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Pelvic and Back Pain in Pregnancy

Douleurs pelviennes et lombalgies de la grossesse : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

1.1. Generic acupuncture

1.1.1. Li 2025

Li M, Xiao Z, Tan D, Tang X, Zhao D, Chen Q. Acupuncture for the treatment of pregnancy-related low back pain: A systematic review and network meta-analysis. J Back Musculoskelet Rehabil. 2025 Jun 13:10538127241301682. https://doi.org/10.1177/10538127241301682

Background	The effects of acupuncture are rarely studied in pregnant women. A relevant systematic review did not include comparisons with sham acupuncture (SAcu).
Objective	To explore the effects of acupuncture, SAcu, and standard care (SC) on pregnancy-related low back pain.
Methods	We searched five medical literature databases for articles published from inception to September 30, 2022. The primary outcome was visual analog scale (VAS) intensity after the intervention. The secondary outcomes were the overall effects of treatment, quality of life (QOL), and QOL was evaluated by the Short Form-36 Health Survey Questionnaire (SF-36).
Results	The network meta-analysis included **eight studies and 864 patients**. Six trials were at low risk of bias and two studies had a high risk of bias due to allocation concealment and blinding. Acupuncture and SAcu were relatively more advantageous in terms of analgesic effects after intervention than SC, but there were no differences between them. In terms of overall effects in number of remissions and the SF-36, Acupuncture was found to be superior to other methods, and SAcu was better than SC. Acupuncture had the highest surface under the cumulative ranking curve, followed by SAcu and SC for all outcomes.
Conclusions	Acupuncture performs similarly to SAcu in pain relief and is more efficient than SC. Regarding the effectiveness of treatment and QOL, acupuncture therapy was superior to SAcu and SC.

1.1.2. Wang 2025

Wang S, Zhang H, Zhang G, Jin L. Effectiveness of nonpharmacologic interventions on pregnancy-related low back pain: A network meta-analysis of randomized controlled trials. Medicine (Baltimore). 2025 Aug 22;104(34):e43969. https://doi.org/10.1097/MD.0000000000043969

Backgound	Pregnancy-related low back pain (PLBP) is a prevalent clinical condition occurring antenatally and postnatally. Given limited evidence on conservative management, this study systematically assessed the efficacy of non-pharmacological interventions for pain relief and physical function improvement in females with PLBP.
Methods	The Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines were followed. A systematic search was performed across 12 electronic databases from inception to March 30, 2024. Eligibility screening was performed according to predefined criteria, followed by the quality assessment utilizing the Cochrane Risk of Bias Tool. Data analysis was conducted using Stata 18.0. Network meta-analysis applied the node-cut method for the consistency test, and used the surface under the cumulative ranking curve to reflect the likelihood of each non-pharmacological intervention being the best intervention.
Results	Thirty-six randomized controlled trials were examined (N = 4511 participants). The surface under the cumulative ranking curve identified music-relaxation as the highest-ranked therapy for pain reduction (97.1%), and **manipulation-acupuncture** as the highest-ranked therapy for physical function indicators (78.3%).
Conclusion	Limited evidence indicated that music-relaxation therapy may be the most effective strategy for alleviating pain, while manipulation-acupuncture therapy may be optimal for enhancing physical function. Integrated non-pharmacological interventions demonstrated greater effectiveness compared to monotherapy in improving PLBP.

1.1.3. Zhang 2024

Zhang A, Li J, He T, Xie H, Mou X, Yeung TC, Chen S, Wang CC, Fan X, Li L. Efficacy and safety of acupuncture in treating low back and pelvic girdle pain during pregnancy: a systematic review and meta-analysis of randomized controlled trials. Acupunct Herb Med. 2024 Sep;4(3):346-357. https://doi.org/10.1097/HM9.0000000000000093.|

Objectives	Low back and pelvic girdle pain (LBPGP) is common during pregnancy. Acupuncture is an effective and safe therapy for pain relief. However, further evidence is required to confirm the efficacy and safety of acupuncture in treating LBPGP during pregnancy. This study aimed to systematically review and investigate the clinical efficacy and safety of acupuncture for the treatment of pregnancy-related LBPGP.
Methods	The PubMed, EMBASE, Cochrane Library, CNKI, VIP, and WanFang databases were searched from January 2000 to August 2023. Only the randomized controlled trials (RCTs) involving pregnant women between 16 and 34 weeks of gestation diagnosed with LBPGP were included in the study. A meta-analysis was conducted and pooled risk ratios (RRs) or mean differences (MDs) with 95% confidence intervals (CIs) were compared.

Results	Meta-analysis included **12 RCTs involving 1,641 participants**. Eleven trials compared acupuncture alone or acupuncture combined with standard care (SC), of which three trials also used non-penetrating or placebo acupuncture as the control group. One trial compared acupuncture alone with non-penetrating acupuncture. Compared with SC, acupuncture combined with SC group significantly decreased visual analog scale score (mean difference (MD) = −2.83, 95% CI = −3.41 to −2.26, P < 0.00001), cesarean section rate (RR = 0.69, 95% CI = 0.49–0.97, P = 0.03), preterm birth rate (RR = 0.42, 95% CI = 0.27–0.65, P < 0.0001), labor duration (MD = −1.97, 95% CI = −2.73 to −1.20, P < 0.0001), and Oswestry disability index score (MD = −9.14, 95% CI = −15.68 to −2.42, P = 0.008). In addition, acupuncture combined with SC significantly improved 12-Items Short Form Health Survey of physical component summaries (SF12-PCS). No significant differences were observed in the spontaneous delivery rate, newborn weight, drowsiness, and 12-Items Short Form Health Survey of mental component summaries (SF12-MCS) between the two groups. Adverse events such as needle pain and needle bleeding were aggravated in both the SC and acupuncture treatment groups but none were associated with acupuncture during or after the treatment period.
Conclusions	Meta-analysis showed that acupuncture combined with SC had better efficacy than SC alone and could be a potential therapy for LBPGP during pregnancy. The safety results imply that acupuncture caused few adverse reactions; however, more evidence is required for further confirmation.

1.1.4. Li 2023

Li R, Chen L, Ren Y, Huang J, Xu Y, Lin X, Zhen R. Efficacy and safety of acupuncture for pregnancy-related low back pain: A systematic review and meta-analysis. Heliyon. 2023 Jul 25;9(8):e18439. https://doi.org/10.1016/j.heliyon.2023.e18439

Background	Pregnancy-related low back pain (PLBP) is a common musculoskeletal disorder, affecting people's physical and psychological health. Acupuncture is widely used in clinical practice as a treatment for PLBP. This study aimed to evaluate the efficacy and safety of acupuncture or acupuncture combined with other treatments for PLBP patients.
Methods	The Cochrane Library, PubMed, EMBASE, Web of Science, the Chinese Biological Medicine Database, China National Knowledge Infrastructure, WanFang Database, and VIP information database were searched from inception to January 31, 2022. Randomized controlled trials (RCTs) were eligible, without blinding and language restriction. Cochrane's risk of bias tool was used to assess the methodological quality. Meta-analysis was performed using RevMan 5.3.
Results	**Twelve randomized controlled trials involving 1302 patients** were included. The results showed that compared to the control group, the VAS score was significantly decreased after acupuncture treatment. In addition, no significant difference was found in the preterm delivery rate (RR = 0.38, 95%CI: 0.24 to 0.61, P = 0.97) after acupuncture treatment. Compared with other therapies, acupuncture or acupuncture plus other therapies revealed a significant increase in the effective rate (OR: 6.92, 95%CI: 2.44 to 19.67, I2 = 0%). No serious adverse events owing to acupuncture were reported.
Conclusion	Acupuncture or acupuncture combined with other interventions was a safe and effective therapy for treating PLBP. However, the methodological quality of the RCTs was low. More rigorous and well-designed trials should be conducted.

1.1.5. Yang 2022 [retracted]

- Retraction: Acupuncture for low back and/or pelvic pain during pregnancy: a systematic review and meta-analysis of randomised controlled trials. BMJ Open. 2024 Jun 11;14(6):e056878ret. https://doi.org/10.1136/bmjopen-2021-056878ret
- Yang J, Wang Y, Xu J, Ou Z, Yue T, Mao Z, Lin Y, Wang T, Shen Z, Dong W. Acupuncture for low back and/or pelvic pain during pregnancy: a systematic review and meta-analysis of randomised controlled trials. BMJ Open. 2022 Nov 21;12(12):e056878. https://doi.org/10.1136/bmjopen-2021-056878.

Objective	Acupuncture is emerging as a potential therapy for relieving pain, but the effectiveness of acupuncture for relieving low back and/or pelvic pain (LBPP) during the pregnancy remains controversial. This meta-analysis aims to investigate the effects of acupuncture on pain, functional status and quality of life for women with LBPP pain during the pregnancy.
Method	Design: Systematic review and meta-analysis. Data sources: The PubMed, EMBASE databases, Web of Science and Cochrane Library were searched for relevant randomised controlled trials (RCTs) from inception to 15 January 2022. Eligibility criteria for selecting studies: RCTs evaluating the effects of acupuncture on LBPP during the pregnancy were included. Data extraction and synthesis: The data extraction and study quality assessment were independently performed by three reviewers. The mean differences (MDs) with 95% CIs for pooled data were calculated. We assessed the confidence in the evidence using the Grading of Recommendations Assessment, Development and Evaluation framework. Main outcomes and measures: The primary outcomes were pain, functional status and quality of life. The secondary outcomes were overall effects (a questionnaire at a post-treatment visit within a week after the last treatment to determine the number of people who received good or excellent help), analgesic consumption, Apgar scores >7 at 5 min, adverse events, gestational age at birth, induction of labour and mode of birth.
Results	This meta-analysis included 10 studies, reporting on a total of 1040 women. Overall, acupuncture significantly relieved pain during pregnancy (MD=1.70, 95% CI: (0.95 to 2.45), p<0.00001, I2=90%) and improved functional status (MD=12.44, 95% CI: (3.32 to 21.55), p=0.007, I2=94%) and quality of life (MD=-8.89, 95% CI: (-11.90 to -5.88), p<0.00001, I2 = 57%). There was a significant difference for overall effects (OR=0.13, 95% CI: (0.07 to 0.23), p<0.00001, I2 = 7%). However, there was no significant difference for analgesic consumption during the study period (OR=2.49, 95% CI: (0.08 to 80.25), p=0.61, I2=61%) and Apgar scores of newborns (OR=1.02, 95% CI: (0.37 to 2.83), p=0.97, I2 = 0%). Preterm birth from acupuncture during he study period was reported in two studies. Although preterm contractions were reported in two studies, all infants were in good health at birth. In terms of gestational age at birth, induction of labour and mode of birth, only one study reported the gestational age at birth (mean gestation 40 weeks). Thus, prospective randomised clinical studies or clinical follow-up studies were hence desirable to further evaluate these outcomes.
Conclusions	Acupuncture significantly improved pain, functional status and quality of life in women with LBPP during the pregnancy. Additionally, acupuncture had no observable severe adverse influences on the newborns. More large-scale and well-designed RCTs are still needed to further confirm these results.

1.1.6. Koukoulithras 2021 (ear acupuncture) Ø

Koukoulithras I Sr, Stamouli A, Kolokotsios S, Plexousakis M Sr, Mavrogiannopoulou C. The Effectiveness of Non-Pharmaceutical Interventions Upon Pregnancy-Related Low Back Pain: A Systematic Review and Meta-Analysis. Cureus. 2021;13(1). [217965]. doi

Introduction	Low back pain (LBP) is a very common pathology among pregnant women and various methods are used to reduce the pain. The aim of this study is to conduct an evidence-based systematic review and meta-analysis regarding the effectiveness of the interventions used to reduce low back pain related to pregnancy.
Methods and materials	The PEDro database, PubMed, and Cochrane Library were searched from January 2012 until December 2020 as well as the reference lists from identified articles. Studies of any non-pharmaceutical treatment to decrease low back pain were included but only randomized controlled trials were selected. The articles found were screened using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) question. Details about the type of intervention, sample size, outcome measures, results, and statistical significance were extracted from the selected studies. A meta-analysis for pain intensity was conducted and the I2 index as well as x2 test were used to determine the heterogeneity between studies. A random-effects meta-analysis was carried out. The aim was to compare the effectiveness between various methods and the typical care provided on low back pain during pregnancy.
Results	From all the articles found in the mentioned databases only 13 studies met the criteria. In these studies, exercise, manipulation, **ear acupuncture**, Kinesio tape, transcutaneous electrical nerve stimulation (TENS), and neuroemotional technique were the interventions used. In the meta-analysis, six studies with 693 participants were included. The interventions were found to have in total a statistically significant effect on low back pain in comparison with the control group that included the typical care provided to pregnant women (95%CI: 0.08 (0.02,0.31), p<0,01) and they had a high heterogeneity (considerable, $Tau^2 = 2.70$; $Chi^2 = 64.11$, $I^2 = 91\%$). Exercise and TENS were determined as more effective than the other types of interventions.
Conclusions	TENS and progressive muscle relaxation exercises accompanied by music were found to be the most effective interventions. Although exercise decreased LBP it was not found to have a statistically significant result even though it seems to improve the disability and quality of life of pregnant women. Osteopathic manual treatment (OMT), Kinesio tape, and **ear acupuncture** affected the lumbar pain intensity but the difference compared to typical care or sham treatment was not statistically significant, while yoga did not improve pregnancy-related LBP. Further research is needed to determine the effectiveness of the interventions mentioned.

1.1.7. Gutke 2015 ☆☆

Gutke A, Betten C, Degerskär K, Pousette S , Olsén MF. Treatments for pregnancy-related lumbopelvic pain: a systematic review of physiotherapy modalities. Acta Obstet Gynecol Scand. 2015;94(11):1156-67. [169565].

Objective	To explore the effect of physiotherapeutic interventions on pregnancy-related lumbopelvic pain.
Methods	Data sources: MEDLINE, Cochrane Central Register of Controlled Trials, PEDro, CINAHL, AMED, and SCOPUS databases were searched up to December 2014 for studies written in English, French, German or Scandinavian languages that evaluated physiotherapeutic modalities for preventing and treating pregnancy-related lumbopelvic pain.

Results	For lumbopelvic pain during pregnancy, the evidence was strong for positive effects of acupuncture and pelvic belts. The evidence was low for exercise in general and for specific stabilizing exercises. The evidence was very limited for efficacy of water gymnastics, progressive muscle relaxation, a specific pelvic tilt exercise, osteopathic manual therapy, craniosacral therapy, electrotherapy and yoga. For postpartum lumbopelvic pain, the evidence was very limited for clinic-based treatment concepts, including specific stabilizing exercises, and for self-management interventions for women with severe disabilities. No specific adverse events were reported for any intervention. No meta-analysis could be performed because of study heterogeneity.
Conclusions	The levels of evidence were strong for a positive effect of acupuncture and pelvic belts, but weak for an effect of specific exercises. Caution should prevail in choosing other interventions for pregnancy-related lumbopelvic pain.

1.1.8. Liddle 2015 ☆

Liddle SD, Pennick V. Interventions for preventing and treating low-back and pelvic pain during pregnancy.. Cochrane Database Syst Rev. 2015. [187873].

Background	More than two-thirds of pregnant women experience low-back pain and almost one-fifth experience pelvic pain. The two conditions may occur separately or together (low-back and pelvic pain) and typically increase with advancing pregnancy, interfering with work, daily activities and sleep.
Objectives	To update the evidence assessing the effects of any intervention used to prevent and treat low-back pain, pelvic pain or both during pregnancy.
Methods	Search methods: We searched the Cochrane Pregnancy and Childbirth (to 19 January 2015), and the Cochrane Back Review Groups' (to 19 January 2015) Trials Registers, identified relevant studies and reviews and checked their reference lists. Selection criteria: Randomised controlled trials (RCTs) of any treatment, or combination of treatments, to prevent or reduce the incidence or severity of low-back pain, pelvic pain or both, related functional disability, sick leave and adverse effects during pregnancy. Data collection and analysis: Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy.

Main results	We included 34 RCTs examining 5121 pregnant women, aged 16 to 45 years and, when reported, from 12 to 38 weeks' gestation. Fifteen RCTs examined women with low-back pain (participants = 1847); six examined pelvic pain (participants = 889); and 13 examined women with both low-back and pelvic pain (participants = 2385). Two studies also investigated low-back pain prevention and four, low-back and pelvic pain prevention. Diagnoses ranged from self-reported symptoms to clinicians' interpretation of specific tests. All interventions were added to usual prenatal care and, unless noted, were compared with usual prenatal care. The quality of the evidence ranged from moderate to low, raising concerns about the confidence we could put in the estimates of effect. For low-back painResults from meta-analyses provided low-quality evidence (study design limitations, inconsistency) that any land-based exercise significantly reduced pain (standardised mean difference (SMD) -0.64; 95% confidence interval (CI) -1.03 to -0.25; participants = 645; studies = seven) and functional disability (SMD -0.56; 95% CI -0.89 to -0.23; participants = 146; studies = two). Low-quality evidence (study design limitations, imprecision) also suggested no significant differences in the number of women reporting low-back pain between group exercise, added to information about managing pain, versus usual prenatal care (risk ratio (RR) 0.97; 95% CI 0.80 to 1.17; participants = 374; studies = two). For pelvic painResults from a meta-analysis provided low-quality evidence (study design limitations, imprecision) of no significant difference in the number of women reporting pelvic pain between group exercise, added to information about managing pain, and usual prenatal care (RR 0.97; 95% CI 0.77 to 1.23; participants = 374; studies = two). For low-back and pelvic painResults from meta-analyses provided moderate-quality evidence (study design limitations) that: an eight- to 12-week exercise program reduced the number of women who reported low-back and pelvic pain (RR 0.66; 95% CI 0.45 to 0.97; participants = 1176; studies = four); land-based exercise, in a variety of formats, significantly reduced low-back and pelvic pain-related sick leave (RR 0.76; 95% CI 0.62 to 0.94; participants = 1062; studies = two).The results from a number of individual studies, incorporating various other interventions, could not be pooled due to clinical heterogeneity. **There was moderate-quality evidence (study design limitations or imprecision) from individual studies suggesting that osteomanipulative therapy significantly reduced low-back pain and functional disability, and acupuncture or craniosacral therapy improved pelvic pain more than usual prenatal care**. Evidence from individual studies was largely of low quality (study design limitations, imprecision), and suggested that pain and functional disability, but not sick leave, were significantly reduced following a multi-modal intervention (manual therapy, exercise and education) for low-back and pelvic pain. When reported, adverse effects were minor and transient.
Authors' conclusions	There is low-quality evidence that exercise (any exercise on land or in water), may reduce pregnancy-related low-back pain and moderate- to low-quality evidence suggesting that any exercise improves functional disability and reduces sick leave more than usual prenatal care. **Evidence from single studies suggests that acupuncture** or craniosacral therapy **improves pregnancy-related pelvic pain**, and osteomanipulative therapy or a multi-modal intervention (manual therapy, exercise and education) may also be of benefit. Clinical heterogeneity precluded pooling of results in many cases. Statistical heterogeneity was substantial in all but three meta-analyses, which did not improve following sensitivity analyses. Publication bias and selective reporting cannot be ruled out. Further evidence is very likely to have an important impact on our confidence in the estimates of effect and change the estimates. Studies would benefit from the introduction of an agreed classification system that can be used to categorise women according to their presenting symptoms, so that treatment can be tailored accordingly.

1.1.9. Close 2014

Close C, Sinclair M, Liddle Sd, Madden E, Mccullough Je, Hughes C. A Systematic Review Investigating The Effectiveness of Complementary and Alternative Medicine (CAM) For The Management of Low Back And/Or Pelvic Pain (LBPP) In Pregnancy. J Adv Nurs. 2014;70(8):1702-16.[160458].

Objectifs	To evaluate and summarize the current evidence on the effectiveness of complementary and alternative medicine for the management of low back pain and/or pelvic pain in pregnancy. Background: International research demonstrates that 25-30% of women use complementary and alternative medicine to manage low back and pelvic pain in pregnancy without robust evidence demonstrating its effectiveness.
Méthodes	A systematic review of randomized controlled trials to determine the effectiveness of complementary and alternative medicine for low back and/or pelvic pain in pregnancy. Data sources: Cochrane library (1898-2013), PubMed (1996-2013), MEDLINE (1946-2013), AMED (1985-2013), Embase (1974-2013), Cinahl (1937-2013), Index to Thesis (1716-2013) and Ethos (1914-2013). Review Methods: Selected studies were written in English, randomized controlled trials, a group 1 or 2 therapy and reported pain reduction as an outcome measure. Study quality was reviewed using Risk of Bias and evidence strength the Cochrane Grading of Recommendations and Development Evaluation Tool.
Résultats	Eight studies were selected for full review. **Two acupuncture studies with low risk of bias showed both clinically important changes and statistically significant results.** There was evidence of effectiveness for osteopathy and chiropractic. However, osteopathy and chiropractic studies scored high for risk of bias. Strength of the evidence across studies was very low.
Conclusion	There is limited evidence supporting the use of general CAM for managing pregnancy-related low back and/or pelvic pain. However, the restricted availability of high-quality studies, combined with the very low evidence strength, makes it impossible to make evidence-based recommendations for practice.

1.1.10. Pennick 2013 ☆☆

Pennick V, Liddle SD. interventions for preventing and treating pelvic and back pain in pregnancy. cochrane database syst rev. 2013. CD001139. [160367].

Background	More than two-thirds of pregnant women experience low-back pain (LBP) and almost one-fifth experience pelvic pain. Pain increases with advancing pregnancy and interferes with work, daily activities and sleep.
Objectives	To assess the effects of interventions for preventing and treating pelvic and back pain in pregnancy.
Methods	Search methods: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (18 July 2012), identified related studies and reviews from the Cochrane Back Review Group search strategy to July 2012, and checked reference lists from identified reviews and studies. Selection criteria: Randomised controlled trials (RCTs) of any treatment to prevent or reduce the incidence or severity of pelvic or back pain in pregnancy. Data collection and analysis: Two review authors independently assessed risk of bias and extracted data. Quality of the evidence for outcomes was assessed using the five criteria outlined by the GRADE Working Group.

Main results	We included 26 randomised trials examining 4093 pregnant women in this updated review. Eleven trials examined LBP (N = 1312), four examined pelvic pain (N = 661), and 11 trials examined lumbo-pelvic (LBP and pelvic) pain (N = 2120). Diagnoses ranged from self-reported symptoms to the results of specific tests. All interventions were added to usual prenatal care and unless noted, were compared to usual prenatal care. For LBP, there was low-quality evidence that in general, the addition of exercise significantly reduced pain (standardised mean difference (SMD) -0.80; 95% confidence interval (CI) -1.07 to -0.53; six RCTs, N = 543), and disability (SMD -0.56; 95% CI -0.89 to -0.23; two RCTs, N = 146); and water-based exercise significantly reduced LBP-related sick leave (risk ratio (RR) 0.40; 95% CI 0.17 to 0.92; one RCT, N = 241). Low-quality evidence from single trials suggested no significant difference in pain or function between two types of pelvic support belt, between osteopathic manipulation (OMT) and usual care or sham ultrasound (sham US). Very low-quality evidence suggested that a specially-designed pillow may relieve night pain better than a regular pillow. **For pelvic pain, there was moderate-quality evidence that acupuncture significantly reduced evening pain better than exercise**; both were better than usual care. Low-quality evidence from single trials suggested that adding a rigid belt to exercise improved average pain but not function; **acupuncture was significantly better than sham acupuncture for improving evening pain and function, but not average pain; and evening pain relief was the same following either deep or superficial acupuncture.** For lumbo-pelvic pain, there was moderate-quality evidence that an eight- to 20-week exercise program reduced the risk of women reporting lumbo-pelvic pain (RR 0.85; 95% CI 0.73 to 1.00; four RCTs, N = 1344); but a 16- to 20-week training program was no more successful than usual care at preventing pelvic pain (one RCT, N = 257). Low-quality evidence suggested that exercise significantly reduced lumbo-pelvic-related sick leave (RR 0.76; 95% CI 0.62 to 0.94, two RCTs, N = 1062), and improved function. Low-quality evidence from single trials suggested that OMT significantly reduced pain and improved function; either a multi-modal intervention that included manual therapy, exercise and education (MOM) or usual care significantly reduced disability, but only MOM improved pain and physical function; **acupuncture improved pain and function more than usual care or physiotherapy; pain and function improved more when acupuncture was started at 26- rather than 20- weeks' gestation;** and auricular (ear) acupuncture significantly improved these outcomes more than sham acupuncture. When reported, adverse events were minor and transient.

Authors' conclusions	**Moderate-quality evidence suggested that acupuncture or exercise, tailored to the stage of pregnancy, significantly reduced evening pelvic pain or lumbo-pelvic pain more than usual care alone, acupuncture was significantly more effective than exercise for reducing evening pelvic pain, and a 16- to 20-week training program was no more successful than usual prenatal care at preventing pelvic or LBP. Low-quality evidence suggested that exercise significantly reduced pain and disability from LBP. There was low-quality evidence from single trials for other outcomes because of high risk of bias and sparse data**; clinical heterogeneity precluded pooling. Publication bias and selective reporting cannot be ruled out. Physiotherapy, OMT, acupuncture, a multi-modal intervention, or the addition of a rigid pelvic belt to exercise seemed to relieve pelvic or back pain more than usual care alone. **Acupuncture was more effective than physiotherapy at relieving evening lumbo-pelvic pain and disability and improving pain and function when it was started at 26- rather than 20-weeks' gestation, although the effects were small.** There was no significant difference in LBP and function for different support belts, exercise, neuro emotional technique or spinal manipulation (SMT), or in evening pelvic pain between deep and superficial acupuncture. Very low-quality evidence suggested a specially-designed pillow may reduce night-time LBP. Further research is very likely to have an important impact on our confidence in the estimates of effect and is likely to change the estimates. Future research would benefit from the introduction of an agreed classification system that can be used to categorise women according to presenting symptoms.

1.1.11. Richards 2012

Richards E, Van Kessel G, Virgara R, Harris P. Does Antenatal Physical Therapy for Pregnant Women with Low Back Pain or Pelvic Pain Improve Functional Outcomes? A Systematic Review. Acta Obstet Gynecol Scand. 2012;91(9):1038-45. (eng). [166575]

Objectifs	A systematic review was undertaken to update the understanding of the available evidence for antenatal physical therapy interventions for low back or pelvic pain in pregnant women to improve functional outcomes when compared with other treatments or no treatment. *Data Sources*: Seven electronic databases were systematically searched and supplemented by hand searching through reference lists.
Méthodes	Two reviewers independently selected trials for inclusion and independently assessed the internal validity of the included trials using the Clinical Appraisal Skills Program tool.
Résultats	Four trials with 566 participants were identified that met the inclusion criteria. The validity of the trials was moderate. Exercise, pelvic support garments and acupuncture were found to improve functional outcomes in pregnant women with low back or pelvic pain. No meta-analysis was performed because of the heterogeneity of functional outcome measures.
Conclusion	While there is some evidence that physical therapy using exercise, acupuncture and pelvic supports may be useful, further research needs to consider other treatment modalities used by physical therapists and establish an appropriate, reliable and valid functional outcome measure to assess low back and pelvic pain in pregnancy.

1.1.12. Ee 2008 ☆

Ee Cc et al. Acupuncture for pelvic and back pain in pregnancy: a systematic review. Am J Obstet Gyn. 2008;198-3:254-9. [148279].

Purpose	The objective of our study was to review the effectiveness of needle acupuncture in treating the common and disabling problem of pelvic and back pain in pregnancy.
Methods	We used a narrative synthesis due to significant clinical heterogeneity between trials. Few and minor adverse events were reported.
Results	Acupuncture, as an adjunct to standard treatment, was superior to standard treatment alone and physiotherapy in relieving mixed pelvic/back pain. Women with well-defined pelvic pain had greater relief of pain with a combination of acupuncture and standard treatment, compared to standard treatment al one or stabilizing exercises and standard treatment.
Conclusion	We conclude that **limited evidence supports acupuncture use in treating pregnancy-related pelvic and back pain.**.

1.1.13. Pennick 2007 ☆

Pennick V, Young G. Interventions for preventing and treating pelvic and back pain in pregnancy. Cochrane Database Syst Rev. 2007. [145475].

Background	More than two-thirds of pregnant women experience back pain and almost one-fifth experience pelvic pain. The pain increases with advancing pregnancy and interferes with work, daily activities and sleep.
Objectives	To assess the effects of interventions for preventing and treating back and pelvic pain in pregnancy.
Methods	Search strategy: We searched the Cochrane Pregnancy and Childbirth Review Group's Trials Register (February 2006). Selection criteria : Randomised controlled trials of any treatment to prevent or reduce the incidence or severity of back or pelvic pain in pregnancy. Data collection and analysis: Two authors independently assessed trial quality and extracted data.
Main results	We found no studies dealing specifically with prevention of back or pelvic pain. We included eight studies (1305 participants) that examined the effects of adding various pregnancy-specific exercises, physiotherapy, acupuncture and pillows to usual prenatal care. For women with low-back pain, participating in strengthening exercises, sitting pelvic tilt exercises (standardised mean difference (SMD) -5.34; 95% confidence interval (CI) -6.40 to -4.27), and water gymnastics reduced pain intensity and back pain-related sick leave (relative risk (RR) 0.40; 95% CI 0.17 to 0.92) better than usual prenatal care alone. The specially-designed Ozzlo pillow was more effective than a regular one in relieving back pain (RR 1.84; 95% CI 1.32 to 2.55), but is no longer commercially available. Both acupuncture and stabilising exercises relieved pelvic pain more than usual prenatal care. Acupuncture gave more relief from evening pain than exercises. For women with both pelvic and back pain, in one study, acupuncture was more effective than physiotherapy in reducing the intensity of their pain; stretching exercises resulted in more total pain relief (60%) than usual care (11%); and 60% of those who received acupuncture reported less intense pain, compared to 14% of those receiving usual prenatal care. Women who received usual prenatal care reported more use of analgesics, physical modalities and sacroiliac belts.
Authors' conclusions	All but one study had moderate to high potential for bias, so results must be viewed cautiously. Adding pregnancy-specific exercises, physiotherapy or acupuncture to usual prenatal care appears to relieve back or pelvic pain more than usual prenatal care alone, although the effects are small. We do not know if they actually prevent pain from starting in the first place. Water gymnastics appear to help women stay at work. Acupuncture shows better results compared to physiotherapy.

1.1.14. Young 2001

Young G et al. Interventions for preventing and treating pelvic and back pain in pregnancy. Cochrane Library Oxford. 2001. [101018].

Background	More than a third of women experience back pain during pregnancy. The pain can interfere with work, daily activities and sleep.
Objectives	The objective of the review was to assess the effects of preventive interventions and treatments for pelvic and back pain in pregnancy.
Methods	Search strategy: We searched the Cochrane Pregnancy and Childbirth Group trials register (October 2001) and the Cochrane Controlled Trials Register (The Cochrane Library, Issue 3, 2001). Selection criteria: Randomised trials of any treatment to reduce the incidence or severity of pelvic/back pain in pregnancy, or to prevent pelvic/back pain arising in pregnancy. Data collection and analysis: Trial quality was assessed and data were extracted independently by two reviewers.
Main results	Three trials are included in this review involving 376 women. One randomized trial compared water gymnastics from 20 weeks with no treatment. The authors report less pain in the treatment group but the data are hard to interpret; there was a difference in rates of absence from work after 32 weeks of pregnancy (odds ratio 0.38, 95% confidence intervals 0.16-0.88). In another trial, acupuncture was rated as giving 'good' or 'excellent' help more frequently than physiotherapy (odds ratio 6.58, 95% confidence intervals 1.0-43.16) but this may reflect the benefit of individual compared with group therapy. One trial of 109 women compared the use of a special shaped pillow to fit under the woman's abdomen (Ozzlo pillow) with a standard pillow. Fewer women rated the Ozzlo pillow of 'little help' compared with the standard pillow (odds ratio 0.32, 95% confidence interval 0.18 to 0.58).
Reviewers' conclusions	Water gymnastics appear to reduce back pain in pregnancy. More women are able to continue at work. Specially shaped pillows help reduce back pain in late pregnancy and improve sleep. It is a pity that the Ozzlo pillow seems no longer to be available. Both physiotherapy and acupuncture may reduce back and pelvic pain. Individual acupuncture sessions were rated as more help than group physiotherapy sessions.

2. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported) Ø negative recommendation (or lack of evidence)

2.1. National Institute for Health and Care Excellence (NICE, UK) 2021 Ø

NICE guideline NG201 : Antenatal care [U] Management of pelvic girdle pain in pregnancy. National Institute for Health and Care Excellence (NICE). 2021:115P. [219371]. URL

The committee agreed that the evidence for acupuncture to treat pelvic girdle pain was mixed, of poor quality and therefore not adequate enough to justify a recommendation that would have a substantial resource impact. The committee discussed the evidence on acupuncture that showed some improvements on pain intensity, and on women’s experience and satisfaction. They agreed that the resources needed to implement a recommendation for acupuncture in the NHS are not currently adequate (for example, there may not be enough trained practitioners) and that it is therefore likely that such a recommendation would entail a substantial cost.. The committee felt that because the evidence was mixed regarding the benefits and harms of acupuncture, and the quality of the evidence was poor, they could not justify a recommendation that would have a substantial resource impact.

2.2. World Health Organization (WHO) 2021 ⊕

WHO Guideline on Self-Care Interventions for Health and Well-Being. Geneva: World Health Organization. 2021.186P. [219406]. doi

> Recommendation 6. Interventions for low back and pelvic pain. Regular exercise throughout pregnancy is recommended to prevent low back and pelvic pain. There are a number of different treatment options that can be used, such as physiotherapy, support belts and **acupuncture**, based on a woman's preferences and available options.

2.3. World Health Organization (WHO) 2016 ⊕

WHO recommendations on antenatal care for a positive pregnancy experience. World Health Organization. 2016:172P. [196767].

> Recommendation D.4: Regular exercise throughout pregnancy is recommended to prevent low back and pelvic pain. There are a number of different treatment options that can be used, such as physiotherapy, support belts and acupuncture, based on a woman's preferences and available options. (Recommended)

2.4. Pelvic Obstetric and Gynaecological Physiotherapy (POGP, UK) 2015 ⊕

Pregnancy-related Pelvic Girdle Pain. Pelvic Obstetric and Gynaecological Physiotherapy (POGP). 2015;:24. [189416]. URL

|Pain control – consider giving or referring appropriately for advice, prescription and monitoring : simple analgesia (paracetamol) ; low potency opiates (codeine, dihydrocodeine) ; combinations of above (codydramol, etc) ; consider using progressively and using most potent/sedating restrictively– at worst times, perhaps overnight ; usually considered appropriate to avoid non-steroidal anti-inflammatory drugs during pregnancy ; **acupuncture** ; TENS – refer to physiotherapist.|

2.5. European Commission, Cost Action B13 2008 (Europe, ⊕)

Vleeming AZ, Albert HB, Östgaard HC, Sturesson B,Stuge B. European guidelines for the diagnosis and treatment of pelvic girdle pain Eur Spine J. 2008;17(6):794-819. [189905].

> Recommendation: There are indications that acupuncture during pregnancy may reduce pain, but high quality studies are needed.