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REVIEW ARTICLE

Impact of acupressure on onset of labour and labour duration: A systematic review

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ABSTRACT

Background: There is worldwide concern with increasing rates of pharmacologically induced labour and operative birth. Many women would like to avoid medical or surgical interventions in childbirth; a desire that may contribute towards the popularity of complementary and alternative medicine/therapies.
Method: This systematic review examines the effects of acupressure on labour onset and duration of labour. We searched MEDLINE, CINAHL, AMED, Cochrane Collaboration, and Science Direct from 1999 to 2013 for published randomised controlled trials and controlled trials comparing acupressure with placebo and no treatment. Studies recruited primiparous and/or multiparous women with either spontaneous or induced onset of labour. The outcome measures were labour onset and duration of all stages of labour.
Findings: Seven trials with data reporting on 748 women using different acupressure points and methods of administration were included in the review. One study examined the initiation of labour and six studies examined labour duration and/or pain levels. The two most studied acupoints were Sanyinjiao/Spleen 6 and Hegu/Large Intestine 4. Results suggest acupressure may reduce the length of labour particularly in the first stage.
Conclusion: Further research is required on whether acupressure can shorten labour duration, augment prolonged labour or initiate onset of labour by stimulating uterine contractions. Clinical trials should report the basis for acupressure treatment described in the STRICTA (minus needling) and CONSORT non-pharmaceutical guidelines.

1. Introduction

Increasing rates of pharmaceutically induced labour and operative birth have been reported in the UK, US, Canada and Australia since the early 1990s.[1–5] Government policy recommends that the number of women who embark on a labour and/or go into labour spontaneously needs to increase and the number of labour interventions needs to decrease such as augmentation of labour.[6] Many women require medical and/or surgical augmentation and the systematic reviews report that early amniotomy and oxytocin has a modest reduction in length of first stage of labour only and no effect on mode of birth, epidural analgesia rates or other maternal or foetal/neonatal outcomes.[7–9] The discovery of a non-pharmacological, non-invasive technique to stimulate uterine contractions that is simple, safe, effective and without serious side effects may prove beneficial for both mother and baby especially in areas where pharmacological pain relief may not be available. Acupuncture is a complementary and alternative medicine (CAM) that has been investigated with seven randomised controlled trials (RCTs).[10–16] A systematic review found fewer women receiving acupuncture required use of induction methods (RR 1.45, 95% CI 1.08–1.95) compared with standard care (RR 1.45, 95% confidence interval 1.08–1.95).[17] The three acupoints used by all seven studies were Sanyinjiao/Spleen 6 (SP6), Hegu/Large Intestine 4 (LI4), and Ciliao/Bladder 32 (BL32). The four most cited empirical acupoints (SP6, LI4, BL32, and GB21) are commonly recommended for difficult or delayed labour to assist in descending action of the presenting part and increasing the intensity of uterine contractions.[18] The theory being if labour is slow, contractions are weak or

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the cervix is slow to dilate, stimulating the acupoints may help regulate contractions and restore a balance to the labour.[19] However, acupuncture requires a qualified practitioner and acupuncturists are not easily accessible in maternity settings and there is a cost implication for the woman.

An alternative to acupuncture is acupressure. Acupuncture and acupressure have roots in Chinese medicine and embrace the philosophy of promoting the circulation of blood and Qi (pronounced *chee*), the harmony of yin and yang, and the secretion of neurotransmitters, thus maintaining the normal functions of the human body and providing comfort.[19] Pressure on specific acupoints may also stimulate the release of oxytocin from the pituitary gland, which directly stimulates uterine contractions.[19,20] Acupuncture and acupressure techniques use the same acupoints however acupuncture uses needle stimulation on the points whereas acupressure uses a non-invasive, firm steady pressure using thumb or finger.[18,21–23] It is plausible to propose that acupressure using these same acupoints may be as effective as acupuncture and has the advantage that women, partners and midwives can be taught to use the acupoints safely and easily.[24,25]

There are several systematic reviews of the use of acupressure for the treatment of nausea and vomiting,[26] dysmenorrhea,[27] neurological disorders[28] and insomnia[29] in the general population. There has been one Cochrane review on the use of acupressure (and acupuncture) for pain management in labour.[30] A recent critical narrative review of acupuncture and acupressure for pain management in labour and birth located three systematic reviews. Most of the included trials focussed on acupuncture with only 4 trials of acupressure identified.[31]

This paper reports the first systematic review of RCTs and controlled trials specifically focused on comparing acupressure, rather than acupuncture, with placebo or no treatment for stimulating uterine contractions to initiate labour onset and shorten the duration of labour. We have chosen to focus on acupressure rather than acupuncture as acupressure is a less invasive procedure and has the advantage that the woman or her partner can administer it themselves.

2. Method

The inclusion criteria were peer reviewed research articles reporting new empirical data on pregnant or labouring women who had acupressure administered manually utilising meridian points. Outcomes included effect on stimulating uterine contractions leading to the onset of labour and duration of labour and mode of birth. The time frame is from the first published research article found (1999) to December 2013. Individual studies were assessed for risk of bias at study and outcome levels by the six, risk of bias domains: random sequence generation, allocation concealment, blinding, incomplete outcome data, selective reporting and other bias.[32]

Publications such as guidelines, case reports, and conference papers not reporting primary data collection through established research designs were excluded. Papers reporting the use of plasters, devices or wristbands on the acupoints; acupressure on auricular (ear) points; and acupressure for pain in labour only, were also excluded due to the focus of this review. Full text papers published in non-English languages were not included as there was no funding for translation.

2.1. Search methods

A search was conducted via MEDLINE, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Cochrane Collaboration, AMED (Allied and Complementary Medicine) and Science Direct. All identified titles and abstracts were assessed via inclusion criteria. If the abstract did not provide sufficient information, the full paper was retrieved and examined prior to making a final decision regarding inclusion. The references of retrieved articles were checked to identify any additional studies.

The following search terms were used: acupressure, Sanyinjiao point/Spleen 6 (SP6), Gall Bladder 21 (GB21), Hegu point/Large Intestine 4 (LI4), Bladder 60 (BL60), pregnancy, antenatal, uterine contractions, labour/labor induction, labour/labor and labour/labor duration.

3. Studies located

As shown in Fig. 1, 34 publications were identified. After initial screening, 14 publications were removed with 20 publications remaining. From screening the abstracts, a further five articles were excluded (three systematic reviews; 2 duplications). Of the remaining 15 studies, eight were used for background information only, as the full paper was not available in English, leaving seven studies for formal review.

The seven studies reviewed constitute a diverse international perspective on this topic including research from the UK,[33] Iran,[22,34] India,[35] Egypt,[36] Taiwan[19] and Korea.[20] There was only one study found on the use of acupressure to initiate uterine contractions. This was a pilot non-randomised controlled trial.[33] Six studies were RCTs on labour duration and/or pain relief conducted between 2003 and 2013.[19,20,22,34–36] The six RCTs were evaluated to determine their contribution to the evidence base by applying the CONSORT RCT guidelines checklist for non-pharmacologic treatment [NPT][37]; and the TREND statement checklist[38] was used for the one non-randomised study.[33]

4. Findings

4.1. Ethical considerations

Ethical approval including written and verbal consent for treatment was described by three studies.[20,22,35] Two studies did not explain whether study information was provided to eligible participants, nor outline the consent process or confirm ethics committee approval.[33,34] However a subsequent commentary by Kashanian clarified that written consent had been obtained from their study participants and acknowledged the research was supported by the University and supplied the project number.[39]

Chung et al.[19] did not clarify whether written consent was obtained. Ingram et al.[33] obtained permission from consultant obstetricians to conduct their pilot study and the relevant healthcare trust approved trained midwives to employ acupressure in clinical practice.

4.2. Methodological differences

Tables 1–4 describe the methodological differences of the seven studies including: inclusion criteria, randomisation, allocation and blinding. Three RCTs did not report whether they performed an intention-to-treat (ITT) analysis but it was apparent that this was done.[22,34,36] Hjelmstedt et al.[35] included the CONSORT flowchart with participant numbers for allocation and analysis showing an ITT. An ITT analysis was not undertaken by two studies.[19,20]

Sample sizes ranged from 66[33] to 212.[35] The method used to determine sample size was not included in six of the seven studies. Hjelmstedt et al.[35] estimated power on the principle outcome of labour pain based on outcomes of the study by Lee et al.[40] and calculated a sample size of 70 women per group. Tables 1–4 outline the findings as described in the following sections.