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USE OF NON-PHARMACOLOGICAL METHODS DURING CHILDBIRTH\*
USO DE MÉTODOS NÃO FARMACOLÓGICOS DURANTE O TRABALHO DE PARTO\*
USO DE MÉTODOS NO FARMACOLÓGICOS DURANTE EL TRABAJO DE PARTO\*

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#### **RESUMO**

Objetivos: identificar a prevalência e descrever o uso dos métodos não farmacológicos para o alívio da dor em parturientes durante o trabalho de parto em maternidades públicas. *Método*: trata-se de um estudo quantitativo, descritivo, transversal, realizado com 344 parturientes, por meio da análise de prontuários. Realizou-se a análise descritiva com frequências absolutas e relativas. *Resultados*: registra-se que a prevalência do uso de métodos não farmacológicos foi de 95,4%. Ofereceram-se cinco métodos para 35,5% das parturientes: o apoio profissional (86,6%), método mais oferecido; respiração (80,2%); banho morno (72,4%); bola (57,3%) e massagem (50,0%). *Conclusão*: conclui-se que a maior parte das parturientes recebeu métodos não farmacológicos para o alívio da dor durante o trabalho de parto, porém, esta prática deve ser aplicada a todas as mulheres, pois é uma ação baseada em evidências e incorporada como uma das estratégias prioritárias de assistência às parturientes.

**Descritores:** Parto Normal; Trabalho de Parto; Dor; Dor do Parto; Saúde da Mulher; Enfermagem Obstétrica.

#### **ABSTRACT**

Objectives: to identify the prevalence and describe the use of non-pharmacological methods for pain relief in pregnant women during childbirth in public maternity wards. *Method:* this is a quantitative, descriptive, cross-sectional study, carried out with 344 parturients, through the analysis of medical records. The descriptive analysis was carried out with absolute and relative frequencies. *Results:* it is recorded that the prevalence of the use of non-pharmacological methods was 95.4%. Five methods were offered to 35.5% of the parturients: professional support (86.6%), the most offered method; breathing (80.2%); warm bath (72.4%); ball (57.3%) and massage (50.0%). *Conclusion:* it is concluded that most women in labor have received non-pharmacological methods for pain relief during labor, however, this practice should be applied to all women, as it is an evidence-based action and incorporated as one of the priority strategies for assisting women in labor.

### **RESUMEN**

Objetivos: identificar la prevalencia y describir el uso de métodos no farmacológicos para el alivio del dolor en parturientas durante el trabajo de parto en maternidades públicas. *Método*: se trata de un estudio cuantitativo, descriptivo, transversal, realizado con 344 parturientas, mediante el análisis de historias clínicas. El análisis descriptivo se realizó con frecuencias absolutas y relativas. *Resultados*: se registra que la prevalencia del uso de métodos no farmacológicos fue del 95,4%. Se ofrecieron cinco métodos al 35,5% de las parturientas: el apoyo profesional (86,6%), el método más ofrecido; respiración (80,2%); baño tibio (72,4%); pelota (57,3%) y masaje (50,0%). *Conclusión:* se concluye que la mayoría de las parturientas recibieron métodos no farmacológicos para el alivio del dolor durante el trabajo de parto, sin embargo, esta práctica debe ser aplicada a todas las mujeres, ya que es una acción basada en la evidencia e incorporada como una de las estrategias de atención prioritaria a las parturientas.

**Descriptores**: Parto Normal; Trabajo de Parto; Dolor; Dolor do Parto; Salud de la Mujer; Enfermería Obstétrica.

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# **INTRODUCTION**

It is known that the perception of labor encompasses different views, talking about both its physiological and psychological changes. The end of pregnancy is understood as a moment that requires special attention to pregnant women because, in many cases, they are insecure and afraid of experiencing the moment of childbirth.<sup>1</sup>

It is noted that physiological changes during labor stimulate the release of hormones such as oxytocin, which contributes both to emotional and behavioral changes in women in labor and the emergence of much more rhythmic uterine contractions, which assist in the process of dilation of the cervix, forcing the passage of the child through the vaginal canal. The extremely common consequence of this process is the appearance of pain in women during labor.<sup>2</sup>

Pain in labor is characterized as physiological. It is observed that labor alone generates anguish, fears, and anxiety, which can potentiate pain. The pain is thus perceived differently by each woman. It is considered that minimizing these feelings is essential for the woman to have a positive experience.<sup>3</sup>

It is essential to relieve the pain of the parturient, which can be done through non-pharmacological methods, including physical and emotional support. It is important to emphasize that these practices are scientifically proven and promote, besides pain relief, the reduction of stress and maternal anxiety.<sup>4-5</sup>

It is understood that non-pharmacological techniques for pain relief and the possibility of active participation of pregnant women in their labor are tools that bring positive results, not only for the improvement of the care provided but, mainly, on the whole course of labor and the way the body responds to these actions.<sup>6</sup>

It is evaluated, in relation to the use of non-pharmacological methods for the relief of pain during labor, that health professionals should reflect a lot about their own values and beliefs, so that this does not interfere in their way of assistance and management of pain to the pregnant women, and in this way they should seek to support them in all their decisions during this very important moment. It is emphasized that, whatever the woman's choice, she must be respected and encouraged and, during all the labor assistance, the woman must be offered the use of non-pharmacological methods for the relief of pain, which can be performed through several techniques, such as warm shower, breathing exercises, ball exercises, relaxing massage, among other strategies that are also used aiming at the woman's well-being.<sup>7</sup>

# **OBJECTIVES**

To identify the prevalence and describe the use of non-pharmacological methods for pain relief in pregnant women during childbirth in public maternity wards.

## **METHOD**

It is a quantitative, descriptive, cross-sectional study.

It should be noted that this study is part of a larger project entitled "Evaluation of normal childbirth care in public maternity hospitals in a city in the South of Brazil", being carried out in two public maternity hospitals of reference for the care of pregnant women by the Unified Health System (UHS) in the city of Londrina (PR).

The population was composed of 344 women who had a normal delivery during the collection period and who agreed to participate voluntarily, excluding women with unfavorable clinical conditions to respond to the survey (resulting from any serious complication related to pregnancy

or childbirth) or the absence of a responsible person to sign the Free and Informed Consent Term (FICT), when the woman was under 18 years old.

The data was collected through the analysis of medical records and interviews with women, from January to June 2017, using a semi-structured instrument composed of sociodemographic variables (maternal age, years of study, marital status and paid activity) and obstetrics (parity, number of prenatal consultations, gestational age), in addition to questions on the use of non-pharmacological methods for pain relief.

The data obtained in Microsoft Excel for Windows® 2010 were tabulated by importing them into the Statistical Package for the Social Science software, version 20.0. The descriptive analysis was carried out by calculating absolute and relative frequencies.

It should be noted that the study complied with the regulatory standards for research with human beings, being approved by the Committee on Ethics in Research with Human Beings, under CAAE No. 57408616.0.0000.5231.

## **RESULTS**

It was shown, in a brief characterization of the participants, that most of the women were aged between 20 and 34 years, good education (82.2%), however, without paid activity (63.1%), with partner (90.7%), primiparous (38.4%), with adequate prenatal care (82.2%) and term pregnancy at the time of delivery (96.1%).

There was a prevalence of the use of non-pharmacological methods for pain relief in women who had a normal delivery in public maternity hospitals (Table 1).

Table 1. Total prevalence of the use of non-pharmacological methods for pain relief in women who had a normal delivery in public maternity hospitals. Londrina (PR), Brazil, 2017.

Variable	N	%
Use of non-pharmacological methods		
Yes	328	95.4
No	16	4.6

A set of five non-pharmacological methods for pain relief is indicated (Table 2).

Table 2. Prevalence of the number of non-pharmacological methods for pain relief used in women who had a normal delivery in public maternity hospitals. Londrina (PR), Brazil, 2017.

Variable	N	%				
Number of non-pharmacological pain relief methods used						
Five methods	122	35.5				
Four methods	73	21.2				
Three methods	53	15.4				
Two methods	52	15.1				
One method	28	8.1				

None 16 4.7

The methods used by women were reported, according to table 3.

Table 3. Specific prevalence of the use of each non-pharmacological method for pain relief in women who had a normal delivery in public maternity hospitals. Londrina (PR), Brazil, 2017.

Variable	Yes		No		
	N	%		N	%
Method Used					
Professional support		298	86.6	46	13.4
Orientation in breathing		276	80.2	68	19.7
Warm bath		249	72.4	95	27.6
Use of the ball		197	57.3	147	42.7
Body massage		172	50	172	50

#### **DISCUSSION**

It is noted that the prevalence of the use of non-pharmacological methods in this study was 95.4%, being considered high when compared to other studies. In a cross-sectional study conducted in a university hospital in southern Brazil, with 586 puerperals, a prevalence of 77.9% was found and, in another one held in Curitiba (PR), with 100 puérperas, the prevalence of 62.0% was presented.9

A randomized study using non-pharmacological methods was found to have, as results in the experimental group, decreased pain intensity, faster expulsion period, better fetal vitality and greater maternal contentment with childbirth, emphasizing no dissatisfaction. Another study was corroborated, which stated that the reduction of labor time and pain provided by the use of non-pharmacological methods promotes good feelings in the experience of labor and childbirth.

It is observed, among the puerperals that received methods for pain relief, that the supply of methods in set predominated, being that 35.5% received five methods (professional support, orientation in the breathing, warm bath, use of the ball and corporal massage). It is understood that this result is in line with a survey conducted at a public hospital in Porto Alegre (RS) in which the women who were pregnant also used a set of non-pharmacological methods for pain relief during the birth and delivery process.<sup>12</sup>

It is noted that the combination of methods provides comfort and decreases stress and fear, providing a humanized assistance.<sup>13</sup>

It is noticeable that the method most referred by the women in this study was the professional support (86.6%), given corroborated by a qualitative study conducted in Campina Grande (PB), with 11 puerperals, in which 73.0% reported the professional support as a non-pharmacological method

for the relief of pain.<sup>11</sup> It is understood that professional support during labor develops a warm and peaceful environment so that theturient feels more calm and prepared for the moment she will experience.<sup>14</sup>

It is noteworthy that guidance on how the woman should breathe during labor was the second most widely used method (80.2%, well above that found in a study in which only 33.8% of women used breathing techniques for pain relief).9

It is emphasized that the orientation of breathing techniques decreases the sensation of pain and the duration of labor. 15 However, it is more effective when performed in the expulsive period, in which the woman in labor, by the dominion of her breathing, promotes relaxation. 16

Warm bath was used by 72.4% of the women interviewed, a rate similar to that of a study<sup>9</sup> in which 66.6% of the women reported using bath as a method to alleviate pain, but far above a study conducted in two maternity hospitals in Rio de Janeiro, in which only 23.48% of the women reported using bath as a form of pain relief during labor.<sup>17</sup> It is evaluated that the warm bath should always be indicated to the parturients, because the heating induces the peripheral vasodilatation and the redistribution of the blood flow, promoting the muscular relaxation. The mechanisms of pain relief include the reduction of cortisol release and  $\beta$ -endorphins and the increase of noradrenaline secretion.<sup>18-9</sup>

The use of the ball as a strategy for pain relief was registered in 57.3% of the women in labor.

As a result, in a randomized study conducted in São Paulo in 2010, in which 15 parturients were recruited, it was found that the use of the ball associated with the sprinkler bath contributed significantly to the reduction of the pain score, thus reducing the stress and anxiety of the parturient.<sup>19</sup>

The Swiss ball is a well accepted resource for pregnant women during labor, contributing to their active participation, helping in the comfort and relief of pain and favoring the descent of the fetus by adopting the vertical position.<sup>20</sup> It is important to emphasize that the vertical position is stimulated during labor, as it favors the force of gravity, positions the fetal axis and the mother's pelvis and improves perineal muscle relaxation, providing a faster descent and fetal progression.<sup>21</sup>

Finally, the use of relaxing massage was detected in 50.0% of the studied women, which shows a higher rate than that found in a survey conducted in Rio Grande do Sul, where only in 10.0% of the births was massage used as a method for the relief of pain.<sup>22</sup>

It is noted that body massage stimulates the sensory receptors, through systemic touch and tissue manipulation, increasing blood flow and tissue oxygenation, thus producing sensations of pleasure or well-being. $^{9,23-4}$ 

It should be noted that this study had limitations related to the exclusion of other types of nonpharmacological pain relief methods and, as for external validity, the data represents the practice of local childbirth care and should probably not be generalized in other contexts.

### CONCLUSION

It is concluded from the results obtained that the prevalence of the use of non-pharmacological methods was high when compared to other studies, showing that their use has been widespread as an essential form of assistance during labor for pain management, which should continue to occur over the years, because these methods bring benefits, in an integral way, for pregnant women in this period, improving their emotional side and also bringing pain relief and making them feel much stronger, safer and calmer to experience childbirth.

It is reinforced, in relation to the individual use of each method, that the professional support and the breathing guidance were the main strategies used during labor assistance, bringing, as a result, calmer and more prepared parturients to experience the moment of labor before the professional support and a great reduction of fatigue during the breathing exercises, which provide the necessary oxygenation, both for the mother and the fetus, and also help in the control of anxiety.

It is thus evident that the use of non-pharmacological methods for pain relief should be widely disseminated as one of the priority forms of assistance to women during the moment of parturition, because by putting these various strategies into practice and offering them, labor is experienced in a new way and under a new look, from feelings and positive sensations that can arise for these pregnant women, showing them how much it is possible to experience this moment as it should be, in a more peaceful way and with the relief of pain when using these tools, ensuring that these women come out with good experiences about the perception of how it is possible to manage pain during childbirth, without necessarily needing the use of medication techniques for pain relief.

## **REFERENCES**

- 1.Tostes NA, Seidl EMF. Expectant mother's expectations for birth and their perceptions of delivery and birth preparation. Temas Psicol. 2016 June; 24(2):681-93. DOI: 10.9788/TP2016.2-15
- 2. Rezende J. Obstetrícia. 12th ed. Rio de Janeiro: Guanabara Koogan; 2013.
- 3. Cherobin F, Oliveira AR, Brisola AM. Acupuncture and auriculotherapy as non-pharmacological pain relief methods in the childbirth process. Cogitare Enferm [Internet]. 2016 July/Sept [cited 2019 Aug 10]; 21(3): 01-8. Available from: <a href="https://revistas.ufpr.br/cogitare/article/view/45152/pdf">https://revistas.ufpr.br/cogitare/article/view/45152/pdf</a>
- 4. Ministério da Saúde (BR), Universidade Estadual do Ceará. Humanização do parto e do nascimento [Internet]. Brasília: Ministério da Saúde; 2014 [cited 2019 Aug 10]. Available from:

http://www.redehumanizasus.net/sites/default/files/
caderno humanizasus v4 humanizacao parto.pdf

- 5. Damasceno DC. A importância do parto humanizado: atenção da equipe de Enfermagem. FACIDER Rev Científica [Internet]. 2015 [cited 2019 Aug 10]; 7:13-21. Available from: <a href="http://docplayer.com.br/30834519-A-importancia-do-parto-humanizado-atencao-da-equipe-de-enfermagem.html">http://docplayer.com.br/30834519-A-importancia-do-parto-humanizado-atencao-da-equipe-de-enfermagem.html</a>
- 6. Possati AB, Prates LA, Cremonese L, Scarton J, Alves CN, Ressel LB. Humanization of childbirth: meanings and perceptions of nurses. Esc Anna Nery Rev Enferm. 2017 Aug; 21(4):e20160366. DOI: 10.1590/2177-9465-ean-2016-0366
- 7. Ministério da Saúde (BR), Secretaria de Ciência, Tecnologia e Insumos Estratégicos, Departamento de Gestão e Incorporação de Tecnologias em Saúde. Diretrizes Nacionais de assistência ao parto normal [Internet]. Brasília: Ministério da Saúde; 2017 [cited 2019 Aug 10]. Disponível em: <a href="http://bvsms.saude.gov.br/bvs/publicacoes/diretrizes nacionais assistencia parto normal.pdf">http://bvsms.saude.gov.br/bvs/publicacoes/diretrizes nacionais assistencia parto normal.pdf</a>
- 8. Mielke KC, Gouveia HG, Gonçalves CA. The practical of non-pharmacological methods for relieving the pain of childbirth in a universitary hospital in Brazil. Av Enferm. 2019 Jan/Apr; 37(1): 47-55. DOI: 10.15446/av.enferm.v37n1.72045
- 9. Apolinário D, Rabelo M, Wolf LDG, Souza SRRK, Leal GCG. Practices in delivery and birth care from mothers' perspective. Rev Rene. 2016 Jan/Feb; 17(1):20-8. DOI: 10.15253/2175-6783.2016000100004
- 10. Gallo RBS, Santana LS, Marcolin AC, Duarte G, Quintana SM. 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. 2018 Jan; 64(1):33-40. DOI: 10.1016/j.jphys.2017.11.014
- 11. Medeiros J, Hamad GBNZ, Costa RRO, Chaves AEP, Medeiros SM. Non-pharmacological methods in pain relief in childbirth: women's perception after childbirth. Espaç Saúde [Internet]. 2015 Apr/June [cited 2016 May 05];16(2):37-44. Available from: <a href="http://arquivos.info.ufrn.br/arquivos/201608205736de31129168663d5038d03/20717-100220-1-PB.pdf">http://arquivos.info.ufrn.br/arquivos/201608205736de31129168663d5038d03/20717-100220-1-PB.pdf</a>
- 12.Lehugeur D, Strapasson MR, Fronza E. Non-pharmacological management of relief in deliveries assisted by an obstetric nurse. J Nurs UFPE on line [Internet]. 2017 Dec [cited 2019 Aug 10]; 11(12): 4929-37. Available from: <a href="https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/22487/25308">https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/22487/25308</a>

- 13. Gomes ECH, Davim RMB. Practice of the obstetric nurse in relation to the relief of the parturient's pain. J Nurs UFPE on line. 2018 Dec; 12(12):3426-35. DOI: 10.5205/1981-8963-v12i12a237709p3426-3435-2018
- 14. Melo LPT, Doudou HD, Rodrigues ARM, Silveira MAM, Barbosa EMG, Rodrigues DP. Practices of health professionals in delivery and birth care. Rev Rene. 2017 Jan/Feb; 18(1):59-67. DOI: 10.15253/2175-6783.2017000100009
- 15. Mascarenhas VHA, Lima TR, Silva FMD, Negreiros FS, Santos JDM, Moura MAP et al. Scientifi c evidence on non-pharmacological methods for relief of labor pain. Acta Paul Enferm. 2019 May/June; 32(3):350-7. DOI:10.1590/1982-0194201900048
- 16. Yuksel H, Cayir Y, Kosan Z, Tastan K. Effectiveness of breathing exercises during the second stage of labor on labor pain and duration: a randomized controlled trial. J Integr Med. 2017 Nov; 15(6):456-61. DOI: 10.1016/S2095-4964(17)60368-6
- 17. Vargens OMC, Silva ACV, Progianti JM. The contribution of nurse midwives to consolidating humanized childbirth in maternity hospitals in Rio de Janeiro-Brazil. Esc Anna Nery Rev Enferm [Internet]. 2017 Feb [cited 2019 Aug 10]; 21(1):e20170015. Available from: <a href="http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S1414-81452017000100215&lng=en">http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S1414-81452017000100215&lng=en</a>
- 18. Henrique AJ, Gabrielloni MC, Rodney P, Barbieri M. Nonpharmacological interventions during childbirth for pain relief, anxiety, and neuroendocrine stress parameters: a randomized controlled trial. Int J Nurs Pract. 2018 June; 24(3):e12642. DOI:10.1111/ijn.12642
- 19. Barbieri M, Henrique AJ, Chors FM, Maia NL, Gabrielloni MC. Warm shower aspersion, perineal exercises with Swiss ball and pain in labor. Acta Paul Enferm. 2013; 26(5):478-84. DOI: 10.1590/S0103-21002013000500012
- 20. Taavoni S, Sheikhan F, Abdolahian S, Ghavi F. Birth ball or heat therapy? A randomized controlled trial to compare the effectiveness of birth ball usage with sacrum-perineal heat therapy in labor pain management. Complement Ther Clin Pract. 2016 Aug; 24:99-102. DOI: 10.1016/j.ctcp. 2016.04.001
- 21. Henrique AJ, Gabrielloni MC, Cavalcanti ACV, Melo PS, Barbieri M. Hydrotherapy and the swiss ball in labor: randomized clinical trial. Acta Paul Enferm. 2016 Nov/Dec; 29(6):686-92. DOI: 10.1590/1982-0194201600096
- 22. Reis TR, Zamberlan C, Quadros JS, Grasel JT, Moro ASS. Obstetric Nurses: contributions to the objectives of the Millennium Development Goals. Rev Gaúcha Enferm. 2015 Nov; 36(Spe):94-101. DOI: 10.1590/1983.1447.2015.esp.57393

23. Gayeski ME, Brüggemann OM. Non-pharmacological approach to pain relief during labor as hard-light care technology: a systematic review. Texto contexto-enferm. 2010 Oct/Dec; 19(4):774-82. DOI: 10.1590/S0104-07072010000400022

24. Gallo RBS, Santana LS, Marcolin AC, Ferreira CHJ, Duarte G, Quintana SM. Non-pharmacological resources in labor: care protoco. Femina [Internet]. 2011 Jan [cited 2017 Jan 28]; 39(1):41-8.

Available from: <a href="http://files.bvs.br/upload/S/0100-7254/2011/v39n1/a2404.pdf">http://files.bvs.br/upload/S/0100-7254/2011/v39n1/a2404.pdf</a>

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