

Use of non-pharmacological methods during labor: a cross-sectional observational study**Uso dos métodos não farmacológicos durante o trabalho de parto: estudo observacional transversal****Uso de los métodos no farmacológicos durante el trabajo de parto: estudio observacional transversal**

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This study aimed to describe the frequency of use of non-pharmacological methods for pain relief and its characteristics. A quantitative, cross-sectional, and descriptive study was carried out at the Maternity ward of the Uberlândia General Hospital, Minas Gerais, Brazil, between January and June 2017, with 82 women who had recently given birth. Of the women surveyed, 92.7% were informed about the methods, and the most used were: respiratory exercises in 93.9% of cases, showers in 82.9%, and walking in 81.7%; 93.3% had a companion and 81.7% participated actively in the exercises. It was concluded that in this institution most parturients were oriented, and one or more non-pharmacological methods for pain relief were used.

Descriptors: Humanizing delivery; Labor pain; Labor, Obstetric; Obstetric nursing; Analgesia Obstetrical.

Esta pesquisa teve como objetivo descrever a frequência do uso dos métodos não farmacológicos de alívio da dor e suas características. Realizou-se um estudo quantitativo, transversal e descritivo no Alojamento Conjunto do Hospital de Clínicas de Uberlândia, entre janeiro e junho de 2017, com 82 puérperas. Das mulheres pesquisadas, 92,7% foram informadas sobre os métodos, sendo os mais utilizados: exercícios respiratórios em 93,9% dos casos, banho de chuveiro em 82,9% e deambulação em 81,7%; 93,3% tiveram a presença de um acompanhante, sendo que 81,7% participaram ativamente dos exercícios. Concluiu-se que, nesta instituição, a maioria das parturientes foram orientadas e utilizaram alguns dos métodos não farmacológicos de alívio da dor.

Descritores: Parto humanizado; Dor do parto; Trabalho de parto; Enfermagem obstétrica; Analgesia obstétrica.

Esta investigación tuvo como objetivo describir la frecuencia del uso de los métodos no farmacológicos de alivio del dolor y sus características. Se realizó un estudio cuantitativo, transversal y descriptivo en el Alojamiento Conjunto del Hospital de Clínicas de Uberlândia, Minas Gerais, Brasil, entre enero a junio de 2017, con 82 puérperas. De las mujeres investigadas 92,7% fueron informadas sobre los métodos, siendo los más utilizados: ejercicios respiratorios por 93,9%, baño de ducha por 82,9% y la deambulaci3n por 81,7%; 93,3% tuvieron la presencia de un acompañante, siendo que 81,7% participaban activamente de los ejercicios. Se concluy3 que en esta instituci3n la mayoría de las parturientas fueron orientadas y utilizaron alguno de los métodos no farmacológicos de alivio del dolor.

Descritores: Parto humanizado; Dolor de parto; Trabajo de parto; Enfermería obstétrica; Analgesia obstétrica.

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INTRODUCTION

Labor is characterized as a natural phenomenon. However, it has been demonstrated that the pain triggered at this moment is something very subjective and complex for each woman. It is seen as a very particular experience from person to person¹. This moment is attended by obstetrical nurses and other health professionals, who work with the purpose of reducing stressors and promoting the preparation for childbirth itself, through orientation and application of strategies that provide safety and comfort for the parturients¹.

In this sense, the World Health Organization (WHO) recommends the use of non-pharmacological methods for pain relief (NPMPR)², which are a "clearly useful conduct that should be encouraged" to increase pain tolerance and to decrease the stress and anxiety of women during labor². They act to promote the relaxation of pregnant women, increasing the bond between them and their companion, reducing the unnecessary use and risk of drugs and their side effects³.

The NPMPR types can be: breathing exercises, showers or immersion baths, ambulation, lumbosacral massages, Bobath ball exercises, music therapy, squatting exercises, pelvic balance⁴, continuous support, transcutaneous electric nerve stimulation (TENS), and others⁵. Despite the wide variety of NPMPRs, it is important to know all methods available before delivery, since it is each woman is recommended to choose according to their preference⁶.

The main advantage in the use of NPMPRs is the reinforcement and respect of the autonomy of parturients, allowing them to have the main role during labor and birth⁵. For these reasons, during the prenatal follow-up, an adequate preparation is recommended, with the involvement and participation of the pregnant woman and her companion, in order

to ensure that the experience of labor and delivery can be safer and less painful.

Another important aspect is the training of health professionals from institutions that provide assistance to women through the parturition process, since it is known that the use of NPMPR in obstetric care is not a routine in the vast majority of health services, which can be justified by the lack of knowledge of the benefits of these resources by both the health professional and the population⁵.

Considering the scientific evidence of the benefits related to the use of NPMPRs during obstetric care,⁷ this research aims to describe the frequency of these actions and their characteristics.

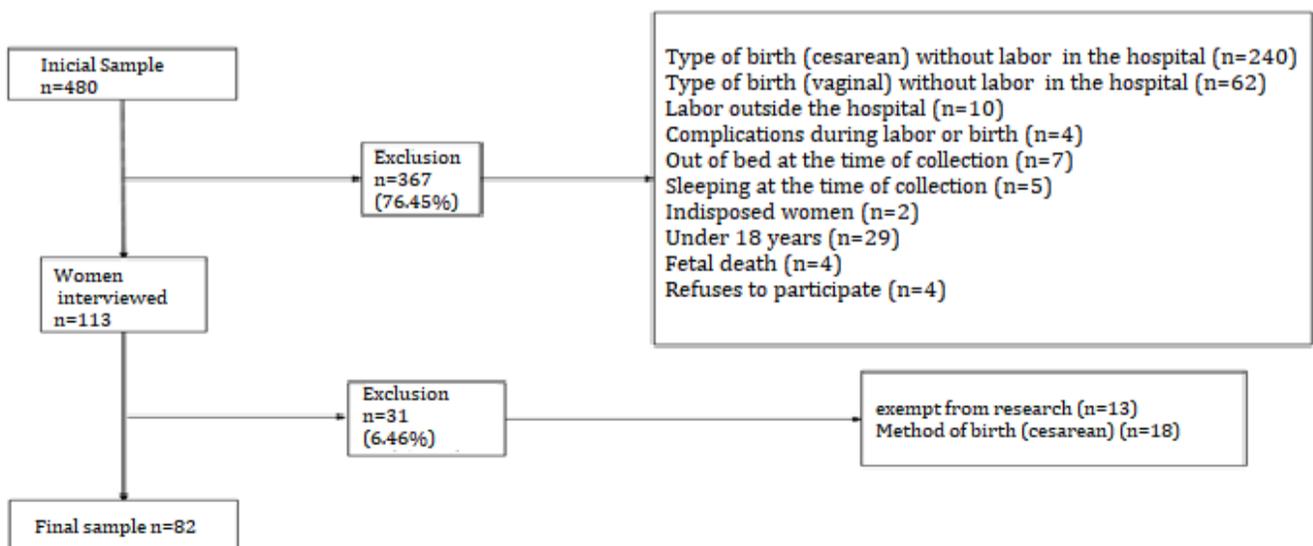
METHOD

This is a quantitative, cross-sectional and descriptive study, developed in the Maternity Ward (AC) of the Uberlândia General Hospital, a reference school hospital in medium and high complexity assistance in the Northern Triangle region and the largest Unified Health System (SUS) service provider in Minas Gerais.

The sample considered for the study included 82 postpartum women hospitalized in this sector, who were 18 years or more, admitted in the joint accommodations, had vaginal labor and delivery in the hospital considered in the study. Women who, at the time of data collection, were indisposed, sleeping or out of bed, those who refused to participate in the research, or who had suffered complications during delivery, or had cases of fetal death were excluded from the survey.

The G*Power software version 3.18 was used to perform the sample calculation⁸. It was based on the binomial exact test (proportion), with expected effect size of 0.3, an alpha level of 0.05 and 99% test power generating a minimum sample of 82 individuals. Image 1 shows the process of selection of puerperal women.

Image 1 Selection of puerperal women for the study. Uberlândia (MG), Brazil, 2017.



Data collection took place between January and June 2017 and was performed through a semi-structured interview and medical record analysis, after clarifying the objectives, risks and benefits of the present study to the participants and the signing of the Free and Informed Consent Form (FICF). Data collection took place in a private environment of the sector, in order to guarantee the privacy and confidentiality of the information reported by the puerperal women. The research was submitted to the Research Ethics Committee and approved under Protocol 1.864.935.

Data was organized in Microsoft Excel Professional Plus 2016, through double input, in order to guarantee fidelity in the transcription of the data. A data dictionary (Codebook) was made with the specification of all the variables addressed in the questionnaire. After this step the descriptive analysis was performed in the statistical program SPSS, version 20.0.

RESULTS

The age of the 82 participants ranged from 18 to 41 years old, 52.4% were between 18 and

24 years old, 64% declared their marital status as single, 43.9% had completed high school and only 3.7% had college education. Regarding the work activity, 56.1% worked in housekeeping.

Regarding the obstetric history, most women stated that they did not have diseases before and during pregnancy; 67.1% were multiparous, with only 15.9% reporting a previous cesarean; 76.8% had no previous abortions. Considering the current obstetric situation, it was observed that gestations lasted from 37 to 40 weeks (87.8%) and 96.3% underwent vaginal delivery without the use of forceps.

In relation to the newborn, the declared Apgar score was between 7 and 10 in the 1st (93,9%) and 5th minutes (97,6%) of life, respectively. As for the presence of a companion, most women answered positively, and the father of the child was the most cited, as described in Table 1.

Table 2 shows the knowledge of the participants and their companions' about the NPMPR.

Table 1 - Variables associated with the companion during labor and delivery. Uberlândia (MG), Brazil, 2017.

Variable	Sample	
	n (82)	100 (%)
Presence of companion during labor		
Yes	77	93.9
No	5	6.1
Companion length of stay during labor*		
More than half the time	75	91.5
Half of the time or less	2	2.4
Who was the companion during labor*		
Child father	43	52.4
Others	18	23.2
The woman's mother	16	19.5
Presence of companion during birth		
Yes	71	86.6
No	11	13.4
Who was the companion during birth *		
Child father	41	50.0
The woman's mother	15	18.3
Others	15	18.3

*Questions asked only to women who had a companion

Table 2 - Variables related to the knowledge of parturients about non-pharmacological methods for pain relief. Uberlândia (MG), Brazil, 2017.

Variable	Sample	
	n (82)	100 (%)
The companion was previously informed about their role in assisting the woman during labor		
No	68	82.9
Yes	14	17.1
The parturient thinks that it is important for the companion to be informed		
Yes	72	87.8
No	10	12.2
The parturient knew, before the delivery, about the NPMPR		
Yes	64	78.0
No	18	22.0
What or who informed the parturient about NPMPR prior to labor*		
Professional	25	30.5
Research or study	23	28.0
Friends and parents	11	13.5
The parturient woman's Health Record	5	6.0

*Questions asked to parturients who knew NPMPR before labor. NPMPR: Non-pharmacological methods for pain relief.

Table 3 shows the main NPMPR used during labor by the parturients, as well as the

description of the professionals who assisted in their use.

Table 3 - Variables related to the use of NPMPR by the parturients. Uberlândia (MG), Brazil, 2017.

Variable	Sample	
	n(82)	100 (%)
During labor, parturients were informed about NPMPR		
Yes	76	92.7
No	6	7.3
NPMPR used		
Breathing Exercises	77	93.9
Shower	68	82.9
Ambulation	67	81.7
Lumbosacral massages	56	68.3
Bobath ball exercises	55	67.1
Squatting and Pelvic Swing	47	57.3
Immersion bath	0	0.0
Music for relaxation	0	0.0
Professional who assisted in the use of the NPMPR		
Nurse	30	36.6
More than one professional	26	31.7
Obstetric Physician	15	18.3
Medical resident student	11	13.4
The companion helped to use the NPMPR		
Yes	67	81.7
No	15	18.3
Whether the companion was instructed during labor to help the woman*		
Yes	56	68.3
No	11	13.4

*Question asked only to the companions who helped using the NPMPR. NPMPR: Non-pharmacological methods for pain relief.

DISCUSSION

Most women were informed about the existence of the NPMPR in the General Hospital of Uberlândia, and their preference and frequency of use was, in decreasing order: the execution of respiratory exercises, hot shower baths, ambulation, lumbosacral massages, Bobath ball exercises, squatting, and pelvic swing.

The immersion bath was not used due to the lack of structure of the institution, and the absence of music therapy is justified by the prepartum room being shared.

A similar result was found in a survey carried out in a maternity hospital adhering to the strategy of the Cegonha Network in Rio Grande do Sul, indicating that from 232 births attended by obstetric nurses, 79.2% women were stimulated to walk, 73.1% had a hot shower, and 60.0% received massages⁹.

However, unlike the present study, other NPMPR strategies were identified, such as: the adoption of various positions during labor, (58.8%) aromatherapy (46.9%), rebozo (12.7%), hot footbath therapy (2.45%), and music therapy (2%)⁹.

In addition to these strategies, it is worth noting that there are also complementary therapies like acupuncture, acupressure, massage, yoga, homeopathy and chiropractic, and herbal medicines (ginger, raspberry leaves) that can be used during pregnancy¹⁰. The existence of this diversity of NPMPR allows the parturient to choose the method that best meets their needs at the time of labor.

The technique of massage is one of the most natural means of analgesia. Its effect is

related to the reduction of anxiety and stress, promoting muscle relaxation and decrease of muscle fatigue, besides the possible emotional benefits, especially when performed by the companion³. It is a relaxation technique that promotes slower breathing, lowers blood pressure and triggers a sense of well being¹¹.

Another widely used strategy is the hot shower. This technique causes cutaneous stimulation through superficial heat and the intensity of the jet produced by the shower, with consequent vasodilation, relaxation of the local musculature, the release of endorphins, and reduction of stress related to hormones that intensify the painful sensation of the contractions. When focused on the lower back, it has a direct effect on the reduction of local pain, one of the main complaints of most parturients³.

The benefits of adopting this strategy have been demonstrated in prospective observational studies that showed an association between labor in water and a higher probability of having a vaginal delivery, especially among nulliparous women¹². In addition, it was shown that associating the strategy of the hot shower (or immersion bath) with the Bobath ball was more effective in increasing cervical dilation, providing a greater progression of the fetal presentation, shorter time between interventions and shorter birth time¹².

Still on the use of the Bobath ball, an important fact is that this feature facilitates the blood circulation and increases the effectiveness of the uterine contractions, optimizing the labor process¹³. Stimulation of the pelvic muscles reduces pain in the lower

back and is a playful resource for the distraction of the parturient¹³.

In addition, the vertical positioning and the pelvic balance provided by the use of this strategy are related to the reduction of perineal trauma and episiotomy rates, transforming this practice in one that is recommended by the WHO².

Despite this, performing exercises on the Bobath ball is an alternative to squatting, pointed by some women as a difficult action to perform¹³. The use of the ball provides comfort and pain relief, evolution of the labor process, focus on vertical position and less use of medications¹².

A review study of the literature about the benefits of using the NPMR showed that the use of the isolated breathing technique when compared to a control group demonstrated a lower pain score in both the initial and final phases of labor, where the pain is stronger. Regarding ambulation, the parturients indicated this method as effective since it can distract them from pain, allowing them to go to the shower and improving the progression of labor¹.

Another important find of this study was the identification of the nurses' small role in helping to use the NPMR. It is considered that these professionals, specifically obstetric nurses, have a fundamental role since they act in a more humanized perspective in delivery and labor, providing a supportive environment for the woman and her companion through practices that do not interfere in the physiology of childbirth and that are in accordance with the guidelines recommended by the WHO¹⁴. Therefore, there is a need for a more effective performance of this professional in the institution studied.

Besides the participation of the professional being of extreme importance in the parturient process, including in the assistance to use NPMRs, there is also the presence of the companion. The choice of the parturient for the companion in the process of labor, delivery, and immediate postpartum is a legal right guaranteed by law 11.108, 2005¹⁵. This contributes to the humanization of birth and to the improvement of women's experience of this event, creating an environment of support and comfort, even in situations where the professionals involved provided the care needed¹⁶.

In the present study, it was found that most women had a companion for more than half of the parturitive process. Different from this study, in 2012, the survey "Nascer no Brasil", conducted in 266 hospitals with 23.940 puerperae, identified the presence of a companion in only 18.8% of cases, mainly during admission (70.1%), and later, after birth, in the joint accommodations (61.3%)¹⁷.

The presence of the companion was cited by 84.5% of the women as an important factor to improve the delivery experience. These results demonstrated the difficulty of some institutions to accept the legal right to have a companion during labor and to explore the benefits that this situation can provide¹⁷.

Among the benefits, it is worth mentioning the fact that the presence of a person with an emotional bond makes the process of birth more relaxed, providing greater security to the woman and, consequently, contributing to her care.

A qualitative study carried out in a public secondary level hospital in the city of Fortaleza/CE revealed that among the activities developed by the companions, the following stand out: holding hands, offering support, assisting during exercises and massages for pain relief¹⁶.

In the present study, the father of the child was the most cited companion during labor (52.4%) and delivery (50%). These results were considered low, since the father of the child may be the ideal companion for the woman in the parturition process, which can be important for strengthening married life and establishing affective bonds with the newborn¹⁸.

However, one of the reasons that can explain this is the marital status, since 64.6% of the women were single. Regardless of who the support figure is, his/her presence is very important to the woman. However, this figure must be involved in the process and not only physically present¹⁹. It is necessary to carry out a qualitative study to better understand this aspect.

Considering aspects related to the information received, this study found that most parturients considered important that their companions were informed about the delivery and of their functions during this process, but only 17.1% of them received such information. In addition, of the 64 women who knew about the NPMR before delivery, 30.5% indicated that they were professionally oriented, which demonstrates the lack of communication in health care services, either because of a low credibility in the use of these methods or because there is a lack of encouragement to divulge them²⁰.

This scarcity of information involves all levels of care, including primary care, one of the main services for pregnant women, which plays a fundamental role in their guidance²¹.

Another finding related to the information source of puerperal women in relation to the NPMR, was that a study carried out in Lublin, Poland, pointed out that the information source was websites, blogs, internet forums, groups in websites and social network services promoted by obstetrical

nurses — that is, not by direct meetings with health professionals such as doctors/nurses⁶. Based on the results of these surveys, it is possible to identify the need to encourage the participation in prenatal education activities that promote preparation for childbirth, thus favoring a positive experience during labor and birth.

This fact demonstrates the need for the development and implementation of health education programs during prenatal care, involving comprehensive guidelines on the available NPMR, as well as its effectiveness⁶. Another recommendation is to intensify the training of health professionals regarding NPMR, in order to guarantee quality assistance to the parturients attended at the Maternity sector.

CONCLUSION

The data obtained allowed to conclude that in the studied institution the majority of the parturients were stimulated to use NPMRs, such as respiratory exercises, hot showers, and walking.

However, the need for other methods with proven efficacy in pain relief, such as immersion baths, music therapy, rebozo, aromatherapy, acupressure, transcutaneous electric nerve stimulation (TENS), biofeedback, acupuncture, inhalation analgesia, and homeopathy, is evidenced.

In addition, another aspect identified was that the right to the presence of a companion was respected and they actively participated in the implementation of the methods. Most puerperal women were oriented about the care conducts, even though only a small percentage of them received such information from prenatal care professionals.

It is evident, therefore, that professionals, specifically nurses, must act in the orientation of women and companions about the NPMR in all the levels of attention, aiming to achieve the effectiveness in their use and, consequently, reducing pain during labor and birth.

Among the limitations of the study is the lack of a more detailed description of the preference of the parturients on the NPMR used, as well as the evaluation of their effectiveness in reducing pain.

Studies focusing on NPMR should be developed with a view to assessing and quantifying their direct benefits in reducing pain. In addition, qualitative researches that make it possible to better evaluate the content and quality of the guidelines are necessary.

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CONTRIBUTIONS

Rejane Sousa Romão and **Marceila de Andrade Fuzissaki** contributed to the design, data collection and analysis, data interpretation, writing and review. **Patrícia Santos Prudêncio** worked on data analysis and interpretation, writing and review.

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