

STERILE WATER INJECTIONS AND ACUPUNCTURE AS TREATMENT FOR LABOUR PAIN

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This thesis is based on following papers:

- I Mårtensson, L. & Wallin, G. Labour pain treated with cutaneous injections of sterile water: a randomised controlled trial. *British Journal of Obstetrics and Gynaecology*, July 1999, Vol 106, pp. 633-637.
- II Mårtensson, L., Nyberg K. & Wallin, G. Subcutaneous *versus* intracutaneous injections of sterile water for labour analgesia: a comparison of perceived pain during administration. *British Journal of Obstetrics and Gynaecology*, October 2000, Vol 107, pp. 1248-1251.
- III Mårtensson, L. & Wallin, G. Use of acupuncture and sterile water injection for labor pain: A survey in Sweden. In press. *Birth* 2006;33(4).
- IV Mårtensson, L., Stener-Victorin, E. & Wallin G. Acupuncture versus subcutaneous injections of sterile water as treatment for labour pain. Submitted for publication.

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ABSTRACT

Most women experience pain during labour. Complementary pain relief methods such as sterile water injections and acupuncture are two alternatives for the child birthing women. The lack of knowledge about the use of these methods in clinical practice creates the need to develop and evaluate them.

Aims and methods: To elucidate whether the new subcutaneous method of administering sterile water, as well as the previously described intracutaneous injection method, were effective for the relief of labour pain. Ninety-nine women in labour were randomized to either intracutaneous- , subcutaneous injections of sterile water or to placebo (*Paper I*). To investigate if there was any difference in perceived pain between the intracutaneous and subcutaneous techniques during injection of sterile water. One hundred female volunteers were given injections with both techniques in a cross-over trial (*Paper II*). To elucidate the clinical use of acupuncture and sterile water injections as pain relief and relaxation during childbirth in Swedish delivery wards. Five hundred and sixty-five midwives answered a questionnaire about their use of these methods (*Paper III*). To elucidate if there were any differences between acupuncture and sterile water injections in terms of pain relief and relaxation during labour. One hundred and twenty-eight pregnant women in childbirth were randomized to either sterile water injections or acupuncture (*Paper IV*).

Results: *Paper I:* VAS pain scores were significantly lower in both treatment groups 10 minutes ($p=0.001$) and 45 minutes ($p=0.005$) after treatment, compared with the placebo group. *Paper II:* subcutaneous injections were still perceived as less painful than intracutaneous injections after trial, day and injection location were taken into consideration ($p<0.001$). *Paper III:* the midwives' estimated frequency of administration of acupuncture was much higher than that of sterile water injections, 25 % versus 2 %. The intracutaneous injection technique was more common in clinical practice than the subcutaneous technique. Sterile water injections were used exclusively for pain relief during labour while acupuncture was used for both pain relief and relaxation during labour. *Paper IV:* women given sterile water injections experience significantly less labour pain and a higher degree of relaxation in labour, compared to women given acupuncture ($p<0.001$).

Conclusions: The results indicate that the subcutaneous injection technique is preferable when using sterile water injections for low back pain during labour. Sterile water injections seem to provide more pain relief and a higher degree of relaxation, compared to acupuncture. However, acupuncture is a more common pain relief method in clinical practice.

Key words: Labour pain, pain relief, sterile water injections, acupuncture, survey

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