

# Medical Acupuncture

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# Acupuncture For Prebirth Treatment: An Observational Study Of Its Use In Midwifery Practice

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## ABSTRACT

**Background** Midwives in Wellington, New Zealand, observed that women receiving prebirth acupuncture consistently experienced efficient labors, reporting a reduction in the length of labor and medical intervention, specifically the use of epidurals, medical inductions, and cesarean deliveries.

**Objective** To undertake a naturalistic observational study of women receiving acupuncture as part of their antenatal care.

**Design, Setting, and Patients** Practices of 14 midwives recorded their prebirth acupuncture treatments over a 4-month period in 2004 in 169 New Zealand women who received prebirth acupuncture.

**Main Outcome Measures** Gestation at onset of labor, incidence of medical induction, length of labor, use of analgesia, and type of delivery.

**Results** When compared with the local population rates, there was an overall 35% reduction in the number of inductions (for primigravida women, this was a 43% reduction); 31% reduction in the epidural rate; 32% reduction in emergency cesarean delivery; and a 9% increase in normal vaginal birth.

**Conclusions** Prebirth acupuncture appeared to provide some promising therapeutic benefits in assisting women to have a normal vaginal birth. A further randomized controlled study is warranted.

## KEY WORDS

Acupuncture, Pregnancy, Labor, Analgesia, Cesarean Delivery

## INTRODUCTION

Several studies have examined the effect of prebirth acupuncture treatment on women in labor. Kubista and Kucera 1974<sup>1</sup> used 4 acupuncture points weekly on primigravida women from 37 weeks' gestation until delivery. The acupuncture points used were ST 36 (Zusanli), GB 34 (Yanglingquan), KI 8 (Jiaoxin), and BL 62 (Shenmai). Their reasoning behind the acupuncture points chosen was because as a group, they would relax the women, tonify Qi, and improve circulation of blood to the pelvis.

These points were used with an even method for 20 minutes bilaterally with the women sitting. In this study, 70 women received acupuncture with 70 women acting as a control group. The women who volunteered to receive acupuncture had on average 3 treatments. For the purposes of the study, established labor was timed when the women began having regular contractions 10-15 minutes apart and measured the labor time from a cervical dilation of 3-4 cm until delivery. The acupuncture group had a mean labor time of 6 hours 36 minutes (control, 8 hours 2 minutes) from the onset of established contractions, and a mean labor time of 4 hours 57 minutes (control group, 5 hours 54 minutes) from 3-4 cm cervical dilation.

Lyrenas et al<sup>2</sup> in 1987 compared the labor of 56 primigravida women who volunteered to receive acupuncture with 112 women who acted as a control group and 36 women who acted as a reference group. Despite stating in their study that the acupuncture points used were the same as those used in the study by Kubista and Kucera, these authors substituted SP 6 (Sanyinjiao) for KI 8 (Jiaoxin). They also used a different acupuncture method; although the women received bilateral acupuncture with an even method, they were lying on their sides so that each woman received acupuncture only for 10-15 minutes at each point. This is in contrast to the 20-30 minutes in the previous study.

The prebirth acupuncture was commenced at 36 weeks' gestation and patients received on average 5 acupuncture treatments. The commencement of labor was timed from admission to delivery. This study

found that acupuncture did not shorten labor time for the women in the acupuncture group and concluded that acupuncture lengthened the delivery time, with the acupuncture group having a mean active labor time of 8 hours 30 minutes (control group, 7 hours 40 minutes).

While the findings of this 2nd study conflict with those of Kubista and Kucera, it should be noted that the women who volunteered for the acupuncture group also agreed to have 2 lumbar punctures, 1 at 38 weeks' gestation and another 6 months after delivery. This may have influenced the range of women who agreed to participate in the acupuncture group. The 16 women from the reference group who received a lumbar puncture (with no acupuncture) had the longest mean labor time of 9 hours 30 minutes.

Zeisler et al<sup>3</sup> used the acupuncture points GV 20 (Bai Hui), HT 7 (Shen Men), and PC 6 (Nei Guan) on 57 women who received acupuncture from 36 weeks' gestation; 63 women formed a control group. In analyzing the time women spent in labor, comparisons were made between the groups as to the median time spent in labor rather than the mean time as in the previous 2 studies. Their findings were that the acupuncture group had a median duration of the first stage of labor of 196 minutes vs the control group time of 321 minutes. They concluded that "acupuncture treatment is a recommendable form of childbirth preparation due to its positive effect on the duration of labor, namely by shortening the 1st stage of labor."

## PREBIRTH ACUPUNCTURE IN CLINICAL PRACTICE

Midwives in the Wellington region in New Zealand have been using prebirth acupuncture since 1997. It is taught as part of a series of specifically adapted workshops for midwives on the use of acupuncture in pregnancy and childbirth.

In clinical practice, prebirth acupuncture is offered to women as part of routine midwifery care, commencing around 36 or 37 weeks and given once weekly until delivery. A range of acupuncture points are generally used, with the prebirth formula being adapted to meet the indi-

vidual woman's requirements. Women receive the acupuncture either lying on their side for 20 minutes, in which case treatment is not bilateral, or sitting in a chair, in which case treatment is bilateral.

Feedback from midwives using acupuncture has consistently been that within their practices, it reduces the length of time women spend in labor, especially women having their 1st birth, and there is a noticeable reduction in medical intervention, including induction of labor, use of epidural anesthesia, and cearean delivery.

To investigate this feedback, a naturalistic observational study was set up in which 14 midwives recorded the acupuncture points used and the subsequent birthing outcomes for pregnant women over a 4-month period in 2004. A total of 169 women received prebirth acupuncture during this time, with 52.7% being primipara. Of the 14 midwives in the study, 9 offered acupuncture to all women in their care, 4 offered it only to primiparous women and women who had previously difficult births, and 1 was a midwife without her own clients who gave treatments to women at the request of their midwife.

**METHODS**

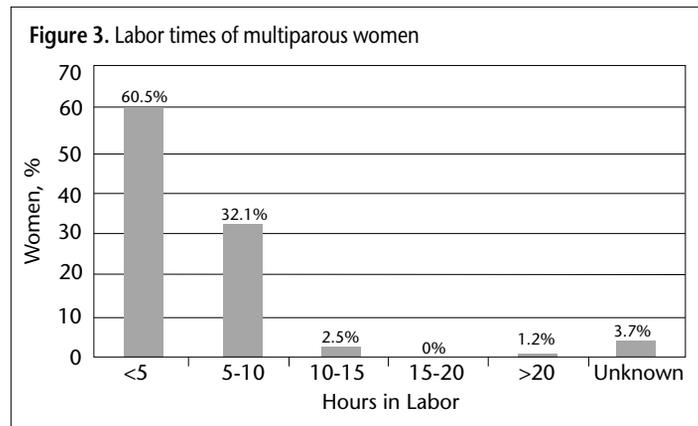
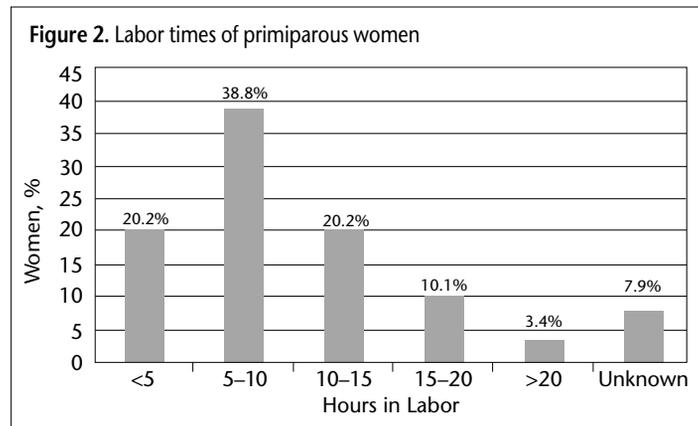
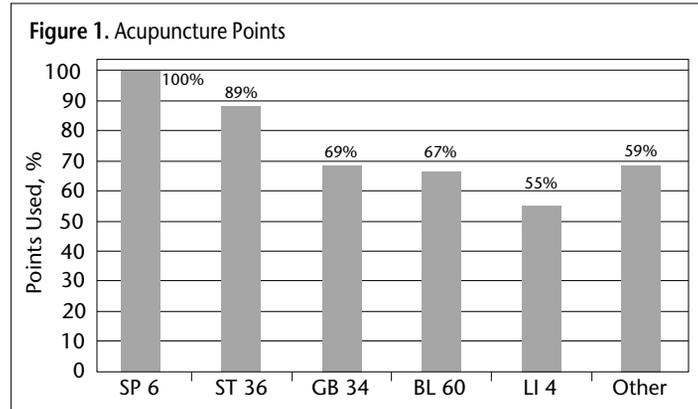
**Acupuncture Points Used**

As the purpose of this study was to examine prebirth acupuncture being used in clinical practice, midwives chose from a range of points; 4-6 points were usually used on the women at each treatment. The aim was to investigate prebirth acupuncture as it was being used with differential diagnosis rather than as a set of formulated points. The brand of needles used were Hwato 0.20 x 30 mm. They were inserted to a depth as outlined below in the needling section, and De Qi was obtained.

Figure 1 shows the points used on each woman as part of her prebirth treatment. It reflects the range of points used during the 3-4 treatments by the midwives rather than the frequency of individual points used at each treatment. Therefore, it can be seen that SP 6 (Sanyinjiao) was used on every woman at some point in the prebirth treatments and that LI 4 (Hegu) was used on 55% of the women at some point in the prebirth treatment. Typically, the midwives used SP 6 (Sanyinjiao), ST 36 (Zusanli), and GB 34 (Yanglingquan) as a base for their initial treatments, adding in points from the "other" section (refer below) depending on both their mid-

wifery and acupuncture assessment. If they are required, points such as BL 60 (Kunlun) and LI 4 (Hegu) are usually added only to the final prebirth treatment.

- SP 6 (Sanyinjiao), needled with a perpendicular or oblique proximal insertion 1 to 1.5 cun. Used as a point to aid in cervical dilation.
- ST 36 (Zusanli), needled perpendicularly 1 to 1.5 cun. Used due to its



Qi tonifying and blood nourishing properties.

- GB 34 (Yanglingquan), needled with a perpendicular or slightly oblique posterior insertion 1 to 1.5 cun. Used to help relax and soften the ligaments prior to labor.
- BL 60 (Kunlun), needled perpendicularly 0.5 to 1 cun or directed superiorly to join with Taxi KID-3, 1.5 to 2 cun. Used due to its descending action.
- LI 4 (Hegu), needled with a perpendicular insertion 0.5 to 1 cun. Used in the final prebirth treatment due to its action in promoting labor.

Points Included in the "Other" Category:

- KI 8 (Jiaoxin), needled perpendicularly 0.5 to 1 cun. Used due to its inclusion as a point for prebirth in the research by Kubista and Kucera.<sup>1</sup>
- BL 62 (Shenmai), needled with an oblique inferior insertion 0.3 to 0.5 cun. Used due to its inclusion as a point for prebirth in the research by Kubista and Kucera.<sup>1</sup>
- PC 6 (Neiguan), needled with perpendicular insertion 0.5 to 1 cun. Used to calm the mind.
- LR 3 (Taichong), needled in the direction of Yongquan KID-1, 0.5 to 1.5 cun. Used as a point to spread Liver Qi.
- DU 20 (Baihui), needled with transverse insertion 0.5 to 1 cun. Used as a point to calm the mind when used with Yintang (M-HN-3).
- M-HN-3 (Yintang), needled with the fingers of 1 hand: pinch up the skin over the point and with the other hand, needle transversely in an inferior direc-

- CV 4 (Guanyuan), needled subcutaneously toward Zhongji REN-3 so as to avoid piercing the uterus. Used as a point to aid in cervical ripening.
- BL 67 (Zhiyin BL), needled with a perpendicular or oblique insertion directed proximally 0.1 to 0.2 cun. Used for its action in promoting

the optimal position of the baby for birth. The use of moxa by a moxa stick would generally be used for the initial treatments, with needles being reserved for the final prebirth treatment.

**RESULTS**

**Prebirth Acupuncture and the Length of Labor**

The mean labor time was 9 hours for women having their 1st labor, with 59% of the women delivering within 10 hours (Figure 2).

The mean labor time was 4.7 hours for women birthing for the 2nd time, with 60.5% of women delivering within 5 hours (Figure 3).

From a clinical practice perspective, this is a significant reduction for midwives in the time women typically spend in labor, but it was a limitation of this study that it was not specified to the midwives as to when they should count the onset of established labor. This was in part because women are not usually routinely assessed by frequent cervical examinations or the onset of labor determined by the timing of contractions. Although we have no comparable figures available to contrast the acupuncture group other than midwifery opinion, it should also be noted that may be a mistake to limit study of prebirth acupuncture to the length of labor. Although this has been the focus of reported data in previous studies, the measurement of the time women spend in labor is difficult to consistently assess accurately. From a clinical perspective, the possible benefits of prebirth acupuncture may be related to the efficiency of labor and the reduced need for medical intervention, rather than a reduction of time women spend in labor.

**Prebirth Acupuncture and Medical Induction**

To compare the acupuncture audit group, the New Zealand Maternity statistics for 2003 were used for the Wellington region (Capital and Coast district health board).<sup>4</sup> These statistics compared the audit group with the outcomes for women under the care of all Lead Maternity Carers. For the Wellington region, Lead Maternity Carers included midwife-only care, private obstetrician and midwife care, shared general practitioner and midwife care, and a maternity hospital high-risk team. The average age for women in the acupuncture group was 30.9 years compared with 31.3 years for the Wellington region. The proportion of women having their 1st birth in the acupuncture group was 52.7% compared with 45% for the Wellington region.

There was a 9-point percentage difference in the total number of inductions: 18% in the acupuncture group vs 27% in the Wellington

region. This is a 35% reduction in the number of inductions for this audit group when compared with the Wellington region.

For women having their 1st birth, the audit demonstrated a 43% reduction in the induction rate when compared with the region (Figure 4).

With 82.2% of women in the acupuncture group coming into spontaneous labor, these data appear to support the midwifery feedback that having prebirth acupuncture reduced the chances of a woman requiring a medical induction.

Women came into labor according to the normal distribution curve expected for the onset of labor, with 3% of women coming into labor before 38 weeks' gestation and 26% before 39 weeks. These data again support the midwifery feedback that prebirth acupuncture does not act by inducing early labor.

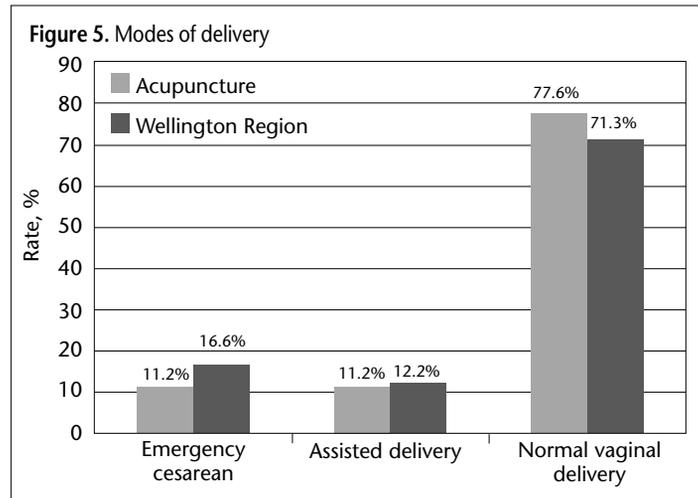
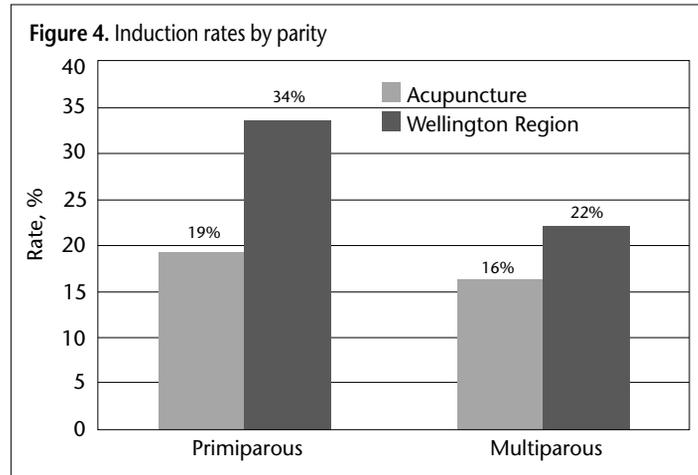
**Prebirth Acupuncture and Epidural Use**

A reduction of 31% was seen in the use of epidural anesthesia for the acupuncture group (34.3%) when compared with the Wellington region (49.8%).

**Prebirth Acupuncture and Medical Intervention Rates**

The comparison was able to be made between midwifery-only practice in the Wellington region (LMC Midwives)<sup>4</sup> and the acupuncture group.

A 5.4-point percentage difference is a 32% reduction in cesarean deliveries for the acupuncture group vs local midwifery practice. There was very little difference in the assisted delivery rate (including forceps and ven-touse delivery). There was, however, a 6.3-percentage point difference, or 9% increase, in normal vaginal births when compared with local midwifery practice (Figure 5).



**DISCUSSION**

A Ministry of Health report released in 2002<sup>5</sup> expressed concern at the rising rate of cesarean deliveries in New Zealand – an increase of 2% from the previous year. In 1988, the combined emergency and planned cesarean rate in New Zealand was 11.7%; by 2002, this had risen to 22.7%. This report also mentioned a statement by the World Health Organization that there are no additional health benefits in having a combined cesarean rate greater than 10%-15%. The use of prebirth acupuncture was originally taught to midwives in a specified course due to their interest in providing pain relief to women during childbirth, and for use as an induction treatment. At followup seminars, it became evident that for midwives, it was the use of acupuncture prior to labor that provided the most useful benefits to their practice, reducing the time women spent in labor to more efficient labors, resulting in reduced medical intervention. This study was undertaken to explore these results.

Although this naturalistic study was small, it is of interest that when compared with other midwives in the same area delivering the same midwifery-only care, the acupuncture group had a reduction in the number of emergency cesarean deliveries required.

**CONCLUSIONS**

This small naturalistic observational study provides a view into the reality of clinical practice in which prebirth acupuncture is being used. From the health sector perspective, it appears to have the potential to reduce the rate of emergency cesarean delivery and the associated costs. For acupuncturists, this audit presents a model of acupuncture care that is relevant to Western clinical practice, providing a safe and apparently effective treatment for women seeking a natural labor. This study may be a beginning exploration of the clinical possibilities that prebirth acupuncture may provide in promoting natural birthing outcomes.

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