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USE OF NON-PHARMACOLOGICAL METHODS FOR PAIN RELIEF IN LABOR WOMEN ASSISTED BY OBSTETRICES IN A MATERNITY IN THE COUTRYSIDE OF SÃO PAULO, BRAZIL

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Abstract: Non-pharmacological methods are excellent humanized alternatives for pain management during labor. Concomitantly, it is necessary to insert midwives and nurse midwives in health services, since these professionals encourage the implementation of these techniques, in addition to encouraging humanization at birth. However, there is a low insertion of midwives in health services, which leads to theoretical and care gaps regarding the care provided by these professionals. This study aimed to verify the practice of performing (non) pharmacological methods for pain relief. Evaluate how non-pharmacological methods relate to the duration of labor, delivery position and lacerations; in addition to maternal and neonatal outcomes. This is a quantitative, descriptive cross-sectional study that analyzed 333 medical records of women who used non-pharmacological methods during labor conducted by midwives, from April 2017 to April 2020, in a maternity hospital in the countryside of São Paulo. Paulo, Brazil. Descriptive analyzes of (non)pharmacological pain relief methods, labor data, and maternal and neonatal outcomes were performed in Stata 14.2. As a result, it was found that the most used non-pharmacological method was change of position/verticalization (91.8%). It was found that 73.1% of women had rapid labor (< 4 hours), 45% adopted a semi-sitting position during delivery and 43.8% had no lacerations or only abrasions after delivery. As for maternal and neonatal outcomes, uterine contractility was observed after delivery (92.5%) and an Apgar score greater than seven in the 1st minute (89.2%) and in the 5th minute (97.3%) of life. It is concluded that the presence of midwives during the delivery process is an important factor that promotes humanized care, reducing unnecessary invasive procedures and increasing women's autonomy.

Keywords: Midwives; Humanized birth; Childbirth pain; Women's Health.

INTRODUCTION

For at least 20 years, obstetric practice and models have undergone significant changes, in favor of the rise of the humanization of labor and birth. However, even after 30 years of health policies and programs, maternal and neonatal health indicators in Brazil do not show the same evolution of improvement when compared to other countries (LEAL et al., 2018).

The Latin American Center for Perinatology (CLAP) advises that, for the birth scenario to change, it is essential to guarantee qualified and up-to-date professionals, better health services and effective care for mothers and newborns with practices based on scientific and humanized evidence (CLAP, 2014). With the call for qualified and trained professionals, both the World Health Organization (WHO) and the United Nations Population Fund (UNFPA) and the International Confederation of Midwives (ICM) reinforce the importance of teams composed of trained midwives (midwives), which, in Brazil, are represented by midwives and nurse-midwives (UNFPA, 2021).

On the national scene, the presence of qualified professionals linked to obstetrical nursing remains non-existent in private services, and with low performance (27%) in vaginal deliveries performed in the Unified Health System (SUS), a fact that is still below what is recommended by organs international and national (LEAL et al., 2019). When the focus turns to the performance of midwives, in this case, trained in Brazil, by the only course in Obstetrics offered by ``Universidade de São Paulo`` (Brazil), and with direct entry; there is also the difficulty of inserting these professionals in health services. As a result of this, there is a theoretical gap, and even care, about the care provided by Brazilian midwives (NARCHI; CRUZ; GONÇALVES, 2012; NARCHI; SILVA; GUALDA, 2012).

It must be noted that, even if assistance provided by midwives is reduced in Brazil, these professionals have a strong impact on the implementation of non-pharmacological methods (NPM) for pain relief during labor and on the types of choices that women do in relation to childbirth (WHO, 2018a). And, given the absence of these professionals, there tends to be a reduction in emotional support and an increase in medicalization in birth care, factors that may be related to the increase in pain intensity and non-positive experiences during labor and delivery (DAVIM; TORRES; DANTAS, 2009; WHO, 2018b).

A study on the performance of obstetrical nurses in hospitals contemplated by the strategic policy "Rede Cegonha" showed that women who were monitored by these professionals during the parturition process, obtained greater access and encouragement to use NFM for pain relief compared to parturients assisted by other professionals (GAMA et al., 2021).

As for the last aspect, more precisely pain, it is important to emphasize that despite the parturition scenario having changed over the years, pain continues to contribute to women's insecurity in relation to childbirth. And therefore, it is in this scenario that NFM emerge as excellent humanized alternatives for pain management during labor and delivery, incorporated into obstetric care as an option to replace invasive, analgesic and anesthetic techniques (HANUM et al., 2017). This way, with the aim of helping to reduce this fear and insecurity, the singularity of the NFM is reinforced as strategies to relieve and help women to experience labor in a more natural and respectful way, in addition to being a technique that it offers several benefits for pregnant women, allowing a resumption

of female autonomy (SOUSA et al., 2016; MASCARENHAS et al., 2019).

In general terms, it is evident that, among the best practices to achieve a positive experience of birth, there is the insertion of qualified professionals, in this case, midwives and obstetrical nurses, as well as the use of techniques and NFM to alleviate the pain in labor and birth as a response to reduced iatrogenic interventions.

In view of the above, and in view of the lack of research that addresses the assistance of midwives who work in health services, especially in the context of labor and delivery, this study is justified. Thus, the study aims to verify, based on the analysis of medical records, the practice of using (non) pharmacological methods for pain relief in parturients who were assisted by midwives. Evaluate how NFM for pain relief relate to duration of labor, delivery position, and lacerations in vaginal deliveries; in addition to maternal outcomes (uterine contractility and postpartum hemorrhage) and neonatal outcomes (Apgar scores and where the newborn was after birth).

METHODOLOGY

This is a quantitative, descriptive cross-sectional study that analyzed birth records attended by midwives, from April 2017 to April 2020, in a maternity hospital in the countryside of São Paulo, Brazil. This study is part of a broader research entitled: "*The scenario of care at birth and obstetric practices in a maternity hospital in the countryside of São Paulo (Brazil) after the inclusion of midwives in care*".

This study included women who used NFM and whose delivery was assisted by midwives, from April 2017 to April 2020, regardless of obstetric risk classification and maternal outcome. Exclusion criteria were: women who did not have their medical records identified in the birth registration book, a fact that makes it impossible to identify the medical records; women who had assistance provided by other health professionals, other than midwives and women who had ineligible medical records.

Data collection was carried out between March and July 2021, after approval of the study by the Research Ethics Committee of the School of Arts, Sciences and Humanities of ``Universidade de São Paulo`` (Process number 26425019.0.0000.5390).

To locate the medical records in the hospital collection, a survey was carried out in the birth registration book to locate and access the medical records of births that occurred in the desired period (April 2017 to April 2020). Data collected through medical records were transcribed into an instrument specifically designed for this study, based on hospital documents used to record the care provided during labor and delivery at the study site. Subsequently, the data collection instrument was digitized on the Research Electronic Data Capture (REDCap) platform. It must be noted that data were collected by health professionals who work in the maternity's obstetric center, who previously received training for data collection.

The data collection instrument was a questionnaire structured in six major axes. For this study, data on the characterization of the parturient and anamnesis were used; data on the evolution of the parturient and labor; and data referring to birth; with a focus on non-pharmacological methods of labor pain relief employed by midwives at the study site.

All statistical analyzes were performed using the Stata 14.2 statistical program (Stata Corp., College Station, USA). The results arising from the characterization of women, obstetric history, identification of non-pharmacological methods for pain relief and maternal and neonatal outcomes were treated descriptively, based on proportions, means and medians.

RESULTS

A total of 460 births were collected using the institution's own birth records book, which occurred in the presence of at least one midwife between April 2017 and April 2020. a sample of 333 medical records to be analyzed. Among the justifications for non-eligibility of 127 medical records, it is argued that 83 were elective cesarean sections, one for tubal ligation; 15 cesareans with clinical indications; 11 births without direct assistance from a midwife (doctor, nurse and midwife) and nine hospitalizations for clinical treatment. Eight exclusions were made, but without justification by the data collector, and a 2018 medical record was not found.

In view of the data presented in Table 1, most women were between 18 and 24 years old (47.8%), with the mean age of women being 24.2 years (sd=0.32), and they were white (54.4%).

Considering the obstetric history of the 333 women, the percentage of previous pregnancies was lower for one pregnancy (31.2%), and approximately equal for two pregnancies (34.0%) and three or more pregnancies (34.8%). As for the number of births prior to the current one recorded in the medical records, it was found that 33.3% of the women were nulliparous, 35.4% were primiparous and 31.2% were secundiparous or multiparous (Table 1). Of the 222 women who had had a previous delivery, 77.8% had had a vaginal delivery, 21.7% a cesarean delivery and 0.5% an instrumental delivery. Also, only 11.4% had had a previous abortion (data not shown in the table).

It can be identified that most of the women admitted and assisted by midwives had a gestational age (GA) between 37-40 weeks of gestation both by calculating the date of the last menstruation (LMP) (59.5%) and by ultrasonography (USG) (56.1%) (Table 1).

Adherence to prenatal care was almost unanimous (99.7%), and a minority of women had only two to six appointments (7.2%). It is noteworthy the fact that 42% of the women had intercurrences during pregnancy; however, the majority (67.0%) were classified as usual/low-risk pregnancies. The main reason for hospitalization, as expected, was labor (83.2%) (Table 1).

Based on the data from Table 2, it was observed that most women did not receive pharmacological methods, either to induce labor (83.8%) or during labor (78.4% of women did not receive oxytocin and 93.4% did not receive misoprostol). Regarding NFM for pain relief, it is evident that the most used methods were changes in position/verticalization (91.8%), aspersion bath (87.7%), walking or squatting (83.2%) and relaxation techniques (83.2%).

Table 3 presents the duration of labor, lacerations in vaginal deliveries and position of delivery, in parturients who used NFM for pain relief during labor. It was noted that the duration of labor was less than 4 hours in 73.1% of the cases. In 43.8% of vaginal deliveries, the lacerations were of the excoriation type or could still be classified as intact perineum; yet, 68.2% of lacerations did not require suturing. The semi-sitting position is still preferred by parturients in the maternity ward (45.0%), and the lithotomy position was the minority (3.7%).

Finally, maternal and neonatal outcomes observed among women who used MNF were positive. Most women had uterine contractility after delivery (92.5%) and, consequently, did not have postpartum hemorrhage (76.9%); and most newborns had an Apgar score greater than seven in the 1st and 5th minutes of life (89.2% and 97.3%, respectively), with 92.4% of newborns being placed in housing set after delivery.

Variables	Total	
	N	%
Sociodemographic characteristics		
Age		
14-17 years	37	11,1
18-24 years	159	47,8
25-39 years	137	41,1
Breed/color		
White	181	54,4
Brown	111	33,3
Black	39	11,7
Yellow	02	0,6
Gestational History		
Number of pregnancies		
A gestation	104	31,2
Two pregnancies	113	34,0
Three or more pregnancies	116	34,8
Parity		
Zero (no previous delivery)	118	35,5
A previous birth	111	33,3
Two or more previous deliveries	104	31,2
Gestational age (DUM*) (n=185)**		
< 37 weeks	15	8,1
37-40 weeks	110	59,5
40 weeks +1day – 42 weeks	54	29,2
> 42 weeks	06	3,2
Gestational age (USG*) (n=310) *****		
< 37 weeks	10	3,2
37-40 weeks	174	56,1
40 weeks +1 day – 42 weeks	126	40,7
> 42 weeks	-	-
Prenatal		
No	1	0,3
Yes	332	99,7
Number of prenatal appointments (n=332)		
Two to six appointments	24	7,2

Seven to ten appointments	131	39,5
> ten appointments	177	53,3
Pathology prior to pregnancy (n=257) *****		
No	242	94,2
Yes	15	5,8
Intercurrences in the current pregnancy (n=276) ******		
No	160	58,0
Yes	116	42,0
Hospitalization history		
Pregnancy classification		
It was not classified	88	26,4
Usual risk/low risk	223	67,0
High risk	22	6,6
Reason for hospitalization		
Induction of labor	56	16,8
Birth delivery	277	83,2
Total	**333**	**100**

Table 1 – Sociodemographic characteristics, gestational history and hospitalization of parturients who were admitted by midwives in a public maternity hospital in the state of São Paulo, Brazil. Conchal, 2017 – 2020.

*DUM= date of last menstruation.

**148 women had no record in the medical records or LMP was not calculated based on gestational age.

***USG=ultrasound.

****23 women there was no record in the medical record or LMP was not calculated by ultrasound.

*****76 medical records had no information regarding the pathology prior to pregnancy.

******57 medical records had no information regarding complications in the current pregnancy.

Variables	Total	
	N	%
Pharmacological methods used in labor and delivery		
Induction of labor		
No	279	83,8
Yes, only with misoprostol	26	7,8
Yes, only with oxytocin	17	5,1
Yes, with misoprostol and oxytocin	11	3,3
Oxytocin in labor		
No	261	78,4
Yes, in the latent and active phase of labor	15	4,5
Yes, in the active and expulsive phase	30	9,0
Yes, in all stages of labor (latency, active and expulsive))	27	8,1
Misoprostol in labor		
No	311	93,4
Yes	22	6,6
Non-pharmacological methods used in labor and delivery *		
Position/verticalization changes	145	91,8
Aspersion bath	143	87,7
Walking or squatting	109	83,2
Relaxation techniques **	74	83,2
Total	**333**	**100,0**

Table 2 – (Non) pharmacological methods used in labor and delivery conducted by midwives in a public maternity hospital in the state of São Paulo, Brazil. Conchal, 2017– 2020.

* The woman may have received more than one non-pharmacological method of pain relief.

**Relaxation=breathing exercise, use of a Swiss ball, massage, warm compress, aromatherapy, chromotherapy.

Variables	Total	
	N	%
Data related to labor and delivery		
Length of labor (n=323) *		
< 4 hours	236	73,1
Between 4 and 8 hours	77	23,8
> or = 9 hours	10	3,1
Delivery position (n=273) **		
Semi-sitting	123	45,0
Four supports	58	21,2
Vertical (stool, standing, squatting)	46	16,9

Lateralized	36	13,2
Lithotomy	10	3,7
Lacerations in vaginal births		
Vaginal without laceration or with skin abrasions	146	43,8
Vaginal with 1st degree laceration	120	36,1
Vaginal with 3rd or 4th degree lacerations	67	20,1
Need for perineal suture		
No	227	68,2
Yes	106	31,8
Maternal outcomes		
Uterine contractility		
No	25	7,5
Yes	308	92,5
Postpartum hemorrhage		
No	256	76,9
Yes	77	23,1
Neonatal outcomes		
Apgar score at 1st minute		
0	01	0,3
<5	09	2,7
5 – 7	26	7,8
> 7	297	89,2
Apgar score at 5th minute		
0	01	0,3
<5	01	0,3
5 – 7	07	2,1
> 7	324	97,3
Place the newborn went after birth		
Rooming-in	308	92,4
Incubator	21	6,4
Transferred to intensive care unit	04	1,2
Total	**333**	**100**

Table 3 – Data related to labor and delivery, and maternal and neonatal outcomes of deliveries performed by midwives in a public maternity hospital in the state of São Paulo, Brazil. Conchal, 2017 – 2020.

*10 medical records did not have a partogram and/or time of birth.

**60 medical records had no information regarding the position of delivery.

DISCUSSION

The results of this study made it possible to visualize the frequency of use of (non) pharmacological methods for pain relief during labor. It was found that most women did not receive pharmacological methods to induce labor or during labor. However, the use of non-pharmacological methods by midwives was notorious, with changes in position/verticalization, aspersion bath and walking/squatting being the most used methods.

The methods and techniques that encourage the change of position, verticalization of the parturient and walking are strong allies for the delivery mechanism. These techniques reduce the duration of labor, since gravity together with pelvic mobility act on myometrial coordination, that is, they increase uterine dynamics; in addition to contributing to cervical dilation, fetal descent and rotation (GALLO et al., 2011).

Likewise, the aspersion bath is another excellent method used as an instrument for pain relief in parturients. This technique is supported by heated water, which has the capacity to stimulate peripheral vasodilation and redistribution of blood flow, promoting muscle relaxation and, consequently, the reduction of labor pain (GALLO et al., 2011; HANUM et al., 2017).

It is known that pain does not depend only on biological factors, but also on psychological, social and cultural factors. Therefore, all the previous experiences of the parturient and the expectations generated during pregnancy can directly affect the way that each woman will go through the parturition process. As a result, high levels of anxiety during this period may contribute to increased physical pain during labor and delivery (MASCARENHAS et al., 2019; RUSSO et al., 2019).

The use of NFM as humanized alternatives for pain management during labor, in addition to reducing the perception of pain, reduces levels of anxiety and stress, making it possible to increase the parturient's degree of satisfaction in relation to childbirth (OSÓRIO et al., 2014; MEDEIROS et al., 2015). It must be noted that NFM for pain relief during labor and birth are more associated with the humanization of birth, in addition to contributing to better maternal and neonatal outcomes (GALLO et al., 2011).

Regarding maternal and neonatal outcomes observed in this study, these were positive among women who used NFM. Most women who used MNF showed uterine contractility and, consequently, did not experience postpartum hemorrhage; yet, most newborns had an Apgar score greater than seven in the 1st and 5th minute of life, in addition to going to rooming-in after birth. These results are similar to other studies that evaluated the use of NFM during labor, which observed benefits for neonates such as a reduction in respiratory distress and an increase in Apgar scores, both in the first and fifth minutes; which further reinforces the idea that NFM are safe resources (MEDEIROS et al., 2015; GALLO et al., 2018).

Another aspect that deserves attention was the duration of labor, which had a significant result, since more than 70% of the parturients - assisted by midwives - had a rapid evolution of labor, which, in line with the freedom of position at the time of delivery, being born together may have favored perineal integrity or minor perineal trauma, such as first-degree abrasions and lacerations.

In this context, it is visible that when implementing a philosophy of non-interventionist care, childbirth can be less stressful and more pleasant for women, in addition to significant results for the mother-baby binomial. Also, establishing that women are protagonists in this situation helps them to feel empowered during childbirth, enhancing the positive experience of childbirth (WHO,

2018b).

Regarding the sociodemographic profile and obstetric history of the parturients who used non-pharmacological methods, young, white women, with gestational age at term (37-40 weeks), classified as usual risk/low risk, and who were hospitalized for progression of the labor. Regarding the number of pregnancies and parity, most parturients are non-primiparous and nulliparous, similar data observed in other studies (SOUSA et al., 2016; KLEIN; GOUVEIA, 2022).

In this study, it was noted that parturients who had not previously given births used more non-pharmacological methods for pain relief during labor, which is in line with another study (SANTANA et al., 2019), which identified the use of more non-pharmacological methods by primiparous women than by multiparous women. In addition, authors point out that women who have given birth before have more elongated muscles, which causes the reception and conversion of pain to occur later, unlike women who have never given birth before, who use more NFM precisely because they have more pain (ERDOGAN; YANIKKEREM; GOKER, 2017; KLEIN; GOUVEIA, 2022).

A particularly significant data is that 99.7% of pregnant women who used NFM had prenatal care and 92.8% had more than six prenatal visits, the minimum number of visits recommended by the World Health Organization. The result observed between the number of prenatal consultations and the use of NFM may reflect the quality of prenatal care, since information is shared during prenatal care, which can contribute to knowledge about NFM for pain relief (CARVALHO et al., 2019).

It is also necessary to take into consideration that in the care provided by midwives in the maternity ward, located in the countryside of São Paulo (Brazil), techniques and NFM are used to relieve pain during labor and birth. Based on the results achieved, it can be seen that midwives, as well as nurse midwives, use good practices for a more respectful delivery and birth, less interventionist and seeking positive experiences for women.

The public policies instituted by the Ministry of Health in recent years on support and incentives for the qualification of care during labor and birth, introducing a model of collaborative childbirth, according to national guidelines, shows that the insertion of midwives to accompany the parturition process, contributes to quality care, less interventionist, more humanized, favoring the outcome of birth and contributing to the use of NFM (GAMA et al. 2021; PASCHE al., 2021). This way, the women in the study were cared for by qualified and trained professionals to provide the best obstetric care, and with less chance of using unnecessary interventions, a fact that may have provided the woman with greater security and comfort, thus contributing to maternal well-being.

The lack of records on the use of techniques and NPM for pain relief during labor and birth by midwives called our attention; however, we believe that this lack of data stems from the fact that the record in the medical records does not follow a protocol, that is, each professional chooses and performs the evolution of the parturient according to their precepts. The lack of a specific space, or even a form/document to record the use of these techniques and methods, may have contributed to the lack of information in a large percentage of the eligible medical records for this research.

As reflections for practice, it is reiterated the importance of noting the use of techniques and/or NFM for pain relief used in the patient's medical record, not only for future research, but also as a source of data for understanding the obstetric care provided in the hospitals and maternity wards.

The source of data used is considered as a limitation of this study, as the medical record is an important source of data to identify the conduct of care; however, especially in the patient's evolution, there is no standardization, so the data may not be recorded in its entirety.

Finally, the study can contribute to the evaluation of obstetric care in maternity hospitals, since it portrays the use of NFM, that is, compliance with good practices in labor and birth care. Therefore, this study can support actions to qualify obstetric and neonatal care with a view to achieving government proposals. In addition, this study indicates the importance of training and qualification of professionals who work in the delivery setting, so that they can use a model based on scientific evidence, which takes into consideration, humanization and guarantees women's rights.

CONCLUSION

The parturients, target of this study, were able to experience a shorter time of labor, absence of lacerations, more vertical positions - in addition to autonomy for the position - and positive maternal and neonatal outcomes, stating that the presence of midwives during the parturition process is an important factor that promotes humanized care, reducing unnecessary invasive procedures and increasing women's autonomy.

It is recommended to reinforce the continuing education of health professionals, in addition to midwives, with greater emphasis on good practices in childbirth care based on scientific evidence, in order to minimize unnecessary interventions. Midwives and nurse-midwives play an important role in assisting labor and birth, and can contribute to the implementation of continuing education activities as part of comprehensive and humanized care for parturients.

REFERENCES

CARVALHO, E. M. P. DE.; AMORIM, F. F.; SANTANA, L. A.; et al. **Avaliação das boas práticas de atenção ao parto por profissionais dos hospitais públicos do Distrito Federal, Brasil**. Ciência & Saúde Coletiva, v. 24, n. 6, p. 2135–2145, jun. 2019. DOI: 10.1590/1413-81232018246.08412019

CENTRO LATINO-AMERICANO DE PERINATOLOGIA, SAÚDE DA MULHER E REPRODUTIVA (CLAP). **Conjunto de Ferramentas para o fortalecimento da Parteria nas Américas**. 3 ed. Montevidéu: CLAP/SMR; 2014. Disponível em: <https://iris.paho.org/bitstream/handle/10665.2/49383/CLAP1599-03.pdf?sequence=3&isAllowed=y> Acesso em: 17 de jul. de 2023.

DAVIM, R. M. B.; TORRES, G. DE V.; DANTAS, J. DA C. **Efetividade de estratégias não farmacológicas no alívio da dor de parturientes no trabalho de parto**. Revista da Escola de Enfermagem da USP, v. 43, n. 2, p. 438–445, jun. 2009. DOI: 10.1590/S0080-62342009000200025

ERDOGAN, S. U.; YANIKKEREM, E.; GOKER, A. **Effects of low back massage on perceived birth and satisfation**. Complement Ther Clin Pract, v. 28, p. 169–175, ago. 2017. DOI: 10.1016/j.ctcp.2017.05.016.

GALLO, R. B. S; SANTANA, L. S.; MARCOLIN, A. C.; et al. **Recursos não farmacológicos no trabalho de parto: protocolo assistencial**. FEMINA. 2011; v.39, n.1. Disponível em: <http://files.bvs.br/upload/S/0100-7254/2011/v39n1/a2404.pdf> Acesso em: 17 de jul. de 2023.

GALLO, R. B. S.; SANTANA, L. S.; MARCOLIN, A. C.; et al. **Sequential application of non-pharmacological interventions reduces the severity of labour pain, delays use of pharmacological analgesia, and improves some obstetric outcomes: a randomised trial**. J. Physiother, v.64, n.1, p.33–40, jan. 2018. DOI: 10.1016/j.jphys.2017.11.014

GAMA, S. G. N.; VIELLAS, E. F.; MEDINA, E. T.; et al. **Atenção ao parto por enfermeira obstétrica em maternidades vinculadas à Rede Cegonha, Brasil – 2017**. Ciência & Saúde Coletiva, v. 26, n. 3, p. 919–929, mar. 2021. DOI: 10.1590/1413-81232021263.28482020

HANUM, S. P, MATTOS, D. V.; MATÃO, M. E. L.; et al. **Estratégias não farmacológicas para o alívio da dor no trabalho de parto: efetividade sob a ótica da parturiente**. Revista de Enfermagem UFPE on line. v. 11, n. 8, p. 3303-09, ago. 2017. DOI: 10.5205/1981-8963-v11i8a110197p3303-3309-2017

KLEIN, B. E.; GOUVEIA, H. G. **Utilização de métodos não farmacológicos para alívio da dor no trabalho de parto.** Cogitare Enfermagem, v. 27, p. e80300, 2022. DOI: 10.5380/ce.v27i0.80300

LEAL, M. DO C.; SZWARCWALD, C. L.; ALMEIDA, P. V. B.; et al. **Saúde reprodutiva, materna, neonatal e infantil nos 30 anos do Sistema Único de Saúde (SUS).** Ciência & Saúde Coletiva, v. 23, n. 6, p. 1915–1928, jun. 2018. DOI: 10.1590/1413-81232018236.03942018

LEAL, M. DO C.; Bittencourt, S. DE A.; Esteves-Pereira, A. P.; et al. **Avanços na assistência ao parto no Brasil: resultados preliminares de dois estudos avaliativos.** Cadernos de Saúde Pública, v. 35, n. 7, p. e00223018, 2019. DOI: 10.1590/0102-311x00223018

MASCARENHAS, V.H.; LIMA, T. R.; SILVA, F. M.; et al. **Evidências científicas sobre métodos não farmacológicos para alívio da dor do parto.** Acta Paulista de Enfermagem, v. 32, n. 3, p. 350–357, maio. 2019. DOI: 10.1590/1982-0194201900048

MEDEIROS, J.; HAMAD, G. B. N. Z.; COSTA, R. R. DE O.; et al. **Métodos não farmacológicos no alívio da dor no parto: percepção de puérperas**. Espac. Saúde, v.16, n.2, p.37-44, abr/jun. 2015. Disponível em: <https://arquivos.info.ufrn.br/arquivos/201608205736de31129168663d5038d03/20717-100220-1-PB.pdf> Acesso em: 17 de jul. de 2023.

NARCHI, N. Z.; CRUZ, E. F.; GONÇALVES, R. **O papel das obstetrizes e enfermeiras obstetras na promoção da maternidade segura no Brasil**. Ciência & Saúde Coletiva, v. 18, n. 4, p. 1059–1068, abr. 2013. DOI: 10.1590/S1413- 81232013000400019

NARCHI, N. Z.; SILVA, L. C. F. P. DA.; GUALDA, D. M. R. **Contexto, desafios e perspectivas na formação de obstetrizes no Brasil**. Saúde e Sociedade, v. 21, n. 2, p. 510–519, abr. 2012. DOI: 10.1590/S0104-12902012000200022

OSÓRIO, S. M. B.; SILVA JÚNIOR, L. G. DA; NICOLAU, A. I. O. **Assessment of the effectiveness of non-pharmacological methods in pain relief during labor**. Rev Rene, v. 15, n. 1, fev. 2014. DOI: 10.15253/2175-6783.2014000100022

PASCHE, D. F.; PESSATI, M.P.; SILVA, L. B. R. DE A.; et al. **Transição do modelo de ambiência em hospitais que realizam partos na Rede Cegonha**. Ciência & Saúde Coletiva, v. 26, n. 3, p. 887–896, mar. 2021. DOI: https://doi.org/10.1590/1413-81232021263.45262020

RUSSO, J.; NUCCI, M.; SILVA, F. L.; et al. **Escalando vulcões: a releitura da dor no parto humanizado**. Mana, v. 25, n. 2, p. 519–550, maio. 2019. DOI: 10.1590/1678-49442019v25n2p519

SANTANA, A. T. DE.; FELZEMBURGH, R. D. M.; COUTO, T. M.; et al. **Performance of resident nurses in obstetrics on childbirth care.** Revista Brasileira de Saúde Materno Infantil, v. 19, n. 1, p. 135–144, jan. 2019.

SOUSA, A. M. M.; SOUZA, K. V. DE.; REZENDE, E. M.; et al. **Práticas na assistência ao parto em maternidades com inserção de enfermeiras obstétricas, em Belo Horizonte, Minas Gerais.** Escola Anna Nery, v. 20, n. 2, p. 324–331, abr. 2016. DOI: 10.5935/1414-8145.20160044

UNITED NATIONS POPULATION FUND (UNFPA). **The state of the world's midwifery 2021.** New York: UNFPA; 2021. Disponível em: < https://www.unfpa.org/sowmy> Acesso em: 17 de jul. de 2023.

WORLD HEALTH ORGANIZATION (WHO). **Manual of better pain management techniques.** Geneva: WHO; 2018a. Disponível em: < http://breakthroughactionandresearch.org/wp-content/uploads/2020/10/BR_RMC_BETTER_Pain_Mgmt_Manual.pdf> Acesso em: 17 de jul. de 2023.

WORLD HEALTH ORGANIZATION (WHO). **WHO recommendations on intrapartum care for a positive childbirth experience.** Geneva: WHO; 2018b. Disponível em: < https://apps.who.int/iris/bitstream/handle/10665/272447/WHO-RHR-18.12-eng.pdf> Acesso em: 17 de jul. de 2023.