Complementary and alternative therapies for pain management in labour

Smith CA, Collins CT, Cyna AM, Crowther CA

Date of most recent amendment: 18 February 2003
Date of most recent substantive amendment: 09 January 2003
This review should be cited as: Smith CA, Collins CT, Cyna AM, Crowther CA. Complementary and alternative therapies for pain management in labour (Cochrane Review). In: *The Cochrane Library*, Issue 4, 2003. Chichester, UK: John Wiley & Sons, Ltd. CD003521

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 currently available evidence supporting the use of alternative and complementary therapies for pain management in labour.
Objectives
To examine the effectiveness of complementary and alternative therapies for pain management in labour on maternal and perinatal morbidity.
Search Strategy
We searched the Cochrane Pregnancy and Childbirth Group trials register (July 2002), the Cochrane Controlled Trials Register (The Cochrane Library Issue 2, 2002), MEDLINE (1966 to July 2002), EMBASE (1980 to July 2002) and CINAHL (1980 to July 2002).
Selection Criteria
The inclusion criteria included published and unpublished randomised controlled trials comparing complementary and alternative therapies with placebo, no treatment or pharmacological forms of pain

management in labour. All women whether primiparous or multiparous, and in spontaneous or induced labour, in the first and second stage of labour were included.
Data collection and analysis
Meta-analysis was performed using relative risks for dichotomous outcomes and weighted mean differences for continuous outcomes. The outcome measures were maternal satisfaction, use of pharmacological pain relief and maternal and neonatal adverse outcomes.
Main Results
Seven trials involving 366 women and using different modalities of pain management were included in this review. The trials included one involving acupuncture (n = 100), one involving audio-analgesia (n = 25), one involving aromatherapy (n = 22), three trials of hypnosis (n = 189) and one trial of music (n = 30). The trial of acupuncture decreased the need for pain relief (relative risk (RR) 0.56, 95% confidence interval (CI) 0.39 to 0.81). Women receiving hypnosis were more satisfied with their pain management in labour compared with controls (RR 2.33, 95% CI 1.55 to 4.71). No differences were seen for women receiving aromatherapy, music or audio analgesia.
Reviewers' conclusions
Acupuncture and hypnosis may be beneficial for the management of pain during labour. However, few complementary therapies have been subjected to proper scientific study and the number of women studied is small.
This review should be cited as:**Smith CA, Collins CT, Cyna AM, Crowther CA** Complementary and alternative therapies for pain management in labour (Cochrane Review). In: *The Cochrane Library*, Issue 4, 2003. Chichester, UK: John Wiley & Sons, Ltd.

BACKGROUND

Labour presents a physiological and psychological challenge for women. As labour becomes more imminent this can be a time of conflicting emotions; fear and apprehension can be coupled with excitement and happiness. Tension, anxiety and fear are factors contributing towards women's perception of pain and may also affect their labour and birth experience. Pain associated with labour has been described as one of the most intense forms of pain that can be experienced (Melzack 1984). Pain experienced by women in labour is caused by uterine contractions, the dilatation of the cervix and, in the late first stage and second stage, by stretching of the vagina and pelvic floor to accommodate the baby. However, the complete removal of pain does not necessarily mean a more satisfying birth experience for women. Effective and satisfactory pain management needs to be individualised for each woman.
The use of complementary and alternative medicine (CAM) has become popular with consumers worldwide. Studies suggest that between 30 and 50% of adults in industrialised nations use some form of CAM to prevent or treat health-related problems (Astin 1998). Complementary therapies are more commonly used by women of reproductive age, with almost half (49%) reporting use (Eisenberg 1998). It is possible that a significant proportion of women are using these therapies during pregnancy. A recent survey of 242 pregnant women in the United States reported that complementary therapies were used by nine percent of women. Herbs were the most frequently used therapy (Gibson 2001). Many women would like to avoid pharmacological or invasive methods of pain relief in labour and this may contribute towards the popularity of complementary methods of pain management (Bennett 1999).
The Complementary Medicine Field of The Cochrane Collaboration defines complementary medicine as 'practices and ideas which are outside the domain of conventional medicine in several countries', which are defined by its users as 'preventing or treating illness, or promoting health and well being' (Cochrane 2003). This definition is deliberately broad as therapies considered complementary practices in one country or culture may be conventional in another. Many therapies and practices are included within the scope of the Complementary Medicine Field. These include treatments people can administer themselves (e.g. botanicals, nutritional supplements, health food, meditation, magnetic therapy), treatments providers administer (e.g. acupuncture, massage, reflexology, chiropractic and osteopathic manipulations), and treatments people can administer under the periodic supervision of a provider (e.g. yoga, biofeedback, Tai Chi, homoeopathy, Alexander therapy, Ayurveda) (Cochrane 2003).
The most commonly cited complementary medicine and practices associated with providing pain management in labour can be categorised into mind-body interventions (e.g. yoga, relaxation therapies), alternative medical practice (e.g. homoeopathy, traditional Chinese medicine), manual healing methods (e.g. massage, reflexology), pharmacologic and biological treatments, bioelectromagnetic applications (e.g. magnets) and herbal medicines. The use of immersion in water to reduce labour pain is not included in this review and is the subject of a separate Cochrane review (Nikodem 2002).

Mind-body interventions such as relaxation, meditation, visualisation and breathing are commonly used for labour, and can be widely accessible to women through teaching of these techniques during antenatal classes. Yoga, meditation and hypnosis may not be so accessible to women but together these techniques may have a calming effect and provide a distraction from pain and tension (Vickers 1999a). The hypnotic state may enable the woman to have better control over pain than being wide awake. Women can learn self-hypnosis which can be used in labour to reduce pain from contractions. Muscles can be relaxed or encouraged to work at peak efficiency under hypnosis which can be helpful to women in managing pain.

Acupuncture involves the insertion of fine needles into different parts of the body. Other acupuncture related techniques include laser acupuncture and acupressure (applying pressure on the acupuncture point). These techniques all aim to treat illnesses and soothe pain by stimulating acupuncture points. Acupuncture points used to reduce labour pain are located on the hands, feet and ears. Several theories have been presented as to exactly how acupuncture works. One theory proposes that pain impulses are blocked from reaching the spinal cord or brain at various 'gates' to these areas (Wall 1967). Since the majority of acupuncture points are either connected to, or located near, neural structures, this suggests that acupuncture stimulates the nervous system. Another theory suggests that acupuncture stimulates the body to produce endorphins, which reduce pain (Pomeranz 1989). Other pain-relieving substances called opioids may be released into the body during acupuncture treatment (Ng 1992).

Aromatherapy, the use of the essential oils, draws on the healing powers of plants. The mechanism of action for aromatherapy is unclear. Studies investigating psychological and physiological effects of essential oils showed no change on physiological parameters such as blood pressure or heart rate but did produce psychological improvement in mood and anxiety levels (Stevensen 1995). Essential oils are thought to increase the output of the body's own sedative, stimulant and relaxing substances. The oils may be massaged into the skin, or inhaled by using a steam infusion or burner. Aromatherapy is increasing in popularity among midwives and nurses (Allaire 2000).

Homoeopathy works on the principle that 'like cures like'. Homoeopathic remedies are prescribed as potencies as a result of tiny and highly diluted amounts of the substances from which they are derived. The more times the substance is diluted and succussion (vigorous shaking) is performed, the greater the potency of the homoeopathic remedy. The principle of treatment is that the homoeopathic substance will stimulate the body and healing functions so achieving a state of balance with relief of symptoms. Homoeopathic remedies are all natural medicines. Remedies are derived from herbs, minerals or other natural substances. Remedies used in labour are given according to the type or types of pain being experienced and the emotions the woman is feeling. It is proposed that homoeopathy stimulates a woman's physiological processes so they function well, enabling her to cope with labour and to soothe and relax the woman emotionally which may reduce her pain (Charlish 1995).

Manual healing methods include massage and reflexology. Massage involves manipulation of the body's soft tissues. It is commonly used to help relax tense muscles and to soothe and calm the individual. A woman who is experiencing backache during labour may find massage over the lumbosacral area soothing. Some women find abdominal massage comforting. Different massage techniques may suit different women. Massage may help to relieve pain by assisting with relaxation, inhibiting pain signals or by improving blood flow and oxygenation of tissues (Vickers 1999b).

Reflexologists propose that there are reflex points on the feet corresponding to organs and structures of the body and that pain may be reduced by gentle manipulation or pressing certain parts of the foot. Pressure applied to the feet has been shown to result in an anaesthetizing effect on other parts of the body (Ernst 1997).

This review examines currently available evidence supporting the use of the above therapies and other alternative and complementary therapies for pain management in labour.

Readers may wish to refer to the following Cochrane systematic reviews for further information; 'Caregiver support for women during labour' (Hodnett 2002), and for information on pharmaceutical methods of pain relief to 'Epidural versus non epidural analgesia for pain relief in labour' (Howell 2002) and 'Types of intra-muscular opioids for maternal pain relief in labour' (Elbourne 2002).

OBJECTIVES

To examine the effectiveness of complementary and alternative therapies for pain management in labour on maternal and perinatal morbidity.

This review examines the following hypotheses:

1. The use of a complementary therapy is an effective means of pain management in labour, has no adverse effects on the mother (with particular reference to the duration of labour, women's rating of labour pain, maternal satisfaction or maternal emotional experience) or baby and reduces the need for pharmacological intervention.

CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

Types of studies
All published and unpublished randomised controlled trials comparing complementary and alternative therapies with placebo, no treatment or pharmacological forms of pain management in labour were considered.
Types of participants
All women whether primiparous or multiparous, and in spontaneous or induced labour, in the first and second stage of labour.
Types of intervention
Complementary and alternative therapies used in labour with or without concurrent use of pharmacological or non-pharmacological interventions.
Types of outcome measures
PRIMARY
1. Maternal satisfaction or maternal emotional experience with pain management in labour.
2. Use of pharmacological pain relief in labour.

SECONDARY
Maternal:
Length of labour; mode of delivery; instrumental vaginal delivery; need for augmentation with oxytocin; perineal trauma (defined as episiotomy and incidence of second or third degree tear); maternal blood loss (post partum haemorrhage defined as greater than 600 ml); perception of pain experienced; satisfaction with general birth experience; assessment of mother-baby interaction; and breastfeeding at hospital discharge.

Neonatal:
Apgar score less than seven at five minutes; admission to neonatal intensive care unit; need for mechanical ventilation; neonatal encephalopathy.

SEARCH STRATEGY FOR IDENTIFICATION OF STUDIES

See: Cochrane Pregnancy and Childbirth Group search strategy

We searched the Cochrane Pregnancy and Childbirth Group trials register (9 July 2002).
The Cochrane Pregnancy and Childbirth Group's trials register is maintained by the Trials Search Co-ordinator and contains trials identified from:
1. quarterly searches of the Cochrane Central Register of Controlled Trials (CENTRAL);
2. monthly searches of MEDLINE;
3. handsearches of 30 journals and the proceedings of major conferences;
4. weekly current awareness search of a further 37 journals.

Details of the search strategies for CENTRAL and MEDLINE, the list of handsearched journals and conference proceedings, and the list of journals reviewed via the current awareness service can be found in the 'Search strategies for identification of studies' section within the editorial information about the Cochrane Pregnancy and Childbirth Group.
Trials identified through the searching activities described above are given a code (or codes) depending on the topic. The codes are linked to review topics. The Trials Search Co-ordinator searches the register for each review using these codes rather than keywords.
In addition, we searched other complementary medicine, nursing, midwifery and medical databases, i.e. the Cochrane Controlled Trials Register (The Cochrane Library, Issue 2, 2002), MEDLINE (from 1966 to July 2002), CINAHL (from 1980 to July 2002) and EMBASE (1980 to July 2002). The search strategy used a combination of subject headings and text words. The subject headings included obstetrics, labor, birth, pain, complementary medicine, alternative medicine. The text words included the different complementary therapies: "acupuncture, reflexology, aromatherapy, massage, homoeopathy, yoga, meditation, imagery or visualisation, relaxation, hypnosis, breathing exercises".

METHODS OF THE REVIEW

We evaluated trials for their appropriateness for inclusion. Where there was uncertainty about inclusion of the study, the full text was retrieved. The original author was contacted for further information where possible. If there was disagreement between reviewers about the studies to be included that could not be resolved by discussion, assistance from the third reviewer was sought. Reasons for excluding trials have been stated.
Following an assessment for inclusion, we assessed the methodology of the trial. The data were extracted onto hard copy data sheets. Caroline Smith, Carmel Collins and Allan Cyna extracted the data and assessed the quality. Included trials were assessed according to the following five main criteria:
(1) adequate concealment of treatment allocation (e.g. opaque, sealed, numbered envelopes);
(2) method of allocation to treatment (e.g. by computer randomisation, random number tables);
(3) adequate documentation of how exclusions were handled after treatment allocation - to facilitate intention to treat analysis;
(4) adequate blinding of outcome assessment; and
(5) losses to follow up (trials with losses greater than 25% were excluded from the meta analysis).

Letters were used to indicate the quality of the included trials (Clarke 2000), for example:
(1) A was used to indicate a trial that had a high level of quality in which all the criteria were met;
(2) B was used to indicate that one or more criteria were partially met or it was unclear if all the criteria were met; and
(3) C was used if one or more criteria were not met.

Data were entered directly from the published reports into the Review Manager software (RevMan 2000) with double data entry performed by a co-reviewer (Carmel Collins). Where data were not presented in a suitable format for data entry, or if data were missing, additional information was sought from the trialists by personal communication in the form of a letter or email.
Due to the nature of the interventions, double blinding of assessments may not be possible. Therefore, studies without double blinding of assessments were considered for inclusion. Data extracted from the trials were analysed on an intention to treat basis (when this was not done in the original report, re-analysis was performed if possible). Where data were missing, clarification was sought from the original authors. Statistical analysis was performed using the Review Manager (RevMan 2000) software. For dichotomous data, relative risks and 95% confidence intervals (CIs), were calculated. Weighted mean difference (WMD) and 95% CIs for continuous data were calculated.
We tested for heterogeneity between trials using a standard chi squared test and used a random effects model if heterogeneity was found. No trials reported outcomes by parity and therefore no sub-group analyses by parity was undertaken.

DESCRIPTION OF STUDIES

We identified 16 randomised controlled trials that involved complementary and alternative therapies for pain management in labour. Seven of these trials met the inclusion criteria for this review and were included, and nine trials were excluded.
INCLUDED TRIALS
ACUPUNCTURE
One randomised controlled trial of acupuncture was included in the review (Ramnero 2002). In this Swedish trial, 100 women were randomised to receive acupuncture or no acupuncture. All women in the trial received routine midwifery care and had access to all conventional analgesia. Randomisation occurred in the delivery suite. The acupuncture was performed by 11 midwives who had attended a four day course in basic and theoretical concepts of acupuncture for labour pain. The acupuncture treatment was individualised. Needles were left in situ between one and three hours. Ninety women were included in the analysis after ten women were excluded due to inclusion criteria not being met. Baseline characteristics were presented and there were no differences between groups at trial entry. Outcomes were reported describing pain, relaxation, use of analgesics, augmentation of labour with oxytocin, duration of labour, outcome of birth, antepartum haemorrhage, Apgar scores and infant birth weight.

AROMATHERAPY

One trial of aromatherapy was included in the review (Calvert 2000). In this New Zealand study, 22 multiparous women with a singleton pregnancy were randomised in a double blind trial to receive essential oil of ginger or essential oil of lemongrass in the bath. Women were required to bathe for at least one hour. Randomisation occurred in the delivery suite. All women received routine care and had access to pain relief. There was no description of baseline characteristics. The trial reported on frequency of contractions, cervical dilatation, length of first and second stage of labour, need for pain relief, side effects from essential oils, Apgar scores and direct rooming in. There were no losses to follow-up.

AUDIO-ANALGESIA

One trial of audio-analgesia was included in the review (Moore 1965). The trial undertaken in England, recruited 25 women; 24 women completed the trial. Women were randomised to receive audio analgesia which consisted of 'sea noise' white sound set at 120 decibels, or to the control group who received sea noise at a maximum 90 decibels. The intervention began when women were in the first stage of labour. All women received routine care and the midwife offered the woman pain relief if she considered pain relief was inadequate. There was no description of baseline characteristics. The trial reported on the midwife's perception of pain relief and the woman's satisfaction with pain relief from 'sea noise'.

HYPNOSIS

Three randomised controlled trials evaluating the role of hypnosis were included in the review (Freeman 1986; Harmon 1990; Martin 2001).

Freeman 1986

Eighty two primigravida women were randomised to self hypnosis or a control group at an antenatal clinic in England. The trial examined the effect of hypnosis on the duration of pregnancy and labour, analgesic requirements and mode of delivery. Women attended weekly hypnosis sessions from 32 weeks, the control was standard care. No baseline data were presented for the two groups, 13 (15%) women were lost to follow up.

Harmon 1990

After determining hypnotic susceptibility 60 nulliparous women at the end of the second trimester of pregnancy were recruited from an obstetric private practice in the United States. Women were randomised to self hypnosis or a control group involving standard relaxation, distraction, and breathing techniques. Treatment was conducted over six-one hour, weekly sessions. Women participated in groups of 15. The control group listened to their tape at the beginning of each treatment session. These women were asked to concentrate on their breathing exercises, general relaxation, and focal point visualisation. Subjects in the hypnosis group heard the live hypnotic induction during session one and heard the taped hypnotic induction at the start of sessions two to six. Women rated the type and degree of pain experienced during childbirth and obstetric outcomes were collected on length of first and second stage of labour, Apgar scores, and use of medication. There was no description of the baseline characteristics of women, and no losses to follow up were reported.

Martin 2001

Forty seven teenagers with a singleton pregnancy were randomised to self hypnosis or the control group involving supportive counselling. The trial took place at the public health department of a teaching hospital in the United States. The four-session study intervention took place over eight weeks. The trial examined medication use, complications and surgical intervention during delivery, length of hospital stay for mothers, and neonatal intensive care admission for infants. There was no description of baseline characteristics and five women (11%) were lost to follow up.

MUSIC

One trial on the use of music was included in the review (Durham 1986). This trial, carried out in the United States, randomised 30 primigravid women to receive standard psychoprophylactic child birth instruction antenatally and music, or standard psychoprophylactic instruction only. The trial examined the effect of listening to music on the frequency of pain medication in labour. The experimental group used tape-recorded music during conditioning exercise segments and when practising relaxation/breathing techniques and had the taped music available during labour. No baseline data were presented for the two groups. It was unclear if any women were lost to follow up.

METHODOLOGICAL QUALITY

ALLOCATION CONCEALMENT
The trials of acupuncture and aromatherapy were both given a score of A (Calvert 2000; Ramnero 2002). All the other trials were given B as an allocation score due to unclear concealment.

METHOD OF ALLOCATION
The method of allocation was adequately reported in four trials. In the Durham 1986 and Harmon 1990 trials, random number tables were used. In the Ramnero 2002 trial, card shuffling was reported, and in the Calvert 2000 trial, coded bottles were used.

Moore 1965, Freeman 1986, and Martin 2001 state that allocation was random but failed to report the method of allocation.
BLINDING
The aromatherapy trial was double blind, including the outcome assessors and analyst (Calvert 2000). For the remaining trials it was impossible for the therapist to be blind. In the Moore 1965, and Freeman 1986 trials, it was unclear whether the woman, outcome assessor or analyst were blind. In the Harmon 1990 and Martin 2001 trials, the patient, care providers and outcome assessors were blind to their group allocation; the analyst was not blind to the group allocation. In the Ramnero 2002 trial, the outcome assessors and analyst were not blind. In the Durham 1986 trial, the outcome assessors were not blind and it was unclear if the analyst was blind.

INTENTION TO TREAT ANALYSIS
Two trials reported an intention to treat analysis (Calvert 2000; Ramnero 2002). It was unclear in two trials whether an intention to treat analysis was performed (Durham 1986; Martin 2001). The remaining trials did not report whether they performed an intention to treat analysis but an intention to treat analysis was performed.

LOSSES TO FOLLOW UP
There were no losses to follow up in the Harmon 1990 and Calvert 2000 trials.

In the single acupuncture trial 10 women (10%) were lost to follow up because they did not meet the entry criteria after randomisation. In the Freeman 1986 hypnosis trial, 13 women withdrew for medical reasons, and four women did not attend for hypnosis (15% of the total women). In the Martin 2001 hypnosis trial, five adolescents (11%) were lost to follow up, three moved out of the area and two women, one in each group did not complete the study protocol. In the audio-analgesia trial, one woman (4%) withdrew.
In the trial of music (Durham 1986), Durham did not report on any losses to follow up.

RESULTS

Seven trials were included in the meta-analysis that involved complementary therapies for pain management in labour. These trials included a total of 366 women.
ACUPUNCTURE
One study of 100 women compared acupuncture with a control group, the primary outcomes were maternal satisfaction and use of analgesia. In each case, data were available from 90 women. There was no difference in maternal satisfaction of pain management between the acupuncture and control group (relative risk (RR) 1.08, 95% confidence interval (CI) 0.95 to 1.22). However 54 women (60%) who received acupuncture required no additional analgesic compared with 12 women (13%) in the control group ($p < 0.0001$).

Of the secondary outcomes, the need for epidural analgesia was significantly lower in the acupuncture group than the control group (RR 0.56, 95% CI 0.39 to 0.81). However, there was no difference in spontaneous vaginal delivery (RR 0.98, 95% CI 0.89 to 1.08), instrumental vaginal delivery (RR 1.91, 95% CI 0.18 to 20.36), caesarean section (RR 0.96, 95% CI 0.06 to 14.83), the length of labour (WMD -0.30, 95% CI -1.79 to 1.19) or the need for augmentation with oxytocin (RR 1.02, 95% CI 0.58 to 1.80) between the acupuncture and control groups. There were no differences in women's assessment of pain intensity between groups (mean difference -0.29, 95% CI-0.90 to 0.32). The acupuncture group reported significantly more relaxation than the control group (mean difference -0.93, 95% CI -1.66 to -0.20).
No infants in either group had an Apgar score of less than seven at five minutes.

AROMATHERAPY

One small trial of 22 women evaluated the role of aromatherapy using ginger compared with lemongrass (Calvert 2000). There was no difference between women receiving ginger or lemongrass in their use of pharmacological pain relief (RR 2.50, 95% CI 0.31 to 20.45), spontaneous vaginal delivery (RR 0.93, 95% CI 0.67 to 1.28), instrumental vaginal delivery (RR 0.83, 95% CI 0.06 to 11.70), or a caesarean section (RR 2.54, 95% CI 0.11 to 56.25). No women in either group had a postpartum haemorrhage. There were no differences between groups on the McGill pain visual analogue scale during the bath (4.9 versus 5.2) or after the bath (6.5 versus 8.5).

No cases of meconium stained liquor were reported, no infants had an Apgar score less than seven at five minutes or were admitted to neonatal intensive care.

AUDIO-ANALGESIA

Only one outcome on maternal satisfaction relevant for inclusion in the meta-analysis was reported from this trial of 25 women(Moore 1965). No difference was found between groups (RR 2.00, 95% CI 0.82 to 4.89 (24 women)).

HYPNOSIS

Three studies comparing the use of hypnosis with a control group were included in the review (Freeman 1986; Harmon 1990; Martin 2001). One trial reported on maternal satisfaction for pain relief. In the Freeman 1986 trial the hypnosis group reported greater satisfaction than the control group (RR 2.33, 95% CI 1.15 to 4.71 (125 women)).

All three trials reported on use of pharmacological pain relief in labour. In the Freeman trial, there was no difference in the use of pain relief between women receiving hypnosis and the control group (RR 0.88, 95% CI 0.33 to 2.24, (65 women)). In the Martin 2001 trial women receiving hypnosis used less anaesthesia than women in the control group (RR 0.65, 95% CI 0.38 to 1.11 (42 women)). Harmon 1990 reported on the use of narcotics, fewer women in the hypnosis group used narcotics than in the control group (RR 0.21, 95% CI 0.08 to 0.55, (60 women)). Using a random effects model the meta-analysis for the three trials reporting on this outcome. The meta-analysis found no difference in the need for pain relief between groups (RR 0.54, 95% CI 0.23 to 1.23 (167 women)).

Two trials reported on spontaneous vaginal delivery (Freeman 1986; Harmon 1990). They found more women had a spontaneous vaginal delivery in the hypnosis group than in the control group (RR1.38, 95% CI 1.13 to 2.47 (125 women)). The Freeman 1986 found no difference in instrumental delivery between groups (RR 0.56, 95% CI 0.22 to 1.44 (65 women)).

Two trials reported on the use of augmentation with oxytocin (Harmon 1990; Martin 2001). Women in the hypnosis group reported less use of oxytocin than women in the control group (RR 0.31, 95% CI 0.18 to 0.52 (102 women)).

The mean duration of labour reported by Freeman 1986 was 12.4 hours in the hypnosis group compared with 9.7 hours in the control group ($p < 0.05$) (no standard deviation reported).

Neonatal outcomes were reported in two trials. There was no difference between groups in admission to neonatal intensive care (RR 0.18, 95% CI 0.02 to 1.43 (42 babies)) (Martin 2001). Apgar scores at five minutes were reported by Harmon 1990 mean score for the hypnosis group was 9.30 (standard deviation (SD) 0.65) and for the control group was 8.7 (SD 0.50).

MUSIC

The data from the Durham 1986 trial were not in a suitable form for entry into the table for comparisons. There was no statistical difference in the frequency of pain medication use between groups, with 12 episodes of pain medication use in the experimental group and 19 in the control group.

For summary of analyses see MetaView: Tables and Figures.

DISCUSSION

Despite the increasing use of complementary therapies there is a lack of well designed randomised controlled trials to evaluate the effectiveness of these therapies for pain management in labour. Few complementary therapies have been subjected to rigorous scientific study and the number of women studied is small. Most trials were small and of poor methodological quality or inadequately reported. The insufficient reporting made the assessment of methodological quality and data extraction difficult. Overall, currently available data suggest acupuncture and hypnosis may be beneficial in the provision of pain management during labour.

ACUPUNCTURE

Evidence from the single included study suggests women receiving acupuncture required less analgesic. The need for epidural analgesic was reduced. Appropriately powered randomised trials are required to examine the

effectiveness of acupuncture on the clinical outcomes described in this review.

There are many styles of acupuncture including traditional Chinese acupuncture, auricular acupuncture and electroacupuncture. The one included trial of acupuncture (Ramnero 2002) represents one approach of acupuncture to manage pain during labour. In addition to the style of acupuncture used, acupuncture can vary in the selection of acupuncture points and the needling techniques used (duration of needling, number of points used, depth of needling, type of stimulation and point selection). It is important that any future clinical trials of acupuncture for pain management in labour report the basis for the acupuncture treatment and needling as described in the STRICTA guideline (MacPherson 2001).

AROMATHERAPY

There is insufficient evidence about the effectiveness of aromatherapy on pain management in labour on any primary or secondary outcome from one small controlled trial comparing lemongrass and ginger. A methodological issue for trials of aromatherapy is the choice of an appropriate control group to ensure participants and care providers remain unaware of the group allocation and the use of a control group enabling meaningful comparisons to be made. Adequately powered studies are needed to examine the effects of aromatherapy on pain management in labour.

AUDIO-ANALGESIA

There is insufficient evidence about the effectiveness of audio analgesia on pain management in labour. Further research is required.

HYPNOSIS

Current available evidence suggests hypnosis may be effective in reducing pain in labour. Maternal satisfaction with pain management was greater among women receiving hypnosis. Although the three included trials reported reduced use of a pharmacological pain relief in labour, when adjusting for heterogeneity between trials there was insufficient evidence of reduced use of pain relief among women receiving hypnosis. Other promising benefits from hypnosis appear to be increased vaginal delivery, and reduced use of oxytocin. One trial reported an increased duration of labour among women receiving hypnosis. There was no evidence of any adverse effects on the neonate. Further research is required.

MUSIC

There is insufficient evidence about the effectiveness of music therapy on pain management in labour. Further research is required.

REVIEWER'S CONCLUSIONS

Implications for practice

The data available suggest hypnosis and acupuncture may be helpful therapies for pain management in labour. The efficacy of aromatherapy, audio-analgesia, bio-feedback and music have not been established. Recommendations for practice cannot be made until further research has been undertaken.

Implications for research

Further randomised controlled trials of complementary therapies are needed. Consideration could be given to the use of preference trials where women can choose their treatment of choice within a trial context. Preference trials vary in their design; they retain the advantages of randomised trial but allow the interaction between subject's preferences and outcome to be assessed. However, the practical advantages of establishing and including patient preferences in trials has not been fully established.

All future randomised trials must be adequately powered and evaluation of complementary and alternative therapies for pain management in labour should consider including clinically relevant outcomes such as those described in this review. There is a need for improving the quality and reporting of future trials. In particular, consideration should be given in the analysis and reporting on the person providing the intervention for example their training, length of experience and relationship to the woman.

Combinations of the beneficial therapies (acupuncture and hypnosis) requires further study. In addition the timing and specific aspects of hypnosis that are most beneficial need further investigation. The design of future acupuncture trials should consider the consensus recommendations for optimal treatment, sham controls and blinding (MacPherson 2001).

ACKNOWLEDGEMENTS

None.

POTENTIAL CONFLICT OF INTEREST

None known.

TABLES

Characteristics of included studies

Study	**Calvert 2000**
Methods	Double blind randomised controlled trial of aromatherapy. Computer generated sequence and concealed by a coded number on the bottle. The women, care providers, outcome assessor and analyst were all blind to the woman's group allocation.
Participants	Twenty two multiparous women with a singleton pregnancy were randomised to the trial. Women were excluded with previous caesarean section, major medical complications, skin allergies, hypotension, previous vaginal surgery (excluding dilatation and curettage), not receiving continuity of midwifery care. Women were recruited during the antenatal period, at a level II hospital in New Zealand.
Interventions	Randomisation occurred on the delivery suite prior to the woman entering the bath. Once the woman was in the bath the seal on the bottle was broken and the oil poured in to the bath. The woman was required to remain in the bath for at least one hour. The experimental group received essential oil of ginger and the control group received essential oil of lemongrass.
Outcomes	Frequency of contractions, cervical dilatation, length of first and second stage of labour, pain experience, need for pain relief, side effects from essential oils, Apgar scores, and rooming in.
Notes	A power calculation was performed, 116 women were required. Twenty two women were recruited. There were no losses to follow up. An intention to treat analysis was performed.
Allocation concealment	A
Study	**Durham 1986**
Methods	Single blind randomised controlled trial. Random number tables were used for the allocation sequence. Allocation concealment unclear. The outcome assessor was not blind to the woman's group allocation and it was unclear if the analyst was blind.
Participants	Thirty primiparous women participating in childbirth education using psycho prophylactic childbirth techniques, in the United States.
Interventions	The experimental group received the standard psycho-prophylactic teaching curriculum. In addition, they had tape-recorded music played during conditioning exercise segments and when practicing relaxation and breathing techniques. During labour a tape recorder with several hours of music was provided. The music was generally "top 40"; however, participants could bring their own tapes if they chose. The control group received the standard curriculum of education taught in the childbirth education classes.
Outcomes	Use of medication or anaesthetics during labour.
Notes	There was no power calculation. It was unclear whether there has been complete follow up as only total frequency of differing medications is reported. No baseline data was presented between the two groups.
Allocation concealment	B
Study	**Freeman 1986**
Methods	Single blind randomised controlled trial. The allocation sequence was not stated and no

	details were provided on concealment or blinding.
Participants	Eighty two primiparous women, with a normal pregnancy and who wished to avoid an epidural. Women were recruited from an antenatal clinic in England.
Interventions	Women were seen individually on a weekly basis from 32 weeks. Women were encouraged to imagine warmth in one hand and shown how to transfer this to the abdomen. The control group received standard antenatal care.
Outcomes	Duration of pregnancy, duration of labour, analgesic requirements and mode of delivery.
Notes	Thirteen (15%) women were excluded due to obstetric complications and four women failed to attend for hypnosis. There was no power calculation. No baseline characteristics were provided.
Allocation concealment	B
Study	**Harmon 1990**
Methods	Single blind randomised controlled trial. The allocation sequence used random number tables. The allocation sequence was not concealed. The outcome assessor and analyst were not blind to the woman's group allocation.
Participants	Sixty nulliparous women aged 18-35 years, at the end of the second trimester, referred from an obstetric private practice in the United States. Women with a history of psychiatric hospitalisation, depression during pregnancy, obstetric risk, or with borderline hypertension were excluded.
Interventions	Women receiving hypnosis were given a cassette tape recording of the hypnotic induction. The control group were given a cassette tape recording of 'Practice for Childbirth'. All women were told to practice their tapes daily.
Outcomes	Use of medication in labour, length of labour, mode of delivery, Apgar scores at 1 and 5 minutes.
Notes	Data on outcomes were complete. There was no power calculation. No baseline characteristics were reported.
Allocation concealment	B
Study	**Martin 2001**
Methods	Single blind randomised controlled trial of hypnosis. The allocation sequence was not stated. No details were provided on concealment of the allocation sequence or blinding was provided.
Participants	Forty seven teenagers 18 years or younger, with a normal pregnancy before their 24th week of pregnancy. Teenagers were recruited at a public hospital in Florida, USA.
Interventions	Treatment group received childbirth preparation in self hypnosis that included information on labour and delivery. The control group received supportive counseling. The study intervention began with individual meetings during regular clinic visits between 20-24 weeks. Continuing clinic visits were scheduled on a biweekly basis, with the intervention run over 8 weeks.
Outcomes	Medication use, complications, surgical intervention during delivery, length of hospital stay for mothers and neonatal intensive care admissions for infants.
Notes	Five teenagers were lost to follow up (10%). There was no power calculation. No details on the baseline characteristics were provided.
Allocation concealment	B
Study	**Moore 1965**
Methods	Single blind randomised controlled trial of audio-analgesia. The allocation sequence and concealment of the allocation sequence was unclear. It was unclear whether the outcome assessor and analyst were blind.
Participants	Twenty five women with a singleton pregnancy in the first stage of labour were randomised to the trial. The trial was undertaken in England. Women were excluded if they had a history of ear disease or vestibular disturbance.
Interventions	Women in the experimental arm listened to white sound set at 120 decibels. Control cases listened to white sound at a maximum 90 decibels (it was presumed at this level there is no physiological effect). The intervention started when the woman was in established labour. If the women became tired the audio-analgesia was stopped and resumed later. If the midwife

	considered the pain relief inadequate, the audio analgesia was stopped and inhalation analgesia started.
Outcomes	Midwife's opinion of pain relief from audio-analgesia, woman's satisfaction with "sea noise".
Notes	One (4%) woman withdrew from the trial. There was no sample size calculation. No details were provided on baseline characteristics.
Allocation concealment	D
Study	**Ramnero 2002**
Methods	Parallel single blind randomised controlled trial of acupuncture. The trial was stratified by parity. Women received acupuncture or no acupuncture. The randomisation sequence used shuffled cards and were concealed in sealed opaque envelopes. The outcome assessor was not blind and it was unclear if the analyst was blind to treatment allocation.
Participants	One hundred women were recruited from an antenatal clinic in Sweden. Randomisation took place in the delivery suite following admission. Inclusion criteria: 37+ weeks gestation, spontaneous labour, cephalic presentation, cervical dilatation <7cm at admission. Exclusion criteria: diabetes, pre-eclampsia, kidney disease, thrombocytopenia, psychological distress or anorexia, infectious blood disease, atopic eczema or psoriasis.
Interventions	All women had access to conventional analgesia. Eleven midwives completed a four day course in acupuncture for labour pain. These midwives administered acupuncture to the treatment group. Acupuncture treatment was individualised with relaxing points combined with local and distal analgesic points. Needles were inserted at 45 or 90 degrees, stimulated manually until de qui (needling sensation) was obtained. Needles were left in situ and removed after 1-3 hours.
Outcomes	Pain intensity and degree of relaxation was assessed once every hour, prior to any analgesic and 15 minutes after. Other outcomes included; the use of analgesics, augmentation of labour with oxytocin, duration of labour, outcome of birth, antepartum haemorrhage, Apgar scores, and infant birth weight.
Notes	Ten (10%) were excluded from the analysis after not meeting the inclusion criteria (breech presentation, not in active labour, not in spontaneous labour, missing pain and relaxation data). No sample size calculation was described. An intention to treat analysis was performed.
Allocation concealment	A

Characteristics of excluded studies

Study	Reason for exclusion
Browning 2000	In this trial 11 women attending childbirth education classes volunteered to participate in a trial examining the effect of music during labour. The participants were randomly assigned to receive music use and labour support or labour support alone (control group) during labour. The participants selected the music; they were instructed to listen to some music daily during their pregnancy and to play the music during labour. The paper reports on a qualitative analysis of interviews conducted with the participants within 72 hours of delivery. The manuscript does not report on any clinical outcomes described in this review.
Buxton 1973	In this trial of maternal respiration in labour, no clinically meaningful data were reported. Data were reported on respiratory outcomes.
Chang 2002	In this randomised controlled trial of massage therapy the trial was excluded due to greater than 20 per cent loss to follow up.
Dolcetta 1979	In this randomised controlled trial of bio-feedback the trial was excluded due to greater than 20 per cent loss to follow up.
Duchene 1989	In this randomised controlled trial of bio-feedback the trial was excluded due to greater than 20 per cent loss to follow up.
Field 1997	In this randomised controlled trial of massage the data were not in a form suitable for analysis.
Geden	This paper reported on two studies that examined the effects of music on analogued labour pain,

1989	the first involving music, the second using a combination of imagery and music. Twenty women were included in this study which was undertaken in the United States. This study was not conducted on women during labour and therefore did not meet the inclusion criteria for this review.
Shalev 1991	Twenty five women recruited during labour at a maternity hospital in Israel. Thirteen women randomised to receive electroacupuncture and 12 women received no analgesia at the start of the active phase of labour (cervical dilatation 4cm, effacement 60 per cent). The study reported on beta endorphin levels and did not report on any measures relevant to this review.
Ternov 1998	This trial was excluded as it was not a randomised controlled trial.

REFERENCES

References to studies included in this review

Calvert 2000 {unpublished data only}
Calvert I. The evaluation of the use of herbal substances in the bath water of labouring women. Personal communication 2000.

Durham 1986 {published data only}
Durham L, Collins M. The effect of music as a conditioning aid in prepared childbirth education. Journal of Obstetric, Gynecologic and Neonatal Nursing 1986;15:268-70.

Freeman 1986 {published data only}
Freeman RM, Macaulay AJ, Eve L, Chamberlain GVP. Randomised trial of self hypnosis for analgesia in labour. BMJ 1986;292:657-8.

Harmon 1990 {published data only}
Harmon TM, Hynan MT, Tyre TE. Improved obstetric outcomes using hypnotic analgesia and skill mastery combined with childbirth education. Journal of Consulting and Clinical Psychology 1990;58(5):525-30.

Martin 2001 {published data only}
Martin AA, Schauble PG, Rai SH, Curry RW. The effects of hypnosis on the labour processes and birth outcomes of pregnant adolescents. Journal of Family Practice 2001;50(5):441-3.

Moore 1965 {published data only}
Moore WMO, Browne JCM. Clinical trial of audio analgesia in childbirth. Journal of Obstetrics and Gynaecology of the British Commonwealth 1965;72:626-9.

Ramnero 2002 {published data only}
Ramnero A, Hanson U, Kihlgren M. Acupuncture treatment during labour - a randomised controlled trial. BJOG: an international journal of obstetrics and gynaecology 2002;109:637-44.

References to studies excluded from this review

Browning 2000
Browning CA. Using music during childbirth. Birth 2000;27(4):272-6.

Buxton 1973
Buxton R St J. Maternal respiration in labour. Nursing Mirror 1973;137:22-5.

Chang 2002
Chang MY, Wang SY, Chen CH. Effects of massage on pain and anxiety during labour: a randomised controlled trial in Taiwan. Journal of Advanced Nursing 2002;38(1):68-73.

Dolcetta 1979
Dolcetta G, Azzini V, Zacche G, Tansella CZ, Bertagni P, Siani R et al. Traditional and respiratory autogenic training in psychoprophylaxis for chilbirth. A controlled study on psychological and clinical effects in primiparous. Proceedings of 5th International Congress on Psychosomatic Medicine in

Obstetrics and Gynaecology; 1979; Rome, Italy, 1979:929-36. .

Duchene 1989
Duchene P. Effects of biofeedback on childbirth pain. Journal of Pain and Symptom Management 1989;4(3):117-22.

Field 1997
Field T, Hernandez-Reif M, Taylor S, Quintino O, Burman I. Labour pain is reduced by massage therapy. Journal of Psychosomatic Obstetrics and Gynaecology 1997;18:286-91.

Geden 1989
Geden E, Lower M, Beattie S, Beck N. Effects of music and imagery on physiologic and self report of analogues labour pain. Nursing Research 1989;38(1):37-41.

Shalev 1991
Shalev E, Yanay N, Peleg D, Yagudin E. Electroacupuncture during labour and its effect on peripheral plasma beta-endorphin concentration. American Journal of Acupuncture 1991;19(4):345-8.

Ternov 1998
Ternov K, Nilsson M, Lofberg L, Algotsson L, Akeson J. Acupuncture for pain relief during childbirth. Acupuncture and Electro-therapeutics 1998;23:19-26.

References to studies awaiting assessment

James-Roberts 1980
St James-Roberts I, Hutchinson C, Haran F, Chamberlain GVP. Biofeedback as an aid to childbirth. British Journal of Obstetrics and Gynaecology 1983;90:56-60.

James-Roberts 1982
St James-Roberts, Chamberlain G, Haran FJ, Hutchinson CMPA. Use of electromyographic and skin conductance biofeedback relaxation training to facilitate childbirth in primiparae. Journal of Psychosomatic Research 1982;26(4):455-62.

Rock 1969
Rock NL, Shipley TE, Campbell C. Hypnosis with untrained nonvolunteer patients in labor. International Journal of Clinical and Experimental Hypnosis 1969;18(1):25-36.

Sammons 1984
Sammons LN. The use of music by women during childbirth. Journal of Nurse Midwifery 1984;29:266-70.

Yao 1997
Yao S-F. Clinical study on shortening birth process by psychological sugestion therapy. Chinese Journal of Nursing 1997;32(10):568-670.

Additional references

Allaire 2000
Allaire AD, Moos M, Wells SR. Complementary and alternative medicine in pregnancy: a survey of North Carolina nurse-midwives. Obstetrics and Gynecology 2000;95(1):19-23.

Astin 1998
Astin JA, Marie A, Palletier KR, Hansen E, Haskell WL. A review of the incorporation of complementary and alternative medicine by mainstream physicians. Archives of Internal Medicine 1998;158(21):2303-10.

Bennett 1999
Bennett VR, Brown LK. Myles textbook for midwives. 13th Edition. London: Churchill Livingstone, 1999.

Charlish 1995
Charlish A. Your natural pregnancy: a guide to complementary therapies. 1st Edition. London: Eddison Sadd, 1995.

Clarke 2000
Clarke M, Oxman AD. Cochrane Reviewers' Handbook 4.1 [updated June 2000]. In: Review Manager (RevMan) [Computer program]. Version 4.1. Oxford, England: The Cochrane Collaboration, 2000. .

Cochrane 2003
Cochrane Complementary Medicine Field. In: The Cochrane Library, 1, 2003. Oxford: Update Software.

Eisenberg 1998
Eisenberg DA, Davis RB, Ettner SL, Appel S, Wilky S, Van Rompay M. Trends in alternative medicine use in the United States, 1990-1997: results of a follow up national survey. JAMA 1998;280:1569-75.

Elbourne 2002
Elbourne D, Wiseman RA. Types of intra-muscular opioids for maternal pain relief in labour (Cochrane Review). In: The Cochrane Library, 3, 2002. Oxford: Update Software. CD001237.

Ernst 1997
Ernst E, Koeder K. An overview of reflexology. European Journal of General Practice 1997;3:52-7.

Gibson 2001
Gibson PS, Powrie R, Star J. Herbal and alternative medicine use during pregnancy: a cross-sectional survey. Obstetrics and Gynecology 2001;97(4):S44-5.

Hodnett 2002
Hodnett ED. Caregiver support for women during labour (Cochrane Review). In: The Cochrane Library, 3, 2002. Oxford: Update Software.

Howell 2002
Howell CJ. Epidural vesus non-epidural analgesia for pain relief in labour (Cochrane Review). In: The Cochrane Library, 3, 2002. Oxford: Update Software.

MacPherson 2001
MacPherson H, White A, Cummings M, Jobst K, Rose K, Niemtzow R for the STRICTA group. Standards for reporting interventions in controlled trials of acupuncture: the STRICTA group. Complementary Therapies in Medicine 2001;9(4):246-9.

Melzack 1984
Melzack R. The myth of painless childbirth. Pain 1984;19:331-7.

Ng 1992
Ng LKY, Katims JJ, Lee MHM. In: Aronoff GM, editor(s). Evaluation and treatment of chronic pain. 2nd Edition. Baltimore: Williams & Wilkins, 1992.

Nikodem 2002
Nikodem VC. Immersion in water in pregnancy, labour and birth (Cochrane Review). In: The Cochrane Library, 2, 2002. Oxford: Update Software. CD000111.

Pomeranz 1989
Pomeranz B, Stux G. Scientific bases of acupuncture. Berlin: Springer-Verlag, 1989.

RevMan 2000
Review Manager (RevMan). 4.1 for Windows Edition. Oxford, England: The Cochrane Collaboration, 2000

Stevensen 1995
Stevensen CJ. The psychophysiological effects of aromatherapy massage following cardiac surgery. Complementary Therapies in Medicine 1995;2:27-35.

Vickers 1999a

Vickers A, Zolloman C. ABC of complementary medicine: hypnosis and relaxation therapies. BMJ 1999;319:1346-9.

Vickers 1999b
Vickers A, Zollman C. ABC of complementary therapies: massage therapies. BMJ 1999;319:1254-7.

Wall 1967
Wall PD, Sweet W. Temporary abolition of pain in man. Science 1967;155:108-9.

GRAPHS

To view a graph or table, click on the outcome title of the summary table below.

To view graphs using MetaView, click on the "Show metaview" link at the top of the graph.

01 Acupuncture compared with control				
Outcome title	No. of studies	No. of participants	Statistical method	Effect size
01 Maternal satisfaction with pain management from acupuncture	1	90	Relative Risk (Fixed) 95% CI	1.08 [0.95, 1.22]
02 Use of pharmacological pain relief	1	90	Relative Risk (Fixed) 95% CI	0.56 [0.39, 0.81]
03 Spontaneous vaginal delivery from acupuncture	1	90	Relative Risk (Fixed) 95% CI	0.98 [0.89, 1.08]
04 Instrumental vaginal delivery from acupuncture	1	90	Relative Risk (Fixed) 95% CI	1.91 [0.18, 20.36]
05 Caesarean section from acupuncture	1	90	Relative Risk (Fixed) 95% CI	0.96 [0.06, 14.83]
06 Length of labour from acupuncture	1	90	Weighted Mean Difference (Fixed) 95% CI	-0.30 [-1.79, 1.19]
07 Augmentation with oxytocin from acupuncture	1	90	Relative Risk (Fixed) 95% CI	1.02 [0.58, 1.80]
08 Apgar score < 7 at 5 minutes from acupuncture	1	90	Relative Risk (Fixed) 95% CI	Not estimable
02 Aromatherapy compared with control				
Outcome title	No. of studies	No. of participants	Statistical method	Effect size
01 Use of pharmacological pain relief	1	22	Relative Risk (Fixed) 95% CI	2.50 [0.31, 20.45]
02 Spontaneous vaginal delivery from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	0.93 [0.67, 1.28]
03 Instrumental delivery from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	0.83 [0.06, 11.70]
04 Caesarean section from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	2.54 [0.11, 56.25]
05 Post partum haemorrhage from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	Not estimable
06 Meconium stained liquor from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	Not estimable
07 Apgar score < 7 at 5 minutes from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	Not estimable
08 Admission to NICU from aromatherapy	1	22	Relative Risk (Fixed) 95% CI	Not estimable
03 Audio-analgesia compared with control				

Outcome title	No. of studies	No. of participants	Statistical method	Effect size
01 Maternal satisfaction with pain relief from sea noise	1	24	Relative Risk (Fixed) 95% CI	2.00 [0.82, 4.89]

04 Hypnosis compared with control

Outcome title	No. of studies	No. of participants	Statistical method	Effect size
01 Maternal satisfaction with pain management from hypnosis	1	65	Relative Risk (Fixed) 95% CI	2.33 [1.15, 4.71]
02 Use of pharmacological pain relief	3	167	Relative Risk (Random) 95% CI	0.54 [0.23, 1.23]
03 Spontaneous vaginal delivery from hypnosis	2	125	Relative Risk (Fixed) 95% CI	1.38 [1.10, 1.74]
04 Instrumental vaginal delivery from hypnosis	1	65	Relative Risk (Fixed) 95% CI	0.56 [0.22, 1.44]
05 Augmentation with oxytocin from hypnosis	2	102	Relative Risk (Fixed) 95% CI	0.31 [0.18, 0.52]
06 Admission to NICU from hypnosis	1	42	Relative Risk (Fixed) 95% CI	0.18 [0.02, 1.43]

COVER SHEET

Title	**Complementary and alternative therapies for pain management in labour**
Reviewer(s)	**Smith CA, Collins CT, Cyna AM, Crowther CA**
Contribution of reviewer(s)	**Caroline Smith and Carmel Collins conceptualised and wrote the protocol, reviewed trials, performed data extraction and jointly wrote the review.** **Allan Cyna reviewed trials, performed data extraction and commented on drafts of the review.** **Caroline Crowther commented on each draft of the protocol and review.**
Issue protocol first published	2002/1
Issue review first published	2003/2
Date of most recent amendment	18 February 2003
Date of most recent SUBSTANTIVE amendment	09 January 2003
Most recent changes	Information not supplied by reviewer
Date new studies sought but none found	Information not supplied by reviewer
Date new studies found but not yet included/excluded	Information not supplied by reviewer
Date new studies found and included/excluded	Information not supplied by reviewer
Date reviewers' conclusions section amended	Information not supplied by reviewer
Contact address	Dr Caroline Smith Associate Professor Complementary and Alternative Therapies School of Health Sciences University of South Australia City East Campus GPO Box 2471

Adelaide
5001
South Australia
AUSTRALIA
tel: +61 8 83022082
caroline.smith@unisa.edu.au
fax: +61 8 83022766
Cochrane Library number CD003521
Editorial group Cochrane Pregnancy and Childbirth Group
Editorial group code HM-PREG

SOURCES OF SUPPORT

External sources of support
- No sources of support supplied

Internal sources of support
- The University of Adelaide, Adelaide AUSTRALIA
- Women's and Children's Hospital, Adelaide AUSTRALIA

SYNOPSIS

Acupuncture and hypnosis may help relieve pain during labour, but more research is needed on these and other complementary therapies

The pain of labour can be intense, with tension, anxiety and fear making it worse. Many women would like to cope without using drugs during labour. Many alternative ways are tried to help, including acupuncture, mind-body techniques, massage, reflexology, herbal medicines or homoeopathy, hypnosis, music and magnets (covered by another Cochrane review) may be used to manage pain. We found evidence that acupuncture and hypnosis may help relieve labour pain. There is insufficient evidence about the benefits of music, white noise, aromatherapy or biofeedback, and no evidence about the effectiveness of massage or other complementary therapies.

Index Terms

Medical Subject Headings (MeSH)Acupuncture Analgesia ; Analgesia, Obstetrical [methods]; Aromatherapy ; Complementary Therapies [methods]; Hypnosis ; Labor Complications [therapy]; Music Therapy ; Pain [therapy]
Mesh check words: Female Human Pregnancy
