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**Massage, Reflexology, and Other Manual Methods for Pain Management**

**Study Design:** Systematic Review

**Abstract**:

Background: Many women would like to avoid pharmacological or invasive methods of pain management in labour, and this may contribute towards the popularity of complementary methods of pain management. This review examined the evidence currently available on manual methods, including massage and reflexology, for pain management in labour. This review is an update of the review first published in 2012.

Objectives: To assess the effect, safety and acceptability of massage, reflexology and other manual methods to manage pain in labour.

Search methods: For this update, we searched Cochrane Pregnancy and Childbirth's Trials Register (30 June 2017), the Cochrane Central Register of Controlled Trials (CENTRAL; 2017, Issue 6), MEDLINE (1966 to 30 June 2017, CINAHL (1980 to 30 June 2017), the Australian New Zealand Clinical Trials Registry (4 August 2017), Chinese Clinical Trial Registry (4 August 2017), ClinicalTrials.gov, (4 August 2017), the National Center for Complementary and Integrative Health (4 August 2017), the WHO International Clinical Trials Registry Platform (ICTRP) (4 August 2017) and reference lists of retrieved trials.

Selection criteria: We included randomised controlled trials comparing manual methods with standard care, other non‐pharmacological forms of pain management in labour, no treatment or placebo. We searched for trials of the following modalities: massage, warm packs, thermal manual methods, reflexology, chiropractic, osteopathy, musculo‐skeletal manipulation, deep tissue massage, neuro‐muscular therapy, shiatsu, tuina, trigger point therapy, myotherapy and zero balancing. We excluded trials for pain management relating to hypnosis, aromatherapy, acupuncture and acupressure; these are included in other Cochrane reviews.

Data collection and analysis: Two review authors independently assessed trial quality, extracted data and checked data for accuracy. We contacted trial authors for additional information. We assessed the quality of the evidence using the GRADE approach.

Main results: We included a total of 14 trials; 10 of these (1055 women) contributed data to meta‐analysis. Four trials, involving 274 women, met our inclusion criteria but did not contribute data to the review. Over half the trials had a low risk of bias for random sequence generation and attrition bias. The majority of trials had a high risk of performance bias and detection bias, and an unclear risk of reporting bias. We found no trials examining the effectiveness of reflexology.

*Massage*: We found low‐quality evidence that massage provided a greater reduction in pain intensity (measured using self‐reported pain scales) than usual care during the first stage of labour (standardised mean difference (SMD) −0.81, 95% confidence interval (CI) −1.06 to −0.56, six trials, 362 women). Two trials reported on pain intensity during the second and third stages of labour, and there was evidence of a reduction in pain scores in favour of massage (SMD −0.98, 95% CI −2.23 to 0.26, 124 women; and SMD −1.03, 95% CI −2.17 to 0.11, 122 women). There was very low‐quality evidence showing no clear benefit of massage over usual care for the length of labour (in minutes) (mean difference (MD) 20.64, 95% CI −58.24 to 99.52, six trials, 514 women), and pharmacological pain relief (average risk ratio (RR) 0.81, 95% CI 0.37 to 1.74, four trials, 105 women). There was very low‐quality evidence showing no clear benefit of massage for assisted vaginal birth (average RR 0.71, 95% CI 0.44 to 1.13, four trials, 368 women) and caesarean section (RR 0.75, 95% CI 0.51 to 1.09, six trials, 514 women). One trial reported less anxiety during the first stage of labour for women receiving massage (MD ‐16.27, 95% CI −27.03 to −5.51, 60 women). One trial found an increased sense of control from massage (MD 14.05, 95% CI 3.77 to 24.33, 124 women, low‐quality evidence). Two trials examining satisfaction with the childbirth experience reported data on different scales; both found more satisfaction with massage, although the evidence was low quality in one study and very low in the other.

*Warm packs*: We found very low‐quality evidence for reduced pain (Visual Analogue Scale/VAS) in the first stage of labour (SMD −0.59, 95% CI −1.18 to −0.00, three trials, 191 women), and the second stage of labour (SMD −1.49, 95% CI −2.85 to −0.13, two trials, 128 women). Very low‐quality evidence showed reduced length of labour (minutes) in the warm‐pack group (MD −66.15, 95% CI −91.83 to −40.47; two trials; 128 women).

*Thermal manual methods*: One trial evaluated thermal manual methods versus usual care and found very low‐quality evidence of reduced pain intensity during the first phase of labour for women receiving thermal methods (MD −1.44, 95% CI −2.24 to −0.65, one trial, 96 women). There was a reduction in the length of labour (minutes) (MD −78.24, 95% CI −118.75 to −37.73, one trial, 96 women, very low‐quality evidence). There was no clear difference for assisted vaginal birth (very low‐quality evidence). Results were similar for cold packs versus usual care, and intermittent hot and cold packs versus usual care, for pain intensity, length of labour and assisted vaginal birth.

*Music*: One trial that compared manual methods with music found very low‐quality evidence of reduced pain intensity during labour in the massage group (RR 0.40, 95% CI 0.18 to 0.89, 101 women). There was no evidence of benefit for reduced use of pharmacological pain relief (RR 0.41, 95% CI 0.16 to 1.08, very low‐quality evidence).

Of the seven outcomes we assessed using GRADE, only pain intensity was reported in all comparisons. Satisfaction with the childbirth experience, sense of control, and caesarean section were rarely reported in any of the comparisons.

Authors' conclusions: Massage, warm pack and thermal manual methods may have a role in reducing pain, reducing length of labour and improving women's sense of control and emotional experience of labour, although the quality of evidence varies from low to very low and few trials reported on the key GRADE outcomes. Few trials reported on safety as an outcome. There is a need for further research to address these outcomes and to examine the effectiveness and efficacy of these manual methods for pain management.

**NIH Risk of Bias Score**: 8/8 (Low risk of bias)

**Key Findings of the Study**:

1. Manual therapy such as massage, warm packs, and thermal manual methods may have an analgesic effect on pain during labor, however the quality of evidence used to form these conclusions are low.
2. Manual therapy may have an impact on improving a woman’s sense of control and emotional experience during labor.
3. Personal control and decision making are related to satisfaction with the childbirth experience

**Reviewer Summary**: Pain management interventions often used during labor include mind-body interventions, traditional medicine, manual therapy, and pharmacologic treatments. This systematic review included studies on the use of these interventions and their effects on pain intensity. Although manual therapy such as massage, warm packs, and thermal manual methods may have an analgesic effect on pain during labor, the studies that were conducted were of low quality, and more research needs to be performed to determine the relationship between manual therapy and pain management during labor.

**Clinical Implication**: Therapists might find manual therapy to be useful when treating patients during labor (or immediately before), however, interventions must be patient specific.