possibility felt overwhelming.

Evidence from early trials

The practice of combining acupuncture with IVF treatment to enhance effectiveness was initiated by three small trials^{8,15,19} that were published between 2002 and 2006 with sample sizes between 160-228 participants. The first trial found a significantly higher clinical pregnancy rate in the women who had received acupuncture compared with those who had not (42.5% vs 26.3%, respectively)¹⁵, the second found a higher combined clinical and ongoing pregnancy rate in the intervention group compared with the controls (33.6% and 28.4% vs 15.6% and 13.8%, respectively)⁸, and the third found no significant differences in outcomes between the intervention and control groups but concluded that acupuncture was safe for women undergoing embryo transfer¹⁹. The trial authors speculated that acupuncture

around the time of embryo transfer could enhance the success of IVF treatment by improving the clinical pregnancy rates, reducing miscarriages and increasing the number of live births. The possible mechanism for this effect is unknown, but hypothesised to be the result of increasing the blood flow to the reproductive organs, regulating the reproductive hormones and reducing stress¹⁸. Following this, it is unsurprising that both couples and practitioners alike turn to additional therapies to assist the IVF process given the high costs and low success rates of the treatment¹⁸.

As a consequence of those early trials, many acupuncturists now report specialist training in fertility support³. It has been estimated that around 15% of women in the United Kingdom¹³ and Australia¹⁴ and between 30-47% of women in the United States of America use acupuncture as adjunctive therapy when undergoing IVF treatment⁹.

Evidence from recent trials and systematic reviews

More recent, larger and better controlled trials report mixed results, casting doubt on the findings of the

earlier trials, because of important limitations that were not considered. For example, in the latest study, Smith et al. (2018) conducted a four-year randomized trial of 848 women attending 16 IVF centres in Australia and New Zealand. They concluded that when acupuncture with IVF treatment was compared with controls (sham acupuncture with IVF treatment) no statistically significant difference was found in the overall live birth rates. This means that acupuncture did not increase the chance of having a live baby above the placebo effect. The placebo effect is a widely accepted phenomenon in medical research for it is one critical way of demonstrating scientific rigor when determining if an intervention is effective¹⁰.

Systematic reviews of randomized clinical trials offer one of the highest levels of evidence for the effectiveness of interventions¹⁰. Since 2010, four systematic reviews^{6,7,11,18} that include 14, 20, 16 and 20 trials, respectively, with some overlap of the included studies and with combined sample sizes of between 430 to 6344 found no statistically significant difference in live birth rates with the intervention compared to controls (sham-controlled or no

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adjunctive treatment-controlled). Reviews of systematic reviews can offer an even higher level of evidence¹⁰. A review analysed 11 systematic reviews on the topic and concluded similarly, as above²¹. However, in the very latest of these reviews, Smith et al. (2019) concluded from a subset analysis that further research is warranted to examine the effects of acupuncture on a subgroup of infertile women who have responded poorly to IVF treatment¹⁸. The outcome of the proposed research is likely to take years.

Fertility society recommendations

In the light of the latest trial by Smith et al. (2018), four systematic reviews and one review of systematic reviews conducted over the past 10 years, both the British Medical Society⁶ and the American Society for Reproductive Medicine¹⁶ have announced that they do not support the routine use of acupuncture with IVF treatment, and in Australia IVF specialists suggest that it is time for all IVF clinics to review their marketing of acupuncture¹⁴.

Professional associations recommendations

However, the British Acupuncture Council actively disputes the more recent negative findings saying that they are inconsistent with their clinical experience⁶ and highlight the benefits of using acupuncture with IVF treatment by citing improved clinical pregnancy rates rather than live birth rates⁴. Clinical observations are an important part of evidence gathering but because of the potential of confounders including practitioner subjectivity, offer a much lower level of evidence than randomized trials and systematic reviews of randomized trials when determining whether an intervention is effective¹⁰.

Acupuncture is an aspect of Traditional Chinese Medicine (TCM). TCM is recognised by the Australian Therapeutic Goods Administration (TGA)² and TCM practitioners are regulated by the Australian Health Practitioners Regulation Agency (AHPRA). On this topic, advertising advice by the Chinese Medicine Board of Australia²⁰ appears to be inconsistent, as shown by the following two statements:

Many Chinese medicine practitioners make treatment claims relating to fertility. For the purposes of advertising there is insufficient evidence that Chinese medicine can effectively treat infertility or improve fertility, therefore it's not appropriate to make claims about this in advertising.

The Chinese Medicine Board also states that:

There is some research evidence that Chinese medicine treatment may assist in supporting specific fertility treatments such as IVF, and there is also broad agreement by Chinese medicine practitioners and other health practitioners about acupuncture as an adjunct treatment for IVF. If this is made clear in your advertising, then you will be unlikely to mislead consumers.

At the time of writing, this advice remains current.

How should couples be counselled?

It can be hard for health care practitioners to stay abreast of the latest research evidence and even harder for patients who do not have the same level of access to the research literature. Poorly informed advisors (whether they be family, friends or neighbours) and industry advertisements that are not based on evidence, can add to confusion and misconceptions¹⁷.

In my practice, some women say they like the idea of acupuncture, find it relaxing, can afford to use it and are happy to try it even when they are not convinced that it is efficacious. Conversely, there are many other women just like Sally who say they feel confused and pressured to try it even though they cannot afford to.

All Australian health care practitioners who are registered with AHPRA, including acupuncturists and IVF specialists, have two fundamental ethical duties in the care of their patients; to act in the consumer's best interests and to respect the consumer's autonomy. The principle of informed consent means that health consumers have an unqualified right to make treatment decisions based on full information about the possible risks and benefits of proposed treatments. This helps to protect patients against unwanted treatment (The American College of Obstetricians and Gynecologists: Women's Health Care Physicians: Committee Opinion, 2015). Informed consent also includes full informed financial consent to treatment¹. While acupuncture treatment is much less costly than IVF treatment, concerns have been raised about the greater cost of fertility focused acupuncture compared with other forms of acupuncture¹² and also about the unregulated high costs of IVF treatment in Australia¹⁷.

The authors are supportive of both complementary therapies and IVF treatment. Our one caveat is that women are given the best available evidence for their decision making so that they can make it freely and with confidence knowing the possible benefits, limitations and potential harms. While mostly minor, acupuncture is not without potential harm including nausea, dizziness, tiredness, headache and chest pain¹⁸.

So, how should couples be counselled by their complementary and orthodox health care practitioners? The best available evidence suggests that:

- Use of acupuncture with IVF treatment does not increase the chance of having a baby.
- Further research is recommended. The outcome of future research will not be known for some years.

Conclusion

Women who choose to use acupuncture concurrently with IVF treatment with full knowledge of the best available evidence, can give informed and valid consent. By contrast, women who are advised to use acupuncture without this vital information cannot. Information provision of the best available evidence is vital for gaining informed consent and ethical health care practice, whether the health context is complementary or orthodox.

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