Evidence Assessment: Summary of a Systematic Review

Who is this summary for?
For Doctors and Health Personnel, Administrators and Managers of health facilities, Community Health Workers and the partners involved in maternal and child health.

Relaxation techniques for pain management in labour

Key findings

- The use of some relaxation therapies, yoga, or music may possibly be helpful with reducing the intensity of pain, and in helping women feel more in control and satisfied with their labours.
- However, the wide variations in types of techniques used in these studies make it difficult to say specifically what might help women.

Background

The pain of labour can be intense, with body tension, anxiety and fear making it worse. Many women would like to go through labour without using drugs, or invasive methods such as an epidural. These women often turn to complementary therapies to help to reduce the intensity of pain in labour and improve their experiences of labour. Many complementary therapies are used by women in labour, including acupuncture, mind-body techniques, massage, reflexology, herbal medicines or homoeopathy, hypnosis, music and aromatherapy. Mind-body techniques for relaxation can be widely accessible to women through the teaching of these techniques during antenatal classes. The relaxation techniques include guided imagery, progressive relaxation and breathing techniques. We also include yoga and music in this review. Many of these relaxation techniques are coping strategies used to reduce the experience of pain. It is important to examine if these therapies work and are safe, to enable women to make informed decisions about their care.

Questions

What are the effects of mind-body relaxation techniques for pain management in labour on maternal and neonatal well-being during and after labour?

	What the review authors searched for	What the review authors found
Studies	Randomised controlled trials (RCTs), this includes cluster- and quasi-RCTs.	This review update includes 19 studies (2519 women), 15 of which (1731 women) contribute data.
Participants	Women in labour. (This will include women in high-risk groups, e.g. preterm labour or following induction of labour.	Twelve studies included primiparous women only, one included primiparous and multiparous women, and the remainings even studies did not specify parity.
Interventions	This review includes the following mind-body relaxation techniques: relaxation methods, yoga, music, audio analgesia and mindfulness. Comparisons of any type of mind-body relaxation technique with any other (yoga, music, audio), as well as any type of relaxation techniques compared with: 1. placebo/ no treatment; 2. hypnosis; 3. biofeedback; 4. intracutaneous or subcutaneous sterile water injection; 5. immersion in water; or 6. aromatherapy. The intervention could comprise a single modality, or a combination of mind-body relaxation techniques that have combined to form the active intervention.	We grouped the interventions into relaxation, yoga, music, audio-analgesia and mindfulness. Ten trials used relaxation. This consisted of relaxation of bodily muscles and use of the breath in one trial deep breathing and relaxation in one study relaxation, music and guided imagery in one trial, relaxation and music in one trial, stretching, relaxation, massage and breathing in one trial. Two trials used progressive muscle relaxation. Three trials used psychoprophylaxis. Two trials used yoga. The yoga trial undertaken by comprised postures, breathing, chanting and education, and comprised using yoga postures. One trial used audio-analgesia and six trials used music, and one trial used massage and relaxation or music and relaxation, and one trial used mindfulness.
Controls	Standard care, no treatment, other non-pharmacological forms of pain management in labour or placebo.	Standard care, no treatment, other non-pharmacological forms of pain management in labour or placebo.
Outcomes	**Primary outcomes** ***Effects of interventions*** 1. Pain intensity (as defined by trialists). We will analyse pain by the phase of labour if reported. 2. Satisfaction with pain relief (as defined by trialists) 3. Sense of control in labour (as defined by trialists) 4. Satisfaction with childbirth experience (as defined by trialists) ***Safety of interventions*** 1. Effect (negative) on mother/baby interaction 2. Breastfeeding (at specified time points) 3. Assisted vaginal birth 4. Caesarean section 5. Side effects (for mother and baby; review specific) 6. Admission to special care nursery or neonatal intensive care (as defined by	1) Relaxation **Primary outcomes** There were no data available on the outcomes; sense of control in labour, effect on mother/baby interaction, breastfeeding, and other poor outcomes for infants. **Secondary outcomes** There were no data available on the outcomes spontaneous vaginal birth, perineal trauma (defined as episiotomy and incidence of second- or third-degree tear), or maternal blood loss (postpartum haemorrhage defined as greater than 500 mL). 2) Yoga We included two trials and 149 women in the meta-analysis. One trial compared yoga with usual care, and one trial compared yoga with supine positioning. **Primary outcomes** There were no data available on sense of control in labour, effect on mother/baby interaction, breastfeeding, assisted vaginal birth, caesarean section, admission to special care nursery and other poor infant outcomes. **Secondary outcomes** There were no data available on the outcomes spontaneous vaginal birth, perineal trauma (defined as episiotomy and incidence of second- or third-degree tear), maternal blood loss (postpartum haemorrhage defined as greater than 500 mL), or anxiety. 3) Music

	trialists) 7. Low Apgar score (less than 7 at five minutes) 8. Poor infant outcomes at long-term follow-up (as defined by trialists) **Other outcomes** 1. Cost (as defined by trialists) **Secondary outcomes** Maternal use of pharmacological pain relief; length of labour; spontaneous vaginal birth; need for augmentation with oxytocin; perineal trauma (defined as episiotomy and incidence of second- or third-degree tear); maternal blood loss (postpartum haemorrhage defined as greater than 500 mL); anxiety.	**Primary outcomes** There were no data available on satisfaction with maternal perception of pain, satisfaction with childbirth, sense of control in labour, Apgar score less than 7 at five minutes, effect on mother/ baby interaction, breastfeeding, and other poor outcomes for infants. **Secondary outcomes** There were no data available on the outcomes: spontaneous vaginal birth; need for augmentation with oxytocin; perineal trauma (defined as episiotomy and incidence of second- or third-degree tear); maternal blood loss. 4) Audio-analgesia **Primary outcome** Only one outcome on maternal satisfaction was reported for this trial. **Secondary outcomes** There were no data available on the outcomes use of pharmacological pain relief, length of labour, spontaneous vaginal birth, need for augmentation with oxytocin, perineal trauma (defined as episiotomy and incidence of second- or third-degree tear), maternal blood loss, anxiety. 5) Mindfulness One trial of 29 women was included in the analysis of mindfulness compared with education.
Date of the most recent search: May 2017		
Limitations: This is a good quality systematic review**, AMSTAR = 10 /11**		
Citation: Smith CA, Levett KM, Collins CT, Armour M, Dahlen HG, Suganuma M. **Relaxation techniques for pain management in labour**. Cochrane Database of Systematic Reviews 2018, Issue 3. Art. No.: CD009514. DOI: 10.1002/14651858.CD009514.pub2.		

Table 2: SUMMARY OF FINDINGS FOR THE MAIN COMPARISON

Relaxation compared to usual care for pain management in labour

Patient or population: women in labour
Settings: hospital settings in Brazil, Italy, Sweden, Turkey, UK
Intervention: tuberculosis outreach screening with and without health promotion activities
Comparison: relaxation
Trial design: Usual care

Outcomes	Anticipated absolute effects*(95% CI)		Relative effect (95%CI)	No. of participants (studies)	Quality of the evidence (GRADE)
	Risk with usual care	Risk with relaxation			
Pain intensity: active phase (lower scores indicate less intense pain)	The mean pain intensity - active phase was 7.8	MD 1.08 lower (2.57 lower to 0.41 higher)	/	271 (4 RCTs)	Very low
Satisfaction with pain relief (higher proportion high satisfaction)	Study population		RR 8.00 (1.10 to 58.19)	40 (1 RCT)	Very low
	50 per 1000	400 per 1000 (55 to 1000)			
Sense of control in labour	/	/	/	/	/
Satisfaction with childbirth experience (higher scores indicate more satisfaction)	The mean satisfaction with childbirth experience using a variety of outcome measures was 27.1	SMD 0.03 lower (0.37 lower to 0.31 higher)	/	1176 (3 RCTs)	Very low

Breastfeeding	/	/	/	/	/
Assisted vaginal birth	Study population		Average RR 0.61 (0.20 to 1.84)	1122 (4 RCTs)	Very low
	149 per 1000	91 per 1000 (30 to 275)			
Caesarean section	Study population				
	214 per 1000	157 per 1000 (56 to 431)	Average RR 0.73 (0.26 to 2.01)	1122 (4 RCTs)	Very low

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). **CI**: Confidence interval; **RCT**: randomised controlled trial; **RR:** Risk ratio; **SMD**: standardised mean difference

ADDITIONAL SUMMARY OF FINDINGS

Yoga compared to control for pain management in labour

Patient or population: women in labour
Setting: hospital settings in Thailand
Intervention: tuberculosis outreach screening with and without health promotion activities
Comparison: Yoga
Trial design: Control

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95%CI)	No. of participants (studies)	Quality of the evidence (GRADE)
	Risk with control	Risk with Yoga			
Pain intensity (lower scores indicate less intense pain)	The mean pain intensity was 57.91	MD 6.12 lower (11.77 lower to 0.47 lower)	/	66 (1 RCT)	Low
Satisfaction with pain relief Higher scores indicate greater satisfaction with pain relief	The mean satisfaction with pain relief was 45	MD 7.88 higher (1.51 higher to 14.25 higher)	/	66 (1 RCT)	Low
Sense of control in labour	/	/	/	/	/
Satisfaction with childbirth experience (higher scores indicate greater satisfaction)	The mean satisfaction with childbirth experience was 150.36	MD 6.34 higher (0.26 higher to 12.42 higher)	/	66 (1 RCT)	Low
Breastfeeding	/	/	/	/	/
Assisted vaginal birth	/	/	/	/	/
Caesarean section	/	/	/	/	/

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). **CI**: Confidence interval; **RCT**: randomised controlled trial; **RR:** Risk ratio; **SMD**: standardised mean difference

Music compared to control for pain management in labour					
Patient or population: women in labour **Settings**: hospital settings in Italy, Taiwan, and Turkey **Intervention**: Music **Comparison**: Control					
Outcomes	**Anticipated absolute effects* (95% CI)**		**Relative effect (95%CI)**	**No. of participants (studies)**	**Quality of the evidence (GRADE)**
	Risk with control	**Risk with Music**			
Pain intensity - active phase (lower scores indicate less intense pain)	The mean pain intensity - active phase was 8.61	MD 0.51 lower (1.10 lower to 0.07 higher)	/	217 (3 RCTs)	Very low
Satisfaction with pain relief	/	/	/	66 (1 RCT)	Low
Sense of control in labour	/	/	/	/	/
Satisfaction with child- birth experience	/	/	/	/	/
Breastfeeding	/	/	/	/	/
Assisted vaginal birth	Study population		RR0.41 (0.08to2.05)	156 (1RCT)	Very low
	63 per 1000	26 per 1000 (5 to 130)			
Caesarean section	Study population		RR0.78 (0.36to1.70)	256 (2RCTs)	Very low
	119 per 1000	93 per 1000 (43 to 203)			
*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). **CI**: Confidence interval; **RCT**: randomised controlled trial; **RR:** Risk ratio; **SMD**: standardised mean difference					

Applicability

Studies were undertaken across the world, including countries in Europe and Scandinavia, and Iran, Taiwan, Thailand, Turkey and USA.

Conclusions

The use of some relaxation therapies, yoga, or music may possibly be helpful with reducing the intensity of pain, and in helping women feel more in control and satisfied with their labours. However, the wide variations in types of techniques used in these studies make it difficult to say specifically what might help women. Therefore further research studies are needed.

Prepared by

C.D. Evina, M. Vouking, L. Mbuagbaw, P. Ongolo Zogo: Centre for the Development of Best Practices in Health, Yaoundé, Cameroon.

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Contact: Email: camer.cdbpsh@gmail.com web site: www.cdbph.org Phone: +237 242 08 19 19