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induction of labour

Induction du travail : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Gregolis 2024

Gregolis TBL, Santos SDS, Silva IFD, Bessa ARDS. Influence of non-pharmacological methods on duration of labor: a systematic review. Cien Saude Colet. 2024 Jun;29(6):e19032022. https://doi.org/10.1590/1413-81232024296.19032022

Obejctive	The article aims to verify the influence of MNFs on the duration of the birth process.
Methods	A systematic review was carried out in the MEDLINE, Web of Science and LILACS databases, through a combination of terms that cover the topic addressed, from 1996 to 2021/April. The Excel spreadsheet was used to collect data to extract information regarding each selected article, in turn, data analysis included the evaluation and classification of quality, reliability and risk of bias, thus, the following tools were used: Cochrane RoB 2, Checklist and Newcastle-Ottawa Scale.
Results	Warm bath, walking, exercises with a birthing ball, breathing techniques, supine position, acupuncture, acupressure and water birth reduced labor time. While spontaneous pushing, massage and immersion baths prolonged labor. Non-pharmacological methods capable of reducing the duration of labor were hot/warm shower, walking, birth ball exercises, breathing techniques, maternal mobility, dorsal position, acupuncture, acupressure and water birth, as well. associated applied techniques such as hot/warm bath, ball exercises and lumbosacral massage, as well as immersion bath, ball exercises, aromatherapy, vertical postures and maternal mobility with alternating vertical postures, shortened the birth time.

1.1.2. Zamora-Brito 2023

Zamora-Brito M, Fernández-Jané C, Pérez-Guervós R, Solans-Oliva R, Arranz-Betegón A, Palacio M. Role of acupuncture in the present approach to labor induction: a systematic review and metaanalysis. Am J Obstet Gynecol MFM. 2023 Dec 25:101272. https://doi.org/10.1016/j.ajogmf.2023.101272

	Method	A systematic search for publications between January 2000 and September 2023 of the CENTRAL, PubMed, CINAHL, SCOPUS and ClinicalTrials.gov and EUDRACT databases was performed. Study eligibility criteria: We included randomized clinical trials of pregnant women who underwent acupuncture prior to labor induction with a filiform needle or acupressure, including at least one of the following outcomes: spontaneous labor rate, time from procedure to delivery and cesarean rate. Articles published in English or German language were included. Study appraisal and synthesis methods: Whenever possible, a meta-analysis using RevMan software was performed using a random effects model with the I2 statistic since important heterogeneity in the different acupuncture treatments was expected. When enough data were available, the effect of the participants' characteristics on the results of the interventions was explored using the following subgroups: 1-Age (\geq 35 vs. <35), and 2- body mass index (BMI) (\geq 30 vs. <30). When a meta-analysis was not possible, a narrative synthesis of the results was performed. The quality of the evidence was assessed using GRADE.
	Results	Seventeen studies including 3262 women fulfilled our inclusion criteria. The meta- analysis showed no statistically significant differences between groups for outcomes (relative risk [RR]: 1.00; 95% confidence interval [CI]: 0.91, 1.10; I2: 11%) comparing acupuncture versus sham acupuncture. However, there was a statistically significant increase in the spontaneous onset of labour rate favoring acupuncture VS no acupuncture (RR: 1.12; 95%CI: 1.03, 1.23; I2= 25%). Regarding the age analysis, no differences between groups were observed in the spontaneous labor rate and cesarean rate for acupuncture versus sham and acupuncture versus no-acupuncture comparisons (difference between groups, $p > 0.05$).
	Conclusion	This study suggests that acupuncture may be beneficial in reducing the rate of induction of labor, but well-designed randomized controlled trials are necessary. Maternal age \geq 35 and a high BMI were underrepresented, and findings may not be representative of the current population in our context.

1.1.3. Smith 2017

Smith CA, Armour M, Dahlen HG. Acupuncture or acupressure for induction of labour. Cochrane Database Syst Rev. 2017 Oct 17;10(10):CD002962. https://doi.org/10.1002/14651858.CD002962.pub4 . PMID: 29036756; PMCID: PMC6953318.

Backgound	This is one of a series of reviews of methods of cervical ripening and labour induction. The use of complementary therapies is increasing. Women may look to complementary therapies during pregnancy and childbirth to be used alongside conventional medical practice. Acupuncture involves the insertion of very fine needles into specific points of the body. Acupressure is using the thumbs or fingers to apply pressure to specific points. The limited observational studies to date suggest acupuncture for induction of labour has no known adverse effects to the fetus, and may be effective. However, the evidence regarding the clinical effectiveness of this technique is limited.
Objectives	To determine, from the best available evidence, the effectiveness and safety of acupuncture and acupressure for third trimester cervical ripening or induction of labour.

Methods	Search methods: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 November 2016), PubMed (1966 to 25 November 2016), ProQuest Dissertations & Theses (25 November 2016), CINAHL (25 November 2016), Embase (25 November 2016), the WHO International Clinical Trials Registry Portal (ICTRP) (3 October 2016), and bibliographies of relevant papers. Selection criteria: Randomised controlled trials comparing acupuncture or acupressure, used for third trimester cervical ripening or labour induction, with placebo/no treatment or other methods on a predefined list of labour induction methods. Data collection and analysis: Two review authors independently assessed trials for inclusion and risk of bias, extracted data, and checked them for accuracy. The quality of the evidence was assessed using GRADE.

This updated review includes **22 trials, reporting on 3456 women**. The trials using manual or electro-acupuncture were compared with usual care (eight trials, 760 women), sweeping of membranes (one trial, 207 women), or sham controls (seven trials, 729 women). Trials using acupressure were compared with usual care (two trials, 151 women) or sham controls (two trials, 239 women). Many studies had a moderate risk of bias. Overall, few trials reported on primary outcomes. No trial reported vaginal delivery not achieved within 24 hours and uterine hyperstimulation with fetal heart rate (FHR) changes. Serious maternal and neonatal death or morbidity were only reported under acupuncture versus sham control. Acupuncture versus sham control There was no clear difference in caesarean sections between groups (average risk ratio (RR) 0.80, 95% confidence interval (CI) 0.56 to 1.15, eight trials, 789 women; high-quality evidence). There were no reports of maternal death or perinatal death in the one trial that reported this outcome. There was evidence of a benefit from acupuncture in improving cervical readiness for labour (mean difference (MD) 0.40, 95% CI 0.11 to 0.69, one trial, 125 women), as measured by cervical maturity within 24 hours using Bishop's score. There was no evidence of a difference between groups for oxytocin augmentation, epidural analgesia, instrumental vaginal birth, meconiumstained liquor, Apgar score < 7 at five minutes, neonatal intensive care admission, maternal infection, postpartum bleeding greater than 500 mL, time from the trial to time of birth, use of induction methods, length of labour, and spontaneous vaginal birth. Acupuncture versus usual care There was no clear difference in caesarean sections between groups (average RR 0.77, 95% CI 0.51 to 1.17, eight trials, 760 women; low-quality evidence). There was an increase in cervical maturation for the acupuncture (electro) group compared with control (MD 1.30, 95% Cl 0.11 to 2.49, one trial, 67 women) and a shorter length of labour (minutes) in the usual care group compared to electro-acupuncture (MD 124.00, 95% CI 37.39 to 210.61, one trial, 67 women). There appeared be a differential effect according to type of acupuncture Main based on subgroup analysis. Electro-acupuncture appeared to have more of an effect results than manual acupuncture for the outcomes caesarean section (CS), and instrumental vaginal and spontaneous vaginal birth. It decreased the rate of CS (average RR 0.54, 95% CI 0.37 to 0.80, 3 trials, 327 women), increased the rate of instrumental vaginal birth (average RR 2.30, 95%Cl 1.15 to 4.60, two trials, 271 women), and increased the rate of spontaneous vaginal birth (average RR 2.06, 95% CI 1.20 to 3.56, one trial, 72 women). However, subgroup analyses are observational in nature and so results should be interpreted with caution. There were no clear differences between groups for other outcomes: oxytocin augmentation, use of epidural analgesia, Apgar score < 7 at 5 minutes, neonatal intensive care admission, maternal infection, perineal tear, fetal infection, maternal satisfaction, use of other induction methods, and postpartum bleeding greater than 500 mL. Acupuncture versus sweeping if fetal membranes One trial of acupuncture versus sweeping of fetal membranes showed no clear differences between groups in caesarean sections (RR 0.64, 95% CI 0.34 to 1.22, one trial, 207 women, moderate-guality evidence), need for augmentation, epidural analgesia, instrumental vaginal birth, Apgar score < 7 at 5 minutes, neonatal intensive care admission, and postpartum bleeding greater than 500 mL. Acupressure versus sham control There was no evidence of benefit from acupressure in reducing caesarean sections compared to control (RR, 0.94, 95% CI 0.68 to 1.30, two trials, 239 women, moderate-quality evidence). There was no evidence of a clear benefit in reduced oxytocin augmentation, instrumental vaginal birth, meconium-stained liguor, time from trial intervention to birth of the baby, and spontaneous vaginal birth. Acupressure versus usual care There was no evidence of benefit from acupressure in reducing caesarean sections compared to usual care (RR 1.02, 95% CI 0.68 to 1.53, two trials, 151 women, moderate-quality evidence). There was no evidence of a clear benefit in reduced epidural analgesia, Apgar score < 7 at 5 minutes, admission to neonatal intensive care, time from trial intervention to birth of the baby, use of other induction methods, and spontaneous vaginal birth.

1.1.4. Vogel 2017 Ø

Vogel JP, Osoti AO, Kelly AJ, Livio S, Norman JE, Alfirevic Z. Pharmacological and mechanical interventions for labour induction in outpatient settings. Cochrane Database Syst Rev. 2017. [52195].

Background	Induction of labour is carried out for a variety of indications and using a range of methods. For women at low risk of pregnancy complications, some methods of induction of labour or cervical ripening may be suitable for use in outpatient settings.
Objectives	To examine pharmacological and mechanical interventions to induce labour or ripen the cervix in outpatient settings in terms of effectiveness, maternal satisfaction, healthcare costs and, where information is available, safety.
Methods	Search Methods: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 November 2016) and reference lists of retrieved studies. Selection criteria: We included randomised controlled trials examining outpatient cervical ripening or induction of labour with pharmacological agents or mechanical methods. Cluster trials were eligible for inclusion. Data collection and analysis: Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. We assessed evidence using the GRADE approach.

This updated review included 34 studies of 11 different methods for labour induction with 5003 randomised women, where women received treatment at home or were sent home after initial treatment and monitoring in hospital. Studies examined vaginal and intracervical prostaglandin E₂ (PGE₂), vaginal and oral misoprostol, isosorbide mononitrate, mifepristone, oestrogens, amniotomy and **acupuncture**, compared with placebo, no treatment, or routine care. Trials generally recruited healthy women with a term pregnancy. The risk of bias was mostly low or unclear, however, in 16 trials blinding was unclear or not attempted. In general, limited data were available on the review's main and additional outcomes. Evidence was graded low to moderate guality. 1. Vaginal PGE₂ versus expectant management or placebo (5 studies) Fewer women in the vaginal PGE₂ group needed additional induction agents to induce labour, however, confidence intervals were wide (risk ratio (RR) 0.52, 95% confidence interval (CI) 0.27 to 0.99; 150 women; 2 trials). There were no clear differences between groups in uterine hyperstimulation (with or without fetal heart rate (FHR) changes) (RR 3.76, 95% CI 0.64 to 22.24; 244 women; 4 studies; low-guality evidence), caesarean section (RR 0.80, 95% Cl 0.49 to 1.31; 288 women; 4 studies; low-quality evidence), or admission to a neonatal intensive care unit (NICU) (RR 0.32, 95% CI 0.10 to 1.03; 230 infants; 3 studies; low-quality evidence). There was no information on vaginal birth within 24, 48 or 72 hours, length of hospital stay, use of emergency services or maternal or caregiver satisfaction. Serious maternal and neonatal morbidity or deaths were not reported. 2. Intracervical PGE₂ versus expectant management or placebo (7) studies) There was no clear difference between women receiving intracervical PGE_2 and no treatment or placebo in terms of need for additional induction agents (RR 0.98, 95% CI 0.74 to 1.32; 445 women; 3 studies), vaginal birth not achieved within 48 to 72 hours (RR 0.83, 95% Cl 0.68 to 1.02; 43 women; 1 study; low-guality evidence), uterine hyperstimulation (with FHR changes) (RR 2.66, 95% CI 0.63 to 11.25; 488 Main results women; 4 studies; low-quality evidence), caesarean section (RR 0.90, 95% Cl 0.72 to 1.12; 674 women; 7 studies; moderate-quality evidence), or babies admitted to NICU (RR 1.61, 95% CI 0.43 to 6.05: 215 infants: 3 studies: low-quality evidence). There were no uterine ruptures in either the PGE₂ group or placebo group. There was no information on vaginal birth not achieved within 24 hours, length of hospital stay, use of emergency services, mother or caregiver satisfaction, or serious morbidity or neonatal morbidity or perinatal death. 3. Vaginal misoprostol versus placebo (4 studies)One small study reported on the rate of perinatal death with no clear differences between groups; there were no deaths in the treatment group compared with one stillbirth (reason not reported) in the control group (RR 0.34, 95% Cl 0.01 to 8.14; 77 infants; 1 study; low-quality evidence).There was no clear difference between groups in rates of uterine hyperstimulation with FHR changes (RR 1.97, 95% CI 0.43 to 9.00: 265 women: 3 studies: low-quality evidence), caesarean section (RR 0.94, 95% CI 0.61 to 1.46; 325 women; 4 studies; low-quality evidence), and babies admitted to NICU (RR 0.89, 95% CI 0.54 to 1.47; 325 infants; 4 studies; low-quality evidence).There was no information on vaginal birth not achieved within 24, 48 or 72 hours, additional induction agents required, length of hospital stay, use of emergency services, mother or caregiver satisfaction, serious maternal, and other neonatal, morbidity or death. No substantive differences were found for other comparisons. One small study found that women who received oral misoprostol were more likely to give birth within 24 hours (RR 0.65, 95% CI 0.48 to 0.86; 87 women; 1 study) and were less likely to require additional induction agents (RR 0.60, 95% CI 0.37 to 0.97; 127 women; 2 studies). Women who received mifepristone were also less likely to require additional induction agents (average RR 0.59, 95% CI 0.37 to 0.95; 311 women; 4 studies; $I^2 = 74\%$); however, this result should be interpreted with caution due to high heterogeneity. One trial each of acupuncture and outpatient amniotomy were included, but few review outcomes were reported.

Authors' conclusions	Induction of labour in outpatient settings appears feasible and important adverse events seem rare, however, in general there is insufficient evidence to detect differences. There was no strong evidence that agents used to induce labour in outpatient settings had an impact (positive or negative) on maternal or neonatal health. There was some evidence that compared to placebo or no treatment, induction agents administered on an outpatient basis reduced the need for further interventions to induce labour, and shortened the interval from intervention to birth. We do not have sufficient evidence to know which induction methods are preferred by women, the interventions that are most effective and safe to use in outpatient settings, or their cost effectiveness. Further studies where various women-friendly outpatient protocols are compared head-to-head are required. As part of such work, women should be
	are compared head-to-head are required. As part of such work, women should be consulted on what sort of management they would prefer.

1.1.5. Smith 2013 \doteqdot

Smith, CA, Crowther CA et al. Acupuncture for induction of labour. Cochrane Database Syst 2013 ;(8):CD002962. [160368].

Purpose	To determine the effectiveness and safety of acupuncture for third trimester cervical ripening or induction of labour.
Methods	We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (23 November 2012), PubMed (1966 to 23 November 2012), Embase (1980 to 23 November 2012), Dissertation Abstracts (1861 to 23 November 2012), CINAHL (1982 to 23 November 2012), the WHO International Clinical Trials Registry Portal (ICTRP) (23 November 2012) and bibliographies of relevant papers. Clinical trials comparing acupuncture used for third trimester cervical ripening or labour induction with placebo/no treatment or other methods listed above it on a predefined list of labour induction methods. Two review authors independently assessed trials for inclusion, evaluated methodological quality and extracted data.
Results	The original review included three trials and seven trials were excluded. This updated review includes 14 trials, and excludes eight trials. Three trials previously excluded due to no clinically relevant outcomes are now included. Eight new trials were included, and four new trials were excluded. We included 14 trials with data reporting on 2220 women . Trials reported on three primary outcomes only caesarean section, serious neonatal morbidity and maternal mortality. No trial reported on vaginal delivery not achieved within 24 hours; and uterine hyperstimulation with fetal heart rate (FHR) changes. There was no difference in caesarean deliveries between acupuncture and the sham control (average risk ratio (RR) 0.95, 95% confidence interval (CI) 0.69 to 1.30, six trials, 654 women), and acupuncture versus usual care (average RR 0.69, 95% CI 0.40, 1.20, six trials, 361 women). There was no difference in neonatal seizures between acupuncture and the sham group (RR 1.01, 95% CI 0.06 to 16.04, one trial, 364 women). There was some evidence of a change in cervical maturation for women receiving acupuncture compared with the sham control, (mean difference (MD) 0.40. 95%CI 0.11 to 0.69, one trial, 125 women), and when compared with usual care (MD 1.30, 95% CI 0.11 to 2.49, one trial, 67 women). The length of labour was shorter in the usual care group compared with acupuncture (average standardised mean difference (SMD) 0.67, 95% CI 0.18 to 1.17, one trial 68 women). There were no other statistically significant differences between groups. Few studies reported on many clinically relevant outcomes. One trial was at a low risk of bias on all domains.
Conclusion	Overall, there have been few studies assessing the role of acupuncture for induction of labour . Before implications for clinical practice can be made there is a need for well-designed randomised controlled trials to evaluate the role of acupuncture to induce labour and for trials to assess clinically meaningful outcomes.

1.1.6. Hall 2012 ☆

Hall HG, Mc Kenna LG, Griffiths DL. Complementary and alternative medicine for induction of labour. Women Birth 2012. [166593]

Objectifs	Induction of labour is a common obstetric procedure. Some women are likely to turn to complementary and alternative medicine in order to avoid medical intervention. The aim of this paper is to examine the scientific evidence for the use of complementary and alternative medicine to stimulate labour.
Méthodes	An initial search for relevant literature published from 2000 was undertaken using a range of databases. Articles were also identified by examining bibliographies.
Résultats	Most complementary and alternative medicines used for induction of labour are recommended on the basis of traditional knowledge, rather than scientific research. Currently, the clinical evidence is sparse and it is not possible to make firm conclusions regarding the effectiveness of these therapies. There is however some data to support the use of breast stimulation for induction of labour. Acupuncture and raspberry leaf may also be beneficial . Castor oil and evening primrose oil might not be effective and possibly increase the incidence of complications. There is no evidence from clinical trails to support homeopathy however, some women have found these remedies helpful. Blue cohosh may be harmful during pregnancy and should not be recommended for induction. Other complementary and alternative medicine (CAM) therapies may be useful but further investigation is needed.
Conclusions	More research is needed to establish the safety and efficacy of CAM modalities. Midwives should develop a good understanding of these therapies, including both the benefits and risks, so they can assist women to make appropriate decisions.

1.1.7. Dowswell 2010 ~

Dowswell T, Kelly AJ, Livio S, Norman JE, Alfirevic Z. Differents methods for the induction of labour in outpatient settings. Cochrane Database Syst Rev 2010;8. [142933].142933

Objectifs	Induction of labour is carried out for a variety of indications and using a range of pharmacological, mechanical and other methods. For women at low risk, some methods of induction of labour may be suitable for use in outpatient settings. To examine pharmacological and mechanical interventions to induce labour in outpatient settings in terms of feasibility, effectiveness, maternal satisfaction, healthcare costs and, where information is available, safety. The review complements existing reviews on labour induction examining effectiveness and safety.
Méthodes	Search strategy: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (December 2009) and reference lists of retrieved studies. Selection criteria: We included randomised controlled trials examining outpatient cervical ripening or induction of labour with pharmacological agents or mechanical methods. Data collection and analysis: Two authors independently extracted data and assessed eligible papers for risk of bias. We checked all data after entry into review manager software.

Résultats	We included 28 studies with 2616 women examining different methods of induction of labour where women received treatment at home or were sent home after initial treatment and monitoring in hospital.Studies examined vaginal and intracervical PGE(2), vaginal and oral misoprostol, isosorbide mononitrate, mifepristone, oestrogens, and acupuncture. Overall, the results demonstrate that outpatient induction of labour is feasible and that important adverse events are rare. There was no strong evidence that agents used to induce labour in outpatient settings had an impact (positive or negative) on maternal or neonatal health. There was some evidence that, compared to placebo or no treatment, induction agents reduced the need for further interventions to induce labour, and shortened the interval from intervention to birth. We were unable to pool results on outcomes relating to progress in labour as studies tended to measure a very broad range of outcomes. There was no evidence that induction agents increased interventions in labour such as operative deliveries. Only two studies provided information on the costs to health service providers of different methods of labour induction in outpatient settings.
Conclusions	Induction of labour in outpatient settings appears feasible. We do not have sufficient evidence to know which induction methods are preferred by women, or the interventions that are most effective and safe to use in outpatient settings.

1.1.8. Lim 2009 ☆☆

Lim CE et al. Effect of Acupuncture on Induction of Labor. J Altern Complement Med. 2009;15(11):1209-1214. [153169]

Purpose	The objective of this study is to review the existing scientific evidence on the potential role of acupuncture on induction of labor during pregnancy.
Methods	The Medline, EMBASE, Cochrane Central Register of Controlled Trials, AMED (Allied and Complementary Medicine), and NCCAM (The National Center for Complementary and Alternative Medicine) databases were searched to identify relevant monographs from 1970 to 2008. Inclusion criteria: These criteria included all available human acupuncture studies on pregnant women carrying a viable fetus due for third trimester induction of labor. Exclusion criteria: These criteria included studies not meeting the inclusion criteria, in languages other than English, or animal studies.
Results	Ten (10) studies on labor induction were identified (5 RCTs, 313 patients). The duration of labor as a result of acupuncture treatment ranged from 10 hours 20 minutes to 29.1 hours. All of the studies demonstrated labor induction by acupuncture treatment. However, because two randomized controlled trials reported that there was no statistically significant effect of acupuncture, these results are more suggestive than definitive. Furthermore, although the relationship between cervical ripening and interleukin-8 (IL-8), prostaglandin F2a (PGF2a), and b-endorphin is well documented in the literature, there is no evidence to suggest that acupuncture alters these mediators. Serum levels of IL8, b-endorphin, and PGF2a were not found to be significantly influenced by acupuncture.
Conclusion	Although the definitive role of acupuncture in inducing labor is still yet to be established, the existing studies suggest that acupuncture may be beneficial in labor induction.

1.1.9. Smith 2004

Smith CA, Crowther CA. Acupuncture for induction of labour. Cochrane Database Syst Rev. 2004;CD002962. [115416]

Objectives	This is one of a series of reviews of methods of cervical ripening and labour induction using standardised methodology. The use of complementary therapies is increasing and some women look to complementary therapies during pregnancy and childbirth to be used alongside conventional medical practice. Acupuncture involves the insertion of very fine needles into specific points of the body. The limited observational studies to date suggest acupuncture for induction of labour appears safe, has no known teratogenic effects, and may be effective. The evidence regarding the clinical effectiveness of this technique is limited. To determine the effects of acupuncture for third trimester cervical ripening or induction of labour.
Methods	SEARCH STRATEGY: The Cochrane Pregnancy and Childbirth Group trials register (February 2003), the Cochrane Central Register of Controlled Trials (The Cochrane Library, Issue 1, 2003), PubMed (1966 to present), CISCOM (1960 to present), EMBASE (1980 to present) and bibliographies of relevant papers. SELECTION CRITERIA: Clinical trials comparing acupuncture used for third trimester cervical ripening or labour induction with placebo/no treatment or other methods listed above it on a predefined list of labour induction methods. DATA COLLECTION AND ANALYSIS: A strategy was developed to deal with the large volume and complexity of trial data relating to labour induction. This involved a two-stage method of data extraction.
Results	One trial of 56 women was included in the review. Data were not in a form that could be included in the meta-analysis.
Conclusions	There is a need for well-designed randomised controlled trials to evaluate the role of acupuncture to induce labour and for trials to assess clinically meaningful outcomes.

1.1.10. Smith 2001 Ø

Smith CA ET AL. Acupuncture for induction of labour. Cochrane Database Syst Rev 2001. 1:CD002962. [94833].

Background	This is one of a series of reviews of methods of cervical ripening and labour induction using standardised methodology. The use of complementary therapies is rising and some women look to complementary therapies during pregnancy and childbirth to be used alongside conventional medical practice. Acupuncture involves the insertion of very fine needles into specific points of the body. The limited observational studies to date suggest acupuncture for induction of labour appears safe, has no known teratogenic effects, and may be effective. The evidence regarding the clinical effectiveness of this technique is limited.
Objectives	To determine the effects of acupuncture for third trimester cervical ripening or induction of labour.

Methods	Search strategy: The Cochrane Pregnancy and Childbirth Group trials register, the Cochrane Controlled Trials Register and bibliographies of relevant papers. Selection criteria: The criteria for inclusion included the following: (1) clinical trials comparing acupuncture used for third trimester cervical ripening or labour induction with placebo/no treatment or other methods listed above it on a predefined list of labour induction methods; (2) random allocation to the treatment or control group; (3) adequate allocation concealment; (4) violations of allocated management not sufficient to materially affect conclusions; (5) clinically meaningful outcome measures reported; (6) data available for analysis according to the random allocation; (7) missing data insufficient to materially affect the conclusions. Data collection and analysis: A strategy has been developed to deal with the large volume and complexity of trial data relating to labour induction. This involves a two-stage method of data extraction. The initial data extraction is done centrally, and incorporated into a series of primary reviews arranged by methods of induction of labour, following a standardised methodology. The data will then be extracted from the primary reviews into a series of secondary reviews, arranged by category of woman. To avoid duplication of data in the primary reviews, the labour induction methods have been listed in a specific order, from one to 25. Each primary review includes comparisons between one of the methods (from two to 25) with only those methods above it on the list.
Main results	No trials met the inclusion criteria for the systematic review.
Reviewer's conclusions	There is a need for a well designed randomised controlled trial to evaluate the role of acupuncture to induce labour.

1.2. Special Acupuncture Techniques

1.2.1. Acupression

1.2.1.1. Najafi 2017

Najafi F et al. An Evaluation of Acupressure on the Sanyinjiao (SP6) and Hugo (LI4) Points on the Pain Severity and Length of Labor: A Systematic Review and Meta analysis Study. Iranian Journal of Nursing and Midwifery Research. 2017;23(1):1-7. [174930].

Background	In this study, the effects of SP6 and LI4 acupressure on the pain severity and length of labor are examined.		
Materials and Methods	This systematic review and meta-analysis study was performed on articles published in 2004–2015. The articles, published in the English and Farsi languages, related to the effects of acupressure on the SP6 and LI4 points on the length and pain severity of labor. Data were collected by searching medical databases, including PubMed, ISI, MagIran, Google Scholar, Iran Medex, SID, Irandoc, and EMBASE, for relevant material.		
Results	Women who received SP6 acupressure experienced less pain immediately after the intervention [-0.56 , 95% confidence interval (CI): -0.77 , -0.36] than women in the touch group and exhibited decrease in the length of labor (-0.99 , 95% CI: -1.39 , -0.39), the active phase (0.95, 95% CI: -1.30 , -0.61), and the second stage of labor (-0.39 , 95% CI: -0.74 , -0.03). Women who received LI4 acupressure experienced less pain immediately after the intervention (-0.94 , 95%, CI: -1.36 , -0.53) than women in the touch group and exhibited shorter active phase (-0.91 , 95%, CI: -1.18 , -0.63) and second stage of labor (-0.55 , 95%, CI: -0.95 , -0.15) lengths.		

Conclusions	The use of SP6 and LI4 acupressure shows promise as a method for managing the length and pain severity of labor, but further study is required to establish its
	effectiveness along with other pharmacological and nonpharmacological methods.

1.2.1.2. Mollart 2015

Mollart LJ, Adam J, Foureur M. Impact of acupressure on onset of labour and labour duration: A systematic review. Women Birth. 2015;28(3):199-206. [165820.]

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.

2. Clinical Practice Guidelines

 \oplus positive recommendation (regardless of the level of evidence reported) \emptyset negative recommendation (or lack of evidence)

2.1. Queensland Health (QH, Australia) 2022 Ø

Induction of labour. Queensland Clinical Guidelines. 2022:37P. https://www.health.qld.gov.au/ data/assets/pdf file/0020/641423/g-iol.pdf

Acupuncture/acupressure: Insufficient evidence

2.2. Association of Ontario Midwives (AOM, Canada) 2021 Ø

Warren R, MacDonald T. Management of the Management of the Uncomplicated Pregnancy Beyond 41+0 Weeks Gestation. Association of Ontario Midwives. 2021;30P. [219407]. doi

There is insufficient evidence to support the use of acupuncture, acupressure, evening primrose oil or homeopathy for the prevention of postdates pregnancies. Research evidence on these interventions is limited, although no harms have been noted. [2021]. No recommendation: very low certainty to moderate certainty of evidence.

2.3. Japan Academy of Midwifery (JAM, Japan) 2020 🕀

Japan Academy of Midwifery [2020 evidence-based guidelines for midwifery care]. Nihon Josan GakkaiShi (J Jpn Acad Midwifery) . 2020;33(suppl) [in Japanese] . *Cited by* Okawa Y, Yamashita H, Masuyama S, Fukazawa Y, Wakayama I. Quality assessment of Japanese clinical practice guidelines including recommendations for acupuncture. Integr Med Res. 2022 Sep;11(3):100838. https://doi.org/10.1016/j.imr.2022.100838

Inform that acupuncture can be an option of accelerating labor. Recommend not to perform for induction of labor.

2.4. Queensland Health (QH, Australia) 2017 Ø

Induction of labour. Queensland Clinical Guidelines. 2017:30P. [196789].

For IOL-there is insufficient evidence to support [acupuncture].

2.5. World Health Organization (WHO) 2014 Ø

World Health Organization. WHO recommendations for augmentation of labour. Geneva: World Health Organization. 2014. 57p. [169136].

Recommendation No. 8: Pain relief for preventing delay and reducing the use of augmentation in labour is not recommended. (Weak recommendation, very low quality of evidence) [acupuncture and acupressure],

2.6. Collège National des Gynécologues et Obstétriciens Français (CNGOF, France) 2011 Ø

Grossesse prolongée - Terme dépassé. CNGOF - Collège National des Gynécologues et Obstétriciens Français. 2011. 14p. [165391].

Les données actuelles ne retrouvent pas d'efficacité de l'acupuncture pour déclencher le travail à terme ou lorsque la grossesse est prolongée (grade C).

2.7. National Institute for Health and Clinical Excellence (NICE, UK) 2011 Ø

National Institute for Health and Clinical Excellence (NICE). Caesarean section. London (UK): National Institute for Health and Clinical Excellence (NICE). 2011; 57p. [167576].

No influence on likelihood of CS (Caesarean section): Women should be informed that the effects on the likelihood of CS of complementary therapies used during labour (such as acupuncture, aromatherapy, hypnosis, herbal products, nutritional supplements, homeopathic medicines, and Chinese medicines) have not been properly evaluated and further research is needed before such interventions can be recommended. [2004]

2.8. Association of Ontario Midwives (AOM, Canada) 2010 Ø

Correy J, MacDonald T. Management of the Management of the Uncomplicated Pregnancy Beyond 41+0 Weeks Gestation. Association of Ontario Midwives. 2010:24P. [219719]. doi

No recommendations on either using or not using evening primrose oil, **acupuncture** or homeopathy can be made due to the absence of good quality research and subsequent lack of evidence regarding efficacy. These approaches may be offered as part of a range of alternatives, including conventional therapies, discussing the risks and benefits of each as well as any research gaps.

2.9. National Institute for Health and Clinical Excellence (NICE, UK) 2008 Ø

National Collaborating Centre for Women's and Children's Health. Induction of labour. London (UK): National Institute for Health and Clinical Excellence (NICE). 2008. 32P. [165269].

Healthcare professionals should inform women that the available evidence does not support the following methods for induction of labour: herbal supplements, **acupuncture**, homeopathy, castor oil, hot baths, enemas, sexual intercourse., herbal supplements.

2.10. Haute Autorité de Santé (HAS, France) 2008 Ø

Recommandation de bonne pratique : Déclenchement artificiel du travail à partir de 37 semaines d'aménorrhée. Paris: Haute Autorité de Santé (HAS). 2008. Argumentaire ; Recommandation.

Les données disponibles ne permettent pas de conclure sur l'intérêt de l'utilisation de l'**acupuncture** ou l'homéopathie pour induire le travail.

3. Randomized controlled trials

3.1. Sources

Systematic reviews and guidelines for a listing of randomized control trials included:

- 1. Acudoc2: RCT included in the GERA Database and not cited in other sources.
- Zamora-Brito 2023: Zamora-Brito M, Fernández-Jané C, Pérez-Guervós R, Solans-Oliva R, Arranz-Betegón A, Palacio M. Role of acupuncture in the present approach to labor induction: a systematic review and meta-analysis. Am J Obstet Gynecol MFM. 2023 Dec 25:101272. https://doi.org/10.1016/j.ajogmf.2023.101272
- Smith 2017: Smith CA, Armour M, Dahlen HG. Acupuncture or acupressure for induction of labour. Cochrane Database Syst Rev. 2017 Oct 17;10(10):CD002962. https://doi.org/10.1002/14651858.CD002962.pub4

3.2. List

	RCT	sources
2024	Zamora-Brito M, Migliorelli F, Pérez-Guervós R, Solans-Oliva R, Arranz- Betegón A, Palacio M. Acupuncture before planned admission for induction of labor (ACUPUNT study): A randomized controlled trial: AJOG at a glance. Am J Obstet Gynecol MFM. 2024 Aug 30:101477. https://doi.org/10.1016/j.ajogmf.2024.101477	Acudoc2

	RCT	sources
2020	He J, Jia J, Li W. [Observations on the promoting effect of acupuncture and moxibustion on cervical ripening in their application to term pregnancy]. Shanghai J Acu-mox. 2020;39(12):1587-1590.	Acudoc2
	Ni Y. [Application of acupuncture combined with oxytocin in full-term pregnancy labor induction]. Gansu Sci Technol. 2020;36(5):114-116.	Acudoc2
2018	Neri I, Pignatti L, Fontanesi F, Facchinetti F. Acupuncture in Postdate Pregnancy Management. J Acupunct Meridian Stud. 2018 Oct;11(5):332-336. https://doi.org/10.1016/j.jams.2018.06.001	Zamora-Brito 2023
2017	Torkzahrani S, Mahmoudikohani F, Saatchi K, Sefidkar R, Banaei M. The effect of acupressure on the initiation of labor: A randomized controlled trial. Women Birth. 2017 Feb;30(1):46-50.	Smith 2017
	Yang L, Xie C, Han H, Cai L. [Comparison among Acupuncture with Moxibustion on SP6, Foley Urine Tube Water Sac and Oxytocin in Promoting Cervical Maturity and Induced Labor in Full-Term Pregnancy]. World Chin Med. 2017;(01).	Acudoc2
2016	Mollart L, Skinner V, Foureur M. A feasibility randomised controlled trial of acupressure to assist spontaneous labour for primigravid women experiencing a post-date pregnancy. Midwifery 2016;36:21-7.	Zamora-Brito 2023, Smith 2017
2015	Alsharnoubi J, Khattab A, Elnoury A. Laser acupuncture effect on fetal well- being during induction of labor. Lasers in Medical Science 2015;30(1):403-6.	Zamora-Brito 2023, Smith 2017
	Gregson S, Tiran D, Absalom J, Older L, Bassett P. Acupressure for inducing labour for nulliparous women with post-dates pregnancy. Complement Ther Clin Pract. 2015;21(4):257-61.	Smith 2017
	Torkzahrani S, Ghobadi K, Heshmat R, Shakeri N, Jalali Aria K. Effect of Acupressure on Cervical Ripening. Iran Red Crescent Med J. 2015 Aug 24;17(8)	Smith 2017
2014	Neri I, Monari F, Midwife CS, Facchinetti F. Acupuncture in post-date pregnancy: a pilot study. J Matern Fetal Neonatal Med. 2014 Jun;27(9):874-8. https://doi.org/10.3109/14767058.2013.845158	Zamora-Brito 2023, Smith 2017
2013	Ajori L, Nazari L, Eliaspour D. Effects of acupuncture for initiation of labor: a double-blind randomized sham-controlled trial. Arch Gynecol Obstet. 2013;287(5):887-91.	Zamora-Brito 2023, Smith 2017
	Andersen BB et al. Acupuncture and/or sweeping of the fetal membranes before induction of labor: a prospective, randomized, controlled trial. J Perinat Med. 2013;41(5):555-60.	Zamora-Brito 2023, Smith 2017
2011	Gribel GP, Coca-Velarde LG, Moreira de Sá RA. Electroacupuncture for cervical ripening prior to labor induction: a randomized clinical trial. Arch Gynecol Obstet. 2011;283(6):1233-8.	Zamora-Brito 2023, Smith 2017
	Mackenzie I, Xu J, Cusick C, Midwinter-Morten H, Meacher H, Mollison J, et al. Acupuncture for pain relief during induced labour in nulliparae: a randomised controlled study. BJOG. 2011;118(4):440-7.	Smith 2017
2010	Modlock J, Nielsen BB, Uldbjerg N. Acupuncture for the induction of labour: a double-blind randomised controlled study. BJOG. 2010;117(10):1255-61.	Zamora-Brito 2023, Smith 2017
2009	Asher GN, Coeytaux RR, Chen W, Reilly AC, Loh YL, Harper TC. Acupuncture to initiate labor (Acumoms 2): a randomized, sham-controlled clinical trial. J Matern Fetal Neonatal Med. 2009;22(10):843-8.	Zamora-Brito 2023, Smith 2017
2008	Gaudet LM, Dyzak R, Aung SK, Smith GN. Effectiveness of acupuncture for the initiation of labour at term: a pilot randomized controlled trial. J Obstet Gynaecol Can. 2008;30(12):1118-23.	Zamora-Brito 2023, Smith 2017

	RCT	sources
	Smith CA, Crowther CA, Collins CT, Coyle ME. Acupuncture to induce labor: a randomized controlled trial. Obstet Gynecol. 2008 Nov;112(5):1067-74.	Smith 2017
2007	Selmer-Olsen T, Lydersen S, Morkved S. Does acupuncture used in nulliparous women reduce time from prelabour rupture of membranes at term to active phase of labour? Acta Obstet Gynecol Scand. 2007;86(12):1447-52.	Smith 2017
2006	Gaudernack LC, Forbord S, Hole E. Acupuncture administered after spontaneous rupture of membranes at term significantly reduces the length of birth and use of oxytocin. Acta Obstet Gynecol Scand. 2006;85(11):1348-53.	Zamora-Brito 2023, Smith 2017
	Harper TC, Coeytaux RR, Chen W, Campbell K, Kaufman JS, Moise KJ, et al. A randomized controlled trial of acupuncture for initiation of labor in nulliparous women. J Matern Fetal Neonatal Med. 2006;19(8):465-70.	Zamora-Brito 2023, Smith 2017
2004	Martinez AC, Rivera LN, Arangel CR. Acupuncture as an alternative technique for uterine contraction in term pregnant patients. 5th World Congress on Controversies in Obstetrics and Gynecology; 2004 June 3-6; Las Vegas, USA. 2004.	Smith 2017
2001	Rabl M, Ahner R, Bitschnau M, et al. Acupuncture for cervical ripening and induction of labor at term: a randomized controlled trial. Wien Klin Wochenschr. 2001;113(23):942-6.	Zamora-Brito 2023, Smith 2017
2000	Romer A, Weigel M, Zieger W, Melchart F. Prenatal acupuncture: effects on cervical maturation and duration of labour. Geburtshilfe Frauenheilkd. 2000;60(10):513-8.	Zamora-Brito 2023, Smith 2017
1994	Long ZG. Auricular point-pressing therapy for induced labor in mid- and late pregnancy. Acupunct Res. 1994;19(1):181.	Smith 2017
1992	Tremeau ML, Fontanie-Ravier P, Teurnier F, Demouzon J. Protocole de maturation cervicale par acupuncture. J Gynecol Obstet Biol Reprod (Paris). 1992;21:375-80.	Smith 2017

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