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REVISIONES

Complementary techniques of relaxation and non-pharmacological analgesia during childbirth: systematic review

Técnicas complementarias de relajación y analgesia no farmacológicas durante el parto: revisión sistemática

Noelia Vivancos Marín[1]
Germán Cánovas Ambit[2]
Juan Carlos Sánchez-García [3]
Anais López Requena[2]
Jose Antonio Garcia Vidal[2]

[1] University of Alcala. Alcalá de Henares, Madrid. Spain.
[2] Department of Physiotherapy, University of Murcia, Murcia. Spain.
[3] School of Nursing. Faculty of Health Sciences. University of Granada, Granada, Spain.

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ABSTRACT:

Introduction:There is a need to provide analgesia strategies that encourage and promote women's participation in decision-making at the time of delivery and relaxation techniques could be a complementary and/or alternative non-pharmacological analgesic method to the widely used epidural anaesthesia in standard labour care.
Objective: The objective of this study is to analyze the obstetric effects of relaxation techniques on pain management during labour.
Method: A systematic review is performed with critical reading of included studies. The search for studies was carried out in the main databases MEDLINE, Cochrane Library, Cuiden, LILACS and SciELO. Studies published in English or Spanish between 2015 and February 2021 were included. Eleven studies were included, six of which are systematic reviews and five are randomised clinical trials. The interventions analysed were relaxation techniques such as hypnosis, intradermal injection of sterile water, warm water immersion, massage, acupuncture, music therapy, aromatherapy, continuous support and mind-body practices like relaxing breathing, yoga and meditation, among others.
Conclusion: The main conclusion of this study is that relaxation techniques may decrease the level of pain during labour, although the current scientific evidence is limited and the methodological quality varies from low to moderate. More randomised controlled trials are needed to support this research.

Keywords: Analgesia; Pain; Labour; Relaxation techniques; Complementary therapies.

RESUMEN:

Introducción: Existe la necesidad de proporcionar estrategias de analgesia que alienten y promuevan la participación de la mujer en la toma de decisiones en el momento del parto y las técnicas de relajación

podrían ser un método analgésico no far-macológico complementario y/o alternativo a la anestesia epidural ampliamente utilizado. en la estándar atención del trabajo de parto.
Objetivo: El objetivo de este estudio es analizar los efectos obstétricos de las técnicas de relajación en el manejo del dolor durante el parto.
Método: Se realiza una revisión sistemática con lectura crítica de los estudios incluidos. La búsqueda de estudios se realizó en las principales bases de datos MEDLINE, Cochrane Library, Cuiden, LILACS y SciELO. Se incluyen estudios publicados en inglés o español entre 2015 y febrero de 2021. Se incluyen una vez estudios, seis de los cuales son revisados sistemáticamente y cinco son ensayos clínicos aleatorios. Las intervenciones analizadas fueron técnicas de relajación como hipnosis, inyección intradérmica de agua estéril, inmersión en agua tibia, masaje, acu-puntura, musicoterapia, aromaterapia, apoyo continuo y prácticas mente-cuerpo como respiración relajante, yoga y meditación, entre otras.
Conclusión: La principal conclusión de este estudio es que las técnicas de relajación pueden disminuir el nivel de dolor durante el trabajo, aunque la evidencia científica actual es limitada y la calidad metodológica varía de baja a moderada. Se necesitan más ensayos controlados aleatorios para apoyar esta investigación.

Palabras clave: Analgesia; Dolor; Mano de obra; Técnicas de relajación; Terapias complementarias.

INTRODUCTION

The labour process varies from woman to woman and its progress does not necessarily have to be linear in all cases. In most nulliparous women the dilation phase is completed in 18 hours and in the case of multiparous women it takes an average of 12 hours [(1)], all this time passes with painful perineal and lumbar sensations that are generally more intense in primiparous women than in multiparous women[(2,3)].

Pain during childbirth is described as one of the most intense pains a woman can experience in her lifetime. Currently, pain management is not only of interest from the point of view of symptomatic relief, but also because of the physiological changes it produces in the mother and foetus[(3-7)]. Authors such as Mallen Pérez et al.[(8)] and Cobo Borda et al. [(1)] report how childbirth was considered a natural event and was handled by primitive societies in a totally instinctive and solitary manner [(1,8)], while in some religions it was considered a punishment[(1)]. The concept of pain in childbirth was modified and considered an emotion during periods such as the Middle Ages, the Renaissance and the Industrial Revolution[(1,9)]. Controlling pain in labour brings with it an increase in the physical and emotional well-being of the pregnant woman, which is why in the mid-19th century work began on the concept of pain during childbirth, in which medical care began to be provided and pharmacological analgesia was introduced, from ether and chloroform to the appearance of epidural analgesia[(8)].

Each woman's expression of pain must be respected, and therefore it is necessary to personalise the resources available for pain relief and pain management during labour. These resources can be pharmacological or non-pharmacological, the latter of which can be divided into relaxation methods, psychological techniques and mechanical techniques. The use of non-pharmacological analgesic methods that are safer for both mother and foetus can be an alternative to pharmacological analgesic methods that may carry various risks, as in the case of epidural analgesia[(4,6,10,11)]. In particular, non-pharmacological analgesic methods such as relaxation techniques, among which we find: warm water immersion, massage and reflexology, acupuncture and acupressure, music therapy, aromatherapy, continuous support or mind-body practices that include yoga, meditation, visualisation and breathing techniques, among others. We could also make use of psychological techniques such as hypnosis or mechanical techniques

such as transcutaneous electrical nerve stimulation, use of a birthing ball or Swiss ball, thermal therapies and intradermal injection of sterile water[4,12].

Currently, according to various studies, pregnant women are provided with more information on pharmacological methods of pain relief (especially epidural analgesia) than on the various alternative non-pharmacological methods. Some studies conclude that it would be advisable for professionals to continue searching for the most suitable way to care for each woman according to her preferences in order to adapt to each situation that arises and to offer all the existing analgesic options, both pharmacological and non-pharmacological[6,10-14].

Because pain management during labour is a fundamental task that health professionals must address with the highest possible quality and, on the other hand, because pain in the labour process can cause alterations in the pulmonary and cardiovascular systems, considerably reducing tolerance to labour, there is a need to offer analgesia strategies that encourage and promote the participation of women in decision-making at the time of labour. Relaxation techniques could be a complementary and/or alternative non-pharmacological analgesic method in labour[6,7,11-17].

MATERIALS AND METHODS

Objective

To analyse the obstetric effects of relaxation techniques on pain management during labour.

Design

A systematic review was carried out with critical reading of the included studies on analgesia and relaxation techniques during labour.

Eligibility criteria

Inclusion criteria. We included studies whose participants were women in labour. In turn, we included studies whose type of interventions evaluated the main non-pharmacological analgesic methods used to control pain in labour, including: Hypnosis, Transcutaneous electrical nerve stimulation, Intradermal injection of sterile water, Immersion in water, Massage and reflexology, Acupuncture and acupressure, Music Therapy, Aromatherapy, Continuous support and Mind-body relaxation practices through breathing tecniques, yoga or meditation.

In addition, the interventions could be a specific relaxation technique or a combination of several techniques, thus forming the intervention under study.

We incorporated experimental studies (such as randomised controlled clinical trials (RCT)), systematic reviews (SR) and/or meta-analyses of experimental studies, observational studies evaluating the effect of any non-pharmacological method on pain control during labour, and Clinical Practice Guidelines addressing clinical questions related to the topic of study.

Exclusion criteria. We excluded studies whose interventions were studied at stages other than childbirth, such as during gestation or postpartum. Articles with a publication date prior to 2015 and in a language other than English or Spanish were excluded. We also excluded qualitative studies, research protocols and studies for which we were unable to access the full text.

Sources of information

Different databases were consulted from October 2020 to February 2021, such as Medline, Cochrane Library, Cuiden, LILACS and SciELO. The library of Clinical Practice Guidelines of the National Health System was also accessed through GuíaSalud.

Search strategy

The limits used in the bibliographic search strings were the date of publication (between January 2015 and February 2021), the language (Spanish or English) and in some search strings the full availability of the text was used. In turn, in the Medline database, it was added as an attribute of the articles found that they were included in Medline journals.

The descriptors used in the search strings *(Appendix A)* were previously consulted in DeCS[18] and MeSH [19] and the free language used in the bibliographic searches was obtained from HONSelec[20].

The boolean AND operator was used in several search strings.

We also conducted a reverse search for studies from those that were potentially relevant to this review.

Selection process

After conducting the search for studies, those that were not related to the topic of study were eliminated by reading the title, abstract and keywords. The full text was also accessed where necessary in order to decide whether the information they contained was related to the topic of study. The studies selected as potentially relevant were then read in full and those that did not relate to the topic of study or did not meet the inclusion criteria were discarded.

Finally, the following data was recorded for the included studies: author and year, design, objective, intervention, participants and main results through statistical data.

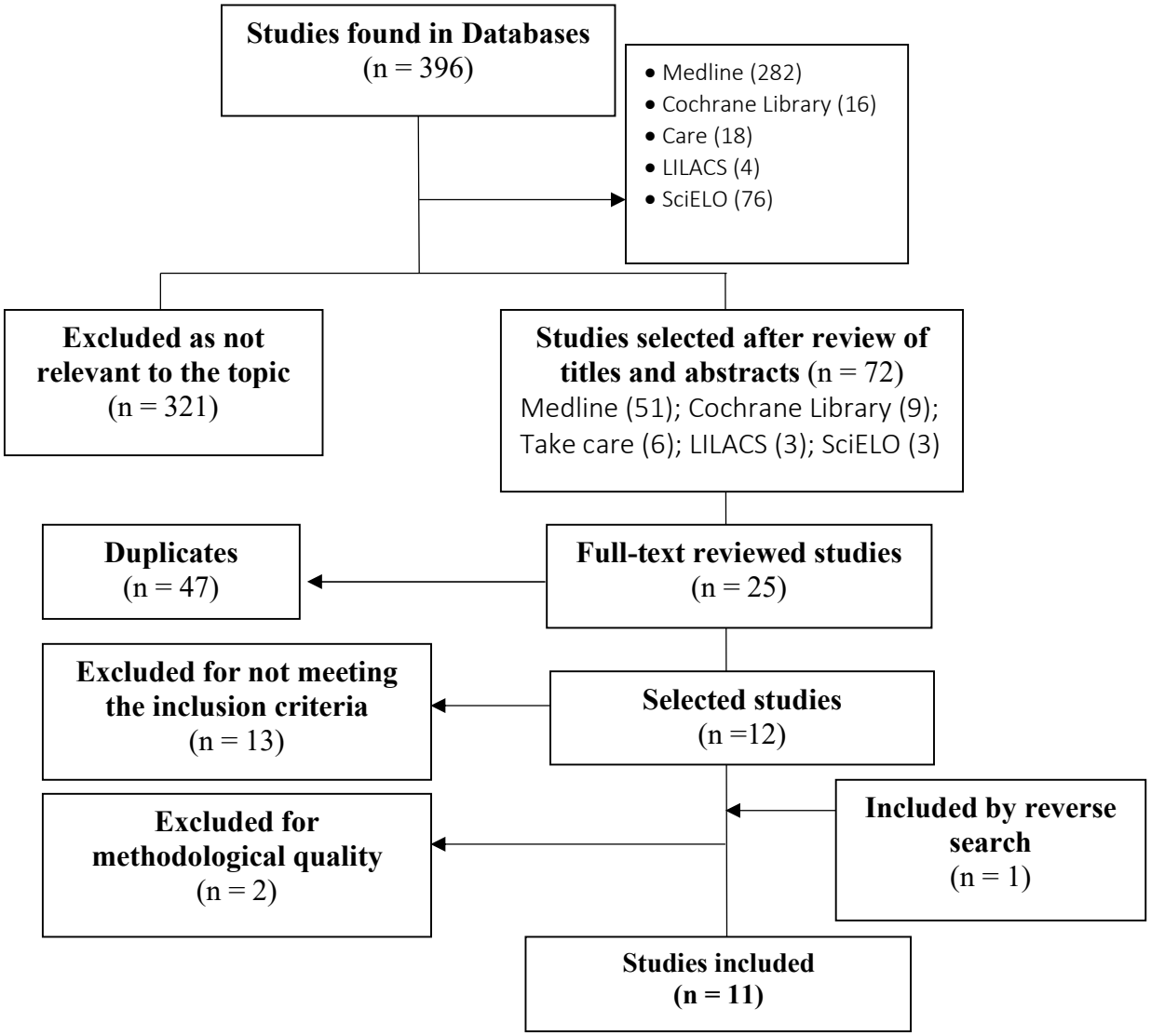
Risk of bias in individual studies

The methodological quality of the included full-text studies was assessed using the critical reading tool CASPe [21] tool, discarding those that did not achieve a score greater than or equal to 7 of the 11 items that make up the assessment guide for clinical trials and greater than or equal to 6 of the 10 items for systematic reviews or meta-analyses. The score obtained from the critical reading of the included studies is attached *(Appendix B).*

RESULTS

In the initial search strategy, a total of 72 studies were identified, which were successively screened according to the purpose of the present study until the selection of studies was reached (Figure 1). Finally, 11 studies were included in this review, 6 of which are systematic reviews and 5 are randomised clinical trials.

Figure 1: Flow chart of the study.



Flow chart of the study: The results obtained from the main search strings used in databases are presented in (Appendix C).

The results obtained from the included studies are described below. First, the most relevant characteristics of the included studies are presented (Table 1). Finally, the main results on relaxation techniques as a non-pharmacological analgesic method used during labour are discussed.

Table 1: Characteristics of the studies included

RANDOMISED CLINICAL TRIALS:			
AUTHOR YEAR	**INTERVENTION**	**PARTICIPANTS**	**CONCLUSIONS**
Allameh et al. 2015[22]	Measurement of pain intensity by visual analog scale (VAS) in intervention group (acupuncture), another intervention group (pethidine) and control group.	Pregnant women at term, age (18-35 years), low-risk pregnancy, in labour and not receiving analgesia in the 4 weeks prior to the intervention.	Acupuncture can significantly reduce labour pain 30 minutes after the intervention, while there was no effect on labour pain at full dilatation. However, in both the pethidine and acupuncture groups, the duration of the active phase was significantly shortened.
Levett et al. 2016 [23]	Comparison between intervention group (massage, acupressure, yoga and relaxation techniques, visualisation and continuous support) and control group (standard care).	Pregnant women (24-34 weeks gestation), singleton pregnancy with cephalic presentation, low risk, nulliparous and with sufficient knowledge of English to participate in a course.	Complementary therapies can be effective in labour's time by providing integrated, woman-centred, evidence-based care, reducing medical interventions and morbidity in labour. Reorientation of antenatal education and promotion of birth as a normal physiological event is essential.
Roque Mafetoni et al. 2016 [24]	Measurement of pain intensity by VAS before, 20 minutes and 60 minutes after treatment in intervention group (acupressure), intervention group (placebo) and control group (standard care).	Women in labour	Acupressure was shown to be a useful pain relief measure that can be easily implemented in clinical practice, without side effects and favouring the evolution of labour. However, the effect of the treatment on pain reduction is small, suggesting that acupressure may be more effective with cervical dilatation up to 8 cm and high cephalic presentation.
Genç Koyucu et al. 2018 [25]	Measurement of pain intensity by VAS at 10, 30, 60, 60, 120 and 180 minutes after treatment in the intervention group (intradermal injection of sterile water) and control group (dry injection).	Women in labour with labour pain and back pain	Intradermal injection of sterile water is a simple, cost-effective, easily accessible, safe and promising method in developing countries. It is an efficient and simple way to treat antagonistic low back pain during PT, especially in low-resource settings. It produces an analgesic effect lasting up to 120 minutes, does not affect maternal consciousness and may reduce the need for epidural anaesthesia (EA). In addition, it does not limit maternal mobility or interfere with labour progress or the ability to push.
Czech et al. 2018 [26]	Measurement of pain intensity by VAS and interview in intervention	Pregnant women (> 37 weeks), cephalic position of the foetus, spontaneous	EA remains the gold standard for pain relief. Even so, water immersion remains the most

	group (water immersion or TENS) and control group (standard care).	onset of labour, appropriate uterine contractions, singleton pregnancy and age > 18 years.	acceptable non-pharmacological pain relief method, contrary to TENS, which was associated with the lowest level of satisfaction.

SYSTEMATIC REVIEWS:

AUTHOR AND YEAR	OBJECTIVE	PARTICIPANTS	CONCLUSIONS
Madden et al. 2016 [27]	To assess the effectiveness and safety of hypnosis for pain management during labour and childbirth.	Pregnant women	Hypnosis may reduce overall analgesia use during labour´s time, but not epidural use. No clear differences were found between women in the hypnosis and control groups in terms of satisfaction with pain relief, coping with labour´s time or spontaneous vaginal delivery. There is currently insufficient evidence on satisfaction with pain relief or coping with labour and we encourage any future research studies to prioritise measurement of these outcomes.
Bohren et al. 2017 [28]	To assess the effects on women and their babies of continuous intrapartum and individualised support compared to usual care.	Pregnant women in labour	Ongoing support during delivery may improve outcomes for women and newborns (increased spontaneous vaginal delivery, decreased duration of labour´s time, decreased caesarean delivery, instrumental vaginal delivery, use of any analgesics, and negative feelings about birth experiences, among others). No evidence of harm was found with continued labour support.
Cluett et al. 2018 [29]	To assess the effects of water immersion during labour and/or birth on women and their babies.	Full-term pregnant women in labour, singleton and low-risk pregnancy.	In healthy women at low risk of complications there is moderate to low quality evidence that immersion in water during the dilation period of labour probably has little effect on mode of delivery or perineal trauma, but may reduce the use of regional analgesia. There is no evidence that childbirth or water birth increases adverse effects on the fetus/newborn or the woman.
Smith et al. 2018 [30]	Evaluate the effect, safety and acceptability of the massage, reflexology and other manual methods to manage pain during labour.	Women in labour.	Massage, warm compresses and thermal manual methods may contribute to reducing pain, decreasing the duration of labour and improving women's sense of control and emotional experience during delivery, although the quality of evidence varies from low to very low. Further research studies are needed to address these findings and to examine the efficacy and effectiveness of these manual methods for pain management.
Smith et al. 2018 [31]	To examine the effects of mind-body relaxation techniques for pain	Women in labour.	Relaxation, yoga and music may have a role in reducing pain and increasing satisfaction with pain relief, although the

	management in labour on maternal and neonatal well-being during and after birth.		quality of evidence varies from very low to low. Most trials did not report on the safety of the interventions. Further RCTs of relaxation modalities for pain control during labour are needed.
Smith et al. 2020 [32]	To examine the effects of acupuncture and acupressure for the management of pain in labour	Women in labour with single or multiple pregnancies, both spontaneous and induced labour, irrespective of parity and status pre-term, term or post-term.	Acupuncture, compared to sham acupuncture, may increase satisfaction with pain management and reduce the administration of pharmacological analgesia. Acupressure compared to a combined control and usual care may reduce pain intensity. However, for other comparisons of acupuncture and acupressure the effects on pain intensity and satisfaction with pain relief are not known. More research studies are needed that include sham controls and report on labour outcomes, satisfaction with the birth experience or satisfaction with pain relief.

The results of this review presented in the table above aim to achieve the objective proposed for this work. All the selected studies, regardless of their design, study patients belonging to the same population group, in this case women during pregnancy and childbirth. To analyse the obstetric effects of relaxation techniques in the treatment of pain during labour, 11 articles were analysed, including the study by Allameh et al. [22] in which a comparative study was carried out between pregnant women treated with acupuncture and pregnant women treated with pethidine and their relationship with pain during labour. With regard to the same variable, in this case pain control, Roque Mafetoni et al. [24] worked with acupressure at the time of delivery and found positive results. Genç Koyucu et al. [25], in their study, presents the ability to reduce pain with an intradermal injection of sterile water, which is also useful because it does not limit maternal mobility or interfere with the progress of labour or the ability to push. In any case, the literature indicates that immersion in water is the non-pharmacological treatment of choice, as highlighted by Czech et al. Cluett et al. [29], refer in their work on the same subject.

Another relevant study was that of Levett et al. [23] where they claim to reorient prenatal education and promote childbirth as a normal physiological event. Madden et al. [27], work on the effectiveness of hypnosis at the time of delivery, corroborating the reduction of analgesia used in cases treated with this therapy.

Smith et al. [30] examine massage therapies, reflexology and other manual methods for the treatment of pain during labour. In addition, they examine the effects of mind-body relaxation techniques for pain management during labour on maternal and neonatal well-being during and after birth[31].

DISCUSSION

The eleven studies included in this systematic review suggest very limited ascientific evidence on relaxation techniques during labour. Due to the small number of studies examining different methods of non-pharmacological analgesia during labour, there is

a limitation in making comparisons with other studies. This is highlighted in his latest study on the subject Yinchu et al.[32] , where he stresses the need for more well-designed projects to validate the conclusions of his work.

It is true that this study attempts to investigate the most recent scientific evidence and, if possible, the highest methodological quality by using limits in the search chains and through a critical reading of the selected studies. The heterogeneity of the results is also accepted, mainly due to the specific objectives of examining and learning about the different non-pharmacological analgesia methods used, be they relaxation techniques, comfort measures and/or ways to control pain during labour.

During the process of preparing the study we tried to minimise the risk of bias and although the search for studies was exhaustive, accurate and in widely used languages such as English or Spanish, it is possible that some of the literature on relaxation techniques is not published in journals and therefore excluded from the main databases, so we cannot rule out the possibility that studies of interest may have been missed.

Relaxation techniques

Hypnosis

Madden et al. [27] found that pain intensity was lower for women in a self-hypnosis or hypnotherapy group than for those in a standard care group using the McGill Pain Questionnaire in a trial of 60 women [MD] -0.70 (95% CI -1.03 to -0.37); ($p < 0.0001$). They further concluded that hypnosis may reduce overall analgesia use during labour, but not epidural use.

TENS

In an RCT by Czech et al. [27] comparing pharmacological and non-pharmacological methods of labour pain relief, epidural analgesia (EA) was the standard method for pain relief and water immersion was the most acceptable non-pharmacological pain relief method, contrary to TENS, which was associated with the lowest level of satisfaction.

Intradermal injection of sterile water

A randomised controlled clinical trial by Genç Koyucu et al. [25] assessed pain during labour through visual analogue scale (VAS) at 10, 30, 60, 60, 120 and 180 minutes after giving sterile water injections to one intervention group and dry injections to another control group in the Michaelis rhombus of the sacral area.

Pain scores were assessed at 10, 30, 60, 60, 120 and 180 minutes using a visual analogue scale. In addition, the need for epidural analgesia, Apgar score, mode of delivery, timing of delivery, maternal satisfaction and breastfeeding score were assessed.

The mean back pain scores at 30 minutes after the injections were significantly lower in the intervention group (31.66 ± 11.38) than in the control group (75 ± 18.26); ($p < 0.01$). The mean decrease in pain scores after 30 minutes from baseline was

significantly higher in the study group (54.82 ± 7.81) than in the control group (13.33 ± 12.05); (p < 0.01). The need for epidural analgesia, labour time, mode of delivery, Apgar and lactation scores were similar in both groups. In addition, maternal satisfaction with the analgesic effect was significantly higher in the intervention group (84.5%) compared to the control group (35.7%); (p <0.01).

Intradermal sterile water injections have therefore proved to be a simple, cost-effective, easily accessible, safe and promising method, especially in developing countries, for treating antagonistic low back pain during labour. It produces an analgesic effect lasting up to 120 minutes, does not affect maternal consciousness and may reduce the need for EA. In addition, it does not limit maternal mobility or interfere with the progress of labour or the ability to push.

Aromatherapy

No studies addressing aromatherapy as a non-pharmacological analgesic method during labour are included in this review. However, it is worth highlighting a contribution made Yinchu et al. [33] in her study, where she presents that the results obtained in her work support the use of aromatherapy to alleviate labour pain in low-risk pregnant women.

Water immersion

In the RCT by Czech et al. [26] comparing pharmacological and non-pharmacological methods of labour pain relief, there was no statistical difference in the level of pain experienced in the water immersion intervention group (p > 0.05) but it did achieve the highest levels of maternal satisfaction (n = 38; 95%). Still, water immersion was the most acceptable non-pharmacological pain relief method.

The SR of Cluett et al. [29] highlights the use of EA: In the first stage of labour the intervention group (39%) and the control group (43%); [RR] 0.91 (95% CI 0.83 to 0.99); (p = 0.03). While in the second stage of labour no statistical difference in pain intensity is shown (p > 0.05). Finally, it was concluded that, in healthy women at low risk of complications, immersion in water during the dilation period of labour could probably reduce the use of EA.

Continuous support

Bohren et al. [28] found a lower number of negative feelings about the labour experience in the intervention group (continuous support) and the control group (standard care) in the intervention group than in the control group through a SR where the experience during labour was measured through interviews: [RR] 0.69 (95% CI 0.59 to 0.79); (p < 0.0001).

Levett et al. [23] also provide related results, as EA use in the intervention group (continuous support) was lower than in the control group (standard care): [RR] 0.35 (95% CI 0.23 to 0.52); (p ≤ 0.001).

Acupuncture and acupressure

According to an RCT by Allameh et al. [22] comparing the mean pain intensity score of subjects 30 minutes after the intervention: In the intervention group (acupuncture) the mean pain intensity was determined as 5.77 with the minimum of 3 and maximum of 9; in the other intervention group (pethidine), the mean was 6.87 with the minimum of 4 and maximum of 10, and in the control group the mean pain intensity was measured as 7.8. ANOVA test showed a significant difference between the three groups ($p = 0.0001$).

Roque Mafetoni et al. [24] through an RCT, shows the differences occurring at 20 and 60 minutes between the intervention group (acupressure), another intervention group (placebo) and control group (standard care). The means of pain did not vary in any group before treatment ($p=0.0929$), however, they were lower in the intervention group (acupressure) at 20 minutes (p-value=<0.0001) and also after 60 minutes ($p=0.0001$) when compared to the placebo and control groups.

Another RCT, in this case by Levett et al. [23] supports the above results, as EA use in the intervention group (acupressure) was lower than in the control group (standard care): [RR] 0.35 (95% CI 0.23 to 0.52); ($p \leq 0.001$).

On the other hand, in the SR by Smith et al. [32] no statistical differences in pain intensity ($p > 0.05$) were observed between the control group (acupuncture or acupressure) and the control group (standard care).

Yinchu et al. [33] in their study highlight that the use of acupressure improves labour pain in low-risk pregnant women.

Music therapy

Only Smith et al. [31] through a SR shows results about music therapy during labour, specifically during the latent phase, a decrease in pain intensity was observed in the intervention group (music) compared to the control group (standard care) [MD] -0.73 (95% CI -1.01 to -0.45); ($p < 0.0005$).

Massage and reflexology

A SR by Smith et al. [30] shows a decrease in pain intensity in the intervention group (massage) compared to the control group (standard care) in the dilation period [DME] -0.81 (95% CI -1.06 to -0.56); ($p < 0.0001$), while no statistically significant differences were observed in the second stage of labour and delivery ($p > 0.05$). In the same study, lower levels of pain were observed in the intervention group (warm compresses) compared to the control group (standard care) in both the first and second stages of labour [SMD] -0.59 (95% CI -1.18 to -0.00); ($p = 0.05$) and [SMD] -1.49 (95% CI -2.85 to -0.13); ($p = 0.03$) respectively. On the other hand, the intervention group (other manual thermal methods) were also effective in reducing pain in the dilation period [MD] 1.44 (95% CI -2.24 to -0.65); ($p = 0$).

The RCT by Levett et al. [23] supports this finding as EA use in the intervention group (massage) was lower than in the control group (standard care): [RR] 0.35 (95% CI 0.23 to 0.52); ($p \leq 0.001$).

Therefore, massage, warm compresses and manual thermal methods can help to reduce pain, shorten the duration of labour and improve women's sense of control and emotional experience during labour.

Mind-body practices

The SR of Smith et al. [31] assesses pain intensity in intervention groups with mind-body relaxation practices including breathing techniques, yoga and meditation and control groups with standard care. A decrease in pain was observed in the intervention group with relaxation and mind-body techniques during the latent phase of labour [MD] - 1.25 (95% CI -1.97 to -0.53); (p = 0) and yoga techniques [MD] -6.12 (95% CI -11.77 to -0.47); (p = 0.03).

The RCT by Levett et al. [23] reports results along the same lines, as EA use in the intervention group (yoga and breathing techniques) was lower than in the control group (standard care): [RR] 0.35 (95% CI 0.23 to 0.52); (p ≤ 0.001).

Limitations

The main limitation of the study, the small number of studies published about the different methods of non-pharmacological analgesia during labor made it difficult to make comparisons with other studies. Likewise, the existing heterogeneity of the results was accepted, essentially due to the specific objectives set to examine and learn about the different non-pharmacological analgesic methods used, whether they are relaxation techniques, comfort measures and/or ways to control pain during the birth.

CONCLUSIONS

The main findings of this review include several areas that should be highlighted.

Firstly, the clinical implications of the subject matter of this review indicate that the results of the included studies on relaxation techniques during labour show a possible decrease in labour pain compared to usual care. In turn, there are results of moderate methodological quality showing a decrease in pain in the early stages of labour in those women in whom certain relaxation techniques were performed.

Even so, no study has found negative effects on the health of women and their babies, so it would be of interest to promote this type of therapy and study its follow-up.

In terms of research, it would be desirable for future research to follow the same line of investigation through the development of RCTs, due to the small number of studies present in the databases that analyse the different methods of non-pharmacological analgesia during childbirth. This aspect is recognised by all the authors included in this review.

With regard to the management of this type of therapy, it would be advisable for health professionals attending childbirth to receive ongoing training on the different pharmacological and non-pharmacological methods of analgesia, in order to develop analgesic strategies that encourage and favour the participation of women in decision-

making at the time of delivery. This work should be backed and supported by appropriate health and educational policies.

The current scenario in which these therapies are being developed is still far from complete. This review concludes that the approach to childbirth treated with this type of therapy favours the woman and the baby, although a more thorough and detailed study is needed to understand the scope of these therapies in greater depth. At the same time, specific training for health professionals on this subject is crucial for the evolution of this type of treatment.

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Appendix A

APPENDIX A. DESCRIPTORS USED IN SEARCH STRINGS.

SPANISH	ENGLISH	DEFINITION	FREE LANGUAJE
ANALGESIA	Analgesia	Pain relief methods that can be used with and/or instead of analgesics.	
OBSTETRIC ANALGESIA	Obstetrical Analgesia	Elimination of pain, without loss of consciousness, during PT, obstetric labour and the postpartum period usually by administration of analgesics.	Analgesic methods in childbirth
RELAXATION THERAPY	Relaxation Therapy	Treatment to improve the health condition through the use of techniques that can reduce physiological stress, psychological stress or both.	Relaxation techniques
LABOUR PAIN	Labor Pain	Pain associated with PT in labour. It is mostly caused by uterine contraction, as well as pressure on the cervix, bladder and gastrointestinal tract. Labour pain occurs mostly in the abdomen, groin and dorsum.	Pain in labour
OBSTETRIC DELIVERY	Delivery Obstetric	Expulsion of the foetus and placenta under the care of an obstetrician or health care assistant. Obstetric delivery may include physical, psychological, medical or surgical interventions.	Childbirth
LABOUR	Labor Obstetric	A repeated uterine contraction during labour that is associated with progressive dilatation of the cervix. PT may be spontaneous or induced.	Childbirth process
COMPLEMENTARY THERAPIES	Complementary Therapies	Therapeutic practices that are not currently considered an integral part of conventional allopathic medical practice. Therapies are referred to as complementary when used in conjunction with conventional treatments and as alternative when used in place of conventional treatment.	Alternative Therapies

Appendix B

APPENDIX B. METHODOLOGICAL ASSESSMENT OF INCLUDED STUDIES.

STUDIO	DESIGN	SCORE
ALLAMEH Z. et al. 2015	RCT	7/11
LEVETT KM. et al. 2016	RCT	8/11
ROQUE MAFETONI R. et al. 2016	RCT	7/11
GENÇ KOYUCU R. et al. 2018	RCT	911
CZECH et al. 2018	RCT	8/11
MADDEN K. et al. 2016	SR	9/10
BOHREN MA. et al. 2017	SR	9/10
CLUETT ER et al. 2018	SR	9/10
SMITH CA et al. 2018	SR	9/10
SMITH CA et al. 2018	SR	9/10
SMITH CA et al. 2020	SR	9/10

RCT: Randomized Clinical Trial; SR: Sistematic Review.

Appendix C

APPENDIX C. RESULTS OF THE LITERATURE SEARCH.

BASE OF DATA	SEARCH STRING	LIMITS	RESULTS OBTAINED	SELECTED RESULTS
Cochrane Library	[Obstetric analgesia] [Obstetric analgesia]	2015-2020	6	2
	[Analgesia AND Childbirth AND Relaxation techniques]	2015-2020	4	3
	[Birth pain AND Complementary therapies].	2015-2020	6	4
MEDLINE	[Analgesia AND Labor pain AND Relaxation therapy AND Delivery obstetric].	2015-2020 MEDLINE Journals	59	14
	[Analgesia AND Delivery obstetric AND Relaxation therapies].	2015-2020 MEDLINE Journals	97	15
	[Analgesia obstetric AND Complementary therapies AND Pain labor].	2015-2020 MEDLINE Journals	46	12
	[Analgesia obstetric AND Alternative therapies AND Pain labor].	2015-2020 MEDLINE Journals	80	10
Take care	[Analgesia AND Childbirth AND Relaxation techniques]		2	1
	[Analgesia AND Childbirth AND Complementary Therapies].		3	1
	[Analgesia AND Childbirth AND Alternative Therapies].		10	3
	[Obstetric analgesia AND Relaxation techniques].		1	1
	[Obstetric analgesia AND Alternative therapies].		2	0
LILACS	[Analgesia AND Childbirth AND Relaxation techniques]	2015-2020	1	1
	[Obstetric analgesia AND Relaxation techniques].	2015-2020	1	1
	[Analgesia AND Childbirth AND Complementary Therapies].	2015-2020	2	1
SciELO	[Obstetric analgesia] [Obstetric analgesia]	2015-2020	25	1
	[Analgesia AND Childbirth] [Analgesia AND Childbirth] [Analgesia AND Childbirth] [Analgesia AND Labour]	2015-2020	51	2

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