RESEARCH

THE KNOWLEDGE OF PUERPERAE ABOUT NON-PHARMACOLOGICAL METHODS FOR PAIN RELIEF DURING CHILDBIRTH

CONHECIMENTO DAS PUÉRPERAS COM RELAÇÃO AOS MÉTODOS NÃO FARMACOLÓGICOS DE ALÍVIO DA DOR DO PARTO

CONOCIMIENTO DE LAS MADRES ACERCA DE LOS MÉTODOS NO FARMACOLÓGICOS DE ALIVIO DEL DOLOR DE PARTO

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ABSTRACT

The use of non-pharmacological methods for the relief of pain in parturients increases pain tolerance, providing benefits for most women and participation in the birth process. These practices are designed to make birth the most natural possible, reducing interventions, unnecessary C-sections, and the administration of drugs. The objectives of this study were to evaluate the knowledge of mothers about philanthropic maternity in relation to pain relief methods, verifying their opinions, and identifying the most applied technique; this was a quantitative study with the participation of 120 puerperae. The interviews were conducted during hospitalization in the maternity infirmary between February and March of 2012 and addressed issues related to socio-demographic profiles and non-pharmacological methods for the relief of labor pain. The results show that this group is characterized by young mothers, primiparous, in stable relationships, with an average education, mostly unemployed, and with a predominance of vaginal birth. The knowledge of methods during the entire pregnancy period is poor because only 23% of women knew any technique to relieve pain during childbirth. Their opinion on the application of these methods was reported with mixed feelings of relief and intensification of pain, however, favoring the evolution of labor quickly and efficiently. The most used and considered effective and comfortable technique was showering. This study showed that the focus of deficiency in the knowledge about such methods is not in the maternities, but in the prenatal care.

Keywords: Knowledge; Labor, Obstetric; Labor Pain; Obstetric Nursing.

RESUMO

O uso dos métodos não farmacológicos para o alívio da dor da parturiente aumenta a tolerância à dor, possibilitando benefícios para a maioria das mulheres e participação no processo parturitivo. Essas práticas têm a finalidade de tornar o parto o mais natural possível, diminuindo as intervenções e cesarianas desnecessárias e a administração de fármacos. Avaliar o conhecimento das puérperas de maternidade filantrópica em relação aos métodos de alívio da dor, verificar sua opinião e identificar a técnica mais aplicada foram os objetivos deste estudo quantitativo, com participação de 120 puérperas. As entrevistas foram realizadas durante a internação no alojamento conjunto, em fevereiro e março de 2012, e abordaram questões referentes ao perfil sociodemográfico e aos métodos não farmacológicos de alívio da dor do parto. Os resultados mostram que esse grupo é caracterizado por mães jovens, primíparas, com união estável, com escolaridade média, na maioria desempregadas, com predomínio do desfecho de parto vaginal. O conhecimento dos métodos durante todo o período gravídico é deficiente, pois somente 23% das mulheres conheciam alguma técnica para aliviar a dor no parto. A opinião delas sobre a aplicação desses métodos foi relatado com sentimentos ambíguos de alívio e intensificação da dor, porém favoreceu a evolução do trabalho de parto, pela rapidez e eficiência. A técnica mais utilizada e considerada efetiva e confortável foi o banho de chuveiro. Este estudo evidenciou que o foco da deficiência de conhecimento sobre tais métodos não está na maternidade, mas sim no pré-natal.

Palavras-chave: *Conhecimento; Trabalho de Parto; Dor do Parto, Enfermagem Obstétrica.*

RESUMEN

El uso de métodos no farmacológicos para aliviar el dolor de la parturienta aumenta la tolerancia al dolor, lo cual beneficia a la mayoría de las mujeres y, además, permite que participen en el proceso de parto. Estas prácticas buscan tornar el parto lo más natural posible, disminuyendo las intervenciones y cesáreas desnecesarias y la administración de fármacos. El objetivo de este estudio cuantitativo fue evaluar el conocimiento de las parturientas de una maternidad filantrópica sobre los métodos de alivio de dolor del parto, conocer su opinión e identificar la técnica más aplicada. Para ello participaron 120 mujeres en el posparto. Las entrevistas se realizaron durante la hospitalización en un alojamiento conjunto en febrero y marzo de 2012. Se trataron temas relacionados con el perfil sociodemográfico y los métodos no farmacológicos para aliviar el dolor del parto. Los resultados muestran que este grupo se caracteriza por estar formado por madres jóvenes, primerizas, en unión estable, con nivel medio de escolaridad, la mayoría de ellas desempleada, con predominio de parto vaginal. Tienen poco conocimiento de los métodos durante el período del embarazo y solamente el 23% de las mujeres conocían

alguna técnica para aliviar el dolor. Dieron su opinión sobre la aplicación de estos métodos con sentimientos ambiguos de alivio e intensificación del dolor, pero afirmaron que tales métodos favorecieron la evolución del trabajo de parto por su rapidez y eficiencia. La técnica más usada, considerada cómoda y eficaz, era la ducha. Este estudio demostró que el foco de la falta de información sobre estos métodos no está en la maternidad sino en el prenatal.
***Palabras clave**: Conocimiento; Trabajo de Parto; Dolor de Parto; Enfermería Obstétrica.*

INTRODUCTION

Motherhood is one of the most important experiences in the lives of women, representing a set of remarkable biological and psycho-emotional phenomena. The delivery, as a physiological episode, represents the pinnacle of biochemical phenomena, however, for the woman, it goes beyond and becomes a psycho-emotional, existential event meaning transcendence, that is, the overcoming of own limits.[1]

The hospitalization for the parturition process began since the 40s. The event left the home sphere to take place in health institutions, thus allowing the medicalization and control of the puerperal period and childbirth, and becoming one of the reasons for the decrease in maternal and neonatal mortality. However, this process, although aseptic and convenient for health professionals, represented, and still represents, an unknown scenario for women.[2]

The contribution to the quality of obstetric care in Brasil is recognized amid the incorporation of this technology.[2,3] This technology routinely included fasting, isolation of the parturient during labor without the presence of a companion, absence of freedom to walk, unnecessary interventions such as the use of labor inducers to accelerate it, and episiotomy culminating with a cesarean section, featuring an assistance model that can disrupt and inhibit the natural and physiological labor development; it has become synonymous with disease and medical intervention, turning into an experience marked by pain and powerlessness for women.

This model of intervention in the natural childbirth process was seen as a modern delivery, rational, without moans and exposed genitals, generating the erasement of the sexual dimension of childbirth.[2,3] It is not surprising that women consider caesarean section as the best way to give birth, without fear, risk, and pain.[3]

Five years ago, Brazil crossed the line of 50% of C-sections, while the recommendation by the World Health Organization (WHO) is that only 15% of all births be conducted as non-natural birth.[4]

There is currently a worldwide movement for the humanization of labor and birth, consisting of organized social groups in different countries that have mobilized to cause changes in various aspects of the obstetric care, including the adoption of evidence-based practices, which includes support during labor and childbirth.[3,5,6]

In this scenario, the WHO and Ministry of Health have proposed changes in the assistance including the rescue of normal birth through various strategies, among them, the importance of family participation and guarantee of their rights as citizens[6,7]along with the stimulation of actions by the obstetric nursing team in the prenatal and childbirth assistance. The studies by Brüggemann[5] and Amorim[8] show that, when accompanied by these professionals, women need fewer painkillers and interventions and show better results than those attended by physicians because of the establishment of strong bonds of emotional support from those professionals to women, taking the responsibility for identifying and assess pain, notifying the medical staff when needed, and especially implementing non-pharmacological methods of pain relief.

Considering the theme of pain relief in parturients, the use of non-pharmacological methods is proposed as an option to replace painkillers during labor and delivery. From this perspective, such care is encouraged by the recommendation of the practice of some non-pharmacological actions, such as freedom to adopt postures and different positions, walking, rhythmic and active breathing, verbal commands and relaxation, showering and soaking, touching and massaging, and using a ball. These practices are designed to make birth the most natural possible, reducing interventions, unnecessary caesarean sections, and the administration of drugs.[9,10]

WHO carries out recommendations for assistance to normal delivery and classifies non-pharmacological methods for the relief of labor pain (MNFAD) as "conducts that are clearly useful and should be encouraged." These are strategies used in labor to increase pain tolerance, providing benefits for most women.[10] In addition, the non-use of pharmacological analgesia allows the woman more control over the birth process.

Boaretto[11] and Lima and Leão[12] explain that, despite that the woman's satisfaction with her childbirth is not related to the absence of pain, it should be remembered that facing pain is conditioned by the environment and the support that she receives from professionals and caregivers.

The most commonly used practices are classified as breathing exercises, muscle relaxation, lumbosacral massage, Bobat ball, walking, and showering or soaking, which can be used combined or isolated.[13,14]

This study aims to evaluate the knowledge of puerperae in relation to non-pharmacological methods of pain relief, verifying their opinions in relation to the methods applied, identifying the most applied technique by these mothers and associating the sociodemographic data with these methods.

METHODS

This was a quantitative, cross-sectional study developed in a maternity school hospital in the city of Sorocaba, São Paulo. The data collection was conducted in February and March of 2012. Approximately 1,800 births per year are conducted, between SUS and supplementary assistance users.[15]

Puerperae admitted in labor (even with a cesarean outcome), who authorized their participation in the study after signing the Term of Consent were eligible for the study. Those admitted already during labor or for an elective caesarean section and/or who delivered outside the maternity unit in question (car, home, ambulance) were excluded. Thus, the sample consisted of 120 puerperae who agreed to participate in the study.

Data collection occurred through the application of a structured questionnaire with questions regarding socio-demographic profiles, knowledge and opinion of women on non-pharmacological methods for the relief of labor pain (MNFAD), and the time they received relevant guidelines. This approach occurred during during hospitalization in rooming.

The data was analyzed through contingency tables, evaluated by the Pearson's chi-square statistics (where appropriate, obtained through Monte Carlo simulation), and complemented by the chi-square residual analysis and the concordance coefficient of Kendall as described by Siegel and Castellan Júnior.[16] The results were considered significant when the p-value was less than 5%.

The study was approved by the Research Ethics Committee from the Pontifical Catholic University of São Paulo – PUC-SP, under the protocol CEP 1463/SISNEP 835.

RESULTS

The results showed that this group is characterized by young mothers, primiparous, in stable relationships, with an average education, mostly unemployed, and a predominance of vaginal birth as shown in Table 1.

The knowledge of puerperae towards non-pharmacological methods of pain relief was assessed by these questions – have you heard about MNFAD? Do you know what they are? How did you know about them?

The results revealed that 23.3% of the interviewed women said knowing about the non-pharmacological methods of labor pain relief, and 76.7% were unaware of these methods, which demonstrates deficiencies about the MNFAD. The Mung'ayi study evaluated the women's knowledge about pain relief methods, and was conducted in Nairobi, and found 56% of participants with knowledge about labor pain relief methods.[17]

Women who reported having knowledge about MNFAD formed a small portion of the sample (26.5%) and this knowledge were provided by health professionals in most cases.

Table 1 - Distribution of sociodemographic characteristics of puerperae included in the study, Sorocaba/SP, 2012

Variable	Frequency	Percentage
Marital Status		
Single	22	18.3
Stable union	98	81.7
Total	120	100.0
Age		
Less than 20 years old	28	23.3
20 to 30 years old	73	60.8
More than 35 years old	19	15.8
Total	120	100.0
Education		
Complete middle school	13	10.8
Incomplete middle school	17	14.2
Complete high school	57	47.5
Incomplete high school	24	20.0
Complete college	5	4.2
Incomplete college	4	3.3
Total	120	100.0
Occupation		
Self-employed	11	9.2
Unemployed	73	60.8
Employed	35	29.2
Retired	1	0.8
Total	120	100.0
Number of children		
One	52	43.3
Two	38	31.7
Three	16	13.3
Four	11	9.2
Five or more	3	2.5
Total	120	100.0
Current delivery		
Normal	93	77.5
Cesarian section	27	22.5
Total	120	100.0

To verify if the knowledge about MNFAD could be related to sociodemographic variables, we performed a chi-square test for the contingency tables; the results are summarized in Table 2.

The results showed that knowledge about MNFAD is independent from all analyzed sociodemographic variables, ie, the fact of having more children, education, and type of delivery were not related to the degree of familiarity with non-pharmacological techniques and methods for the relief of pain during childbirth.

Table 2 - Relationship between the sociodemographic variables and knowledge about MNFAD in puerperae, Sorocaba/SP, 2012

Variable	Do you know what MNFAD is?				Total	p-value
	No		Yes			
	N	%	N	%		
Marital status						
Single	17	18.5	5	17.9	22	0.94[a]
Stable union	75	81.5	23	82.1	98	
Age						
< 20 years old	25	27.2	3	10.7	28	0.20[b]
20 to 30 years old	53	57.6	20	71.4	73	
> 35 years old	14	15.2	5	17.9	19	
Education						
Complete middle school	10	10.9	3	10.7	13	0.53[b]
Incomplete middle school	14	15.2	3	10.7	17	
Complete high school	41	44.6	16	57.1	57	
Incomplete high school	21	22.8	3	10.7	24	
Complete college	4	4.3	1	3.6	5	
Incomplete college	2	2.2	2	7.1	4	
Occupation						
Self-employed	6	6.5	5	17.9	11	0.09[a]
Unemployed	61	66.3	12	42.9	73	
Employed	24	26.1	11	39.3	35	
Retired	1	1.1	0	0.0	1	
Number of children						
One	39	42.4	13	46.4	52	0.27[b]
Two	30	32.6	8	28.6	38	
Three	14	15.2	2	7.1	16	
Four	6	6.5	5	17.9	11	
Five or more	3	3.3	0	0.0	3	
Current delivery						
Normal	74	80.4	19	67.9	93	0.16[a]
Cesarian section	18	19.6	9	32.1	27	
Total	92	100.0	28	100.0	120	

[a] Pearson chi-square; [b] Chi-square obtained by Monte Carlo simulation.

However, when asked if they have heard about MNFAD, the results were independent of all variables (p-values > 0.05), except for education (Table 3) as described below.

Based on the chi-square residual analysis we determined that *having heard about* the MNFAD was independent for respondents with complete and incomplete middle school education. As expected, the results were significant for complete high school education, in the sense that the counts observed "*yes*" was significantly higher than expected (z-score of 2.8), indicating more information in this group. However, for respondents with incomplete middle school education, the values were significant (Z-score of 2.3) as for less knowledge than expected.

Table 3 - Information about non-pharmacological methods for the relief of labor pain in puerperae, Sorocaba/SP, 2012

Variable	Have you heard about MNFAD?				Total	z-escore[a]	p-value[b]
	No		Yes				
	N	%	N	%			
Complete middle school							
Incomplete middle school	14	82.4	3	17.6	17	Ns	0.03[a]
Complete high school	10	76.9	3	23.1	13	Ns	
Incomplete high school	22	91.7	2	8.3	24	2.3	
Complete middle school	35	61.4	22	38.6	57	2.8	
Total	81		30				

[a] Z-score values for the residual chi-square analysis.
[b] Chi-square obtained by Monte Carlo simulation.

When the knowledge about MNFADs was evaluated by options, ie, the main techniques (breathing exercises, walking, showering, using a ball, lumbosacral massage, and muscle relaxation) were read to mothers in order to identify through memory, the result was that puerperae were aware of such information, although not knowing that such methods are employed to ease the pain of childbirth, whose results are listed in Table 4, in the column that deals with "methods known to puerperae."

These results were compared with information recommended prenatally and during labor.

The most frequent non-pharmacological method for pain relief among the study participants was showering, which appeared in 53% of reports, being the favorite and quoted as resolutive.

The Kendal's W statistic of 0.97 ($p < 0.001$) shows a high concordance of the known and recommended methods, both prenatally and during labor. It is possible to verify that the known methods and those indicated prenatally and during childbirth are in the same order of importance, i.e., showering, ball, walking, lumbosacral massage, and muscle relaxation. These results are in agreement with those reported by Gayeski, Bruggemann.[18]

It is worth remembering, however, that the results are only associated with purperae who expressed knowing some techniques, even not knowing that they are MNFAD. With a relevant difference as to when they received the information, if 79.4% of purperae stated not receiving any information on prenatal care, that number drops to only 8.6% during labor.

Table 4 - Relationship between known MNFADs that were recommended prenatally and in the maternity, Sorocaba/SP, 2012

Methods	Techniques known by puerperae*		Techniques recommended prenatally		Techniques recommended during labor		W de Kendal (p-value)
	N	%	N	%	N	%	
Showering	102	25.6	12	23.5	86	39.8	0.97 (<0.001)
Ball	84	21.1	7	13.7	36	16.7	
Walking	78	19.6	10	19.6	35	16.2	
Lumbosacral massage	35	8.8	6	11.8	10	4.6	
Muscle relaxation	20	5.0	4	7.8	4	1.9	
Others	18	4.5	4	7.8	11	5.1	
Total	398	100.0	51	100.0	216	100.0	

* The total exceeded 120 puerperae because one woman provided answers for more than one technique, therefore, it was not possible to calculate the percentage.

According to these results, there was a predominance of 104 women (79.4%) who stated not receiving guidance about MNFAD during the prenatal care at basic health units. In the maternity, only 8.6% of women did not receive some recommendation regarding non-pharmacological methods of labor pain relief.

The testimonies of 104 purperae about not receiving any guidance on MNFADs throughout their pregnancy is worrisome, allowing for a reflection on the problem of causes related to the lack of knowledge and preparedness in these women when they come to give birth.

The knowledge acquired in the maternity during labor increased significantly, however, when considering the WHO[10] recommendation, the implementation of non-pharmacological strategies to relieve the discomfort of pain during labor and delivery, the adherence to this practice is still being influenced by the philosophy of the institution assisting in childbirth.[19]

In this study, the data show that the nurse was the professional who most guided the parturients about adopting a technique for pain relief, appearing in 61% of the responses; 21% of them were guided by doctors and 10% by other professionals.

The opinions about the methods and what they felt during labor are summarized in Table 5.

The number of respondents is less due to some parturients not receiving recommendations about the methods because they were restrained in bed. Some puerperae did not evaluate the methods due to the rapidly changing labor.

Although not initially knowing about MNFADs, the mothers, when stimulated, adhered to practices and felt relieved (47.1%) or better (20.2%) in relation to the pain, claiming that applying such techniques helped a lot (61.5%).

DISCUSSION

The evaluation of the knowledge of puerperae about non-pharmacological methods for relief of labor pain showed a relevant prevalence of mothers who have never heard about them and could not conceptualize methods for pain relief. This result corroborates that of a study[17] conducted with 202 pregnant women in Kenya; however, the findings reveal better conditions regarding the knowledge of methods in which 44% of the women interviewed were unaware of strategies for relief of labor pain.

Table 5 - Opinion of puerperae about the MNFADs in the maternity, Sorocaba/SP, 2012

What did you think about the MNFADs conducted during labor?	Nº	%
They helped a lot	64	61.5
Indifferent	15	14.4
They did not help	12	11.5
They helped a little	11	10.6
I did not have time to evaluate	2	1.9
What did you feel during labor?		
Pain relief	49	47.1
No results	22	21.2
The pain improved	21	20.2
The pain worsen	12	11.5
Total	**104**	**100**

An exploratory qualitative study conducted at the obstetric center of a maternity school in Curitiba/PR[20] with 10 parturients who had been in effective labor shows that out of 10 interviewed, only five received information about MNFAD, and among these five, only one received information during the pre-natal consultations. What caught the attention of the researchers[20], and can be confirmed in this study, is that most puerperae received some guidance on the matter only at the delivery time.

The prevalence of puerperae who did not receive guidance throughout the gestational monitoring, during prenatal care, in-

dicates the difficulty of existing communication in health services, either for lack of interest or credibility due to deficiencies in stimulus and more communication about the effectiveness of non-pharmacological methods for pain relief.[20,21]

Applying MNFADs is one way to practice the humanization of care in maternities[22]. Another way is to provide information to pregnant women throughout the pregnancy period so that, during labor and delivery, these guidelines can be strengthened and not presented as new, as found in this study.

If humanizing childbirth is to offer comfort, tranquility, and relief from pain and mothers are unaware of these methods, this implies assistance deficiency in the process of childbirth[8].

A research conducted in the municipality of Maringá[1] with two reference hospitals for delivery care showed that the nursing staff was the category that used non-pharmacological methods of pain relief more often, in contrast to the medical staff, which resembles this study and is corroborated by Pereira.[23]

In this study, the nurse was the professional who most recommended MNFADs to parturients, coinciding with the study[20] that found 71% of mothers using MNFAD from the advice and recommendation of the nursing team, and only 21% from the medical team. These results are evidenced in studies that reveal the nursing assistance guided by the physiological, emotional, and socio-cultural aspects of the reproductive process.[7,8,20]

Showering was referred to as the most applied method, which finds support in the literature that has shown that among the most used MNFADs are showering, walking, lumbosacral massage, muscle relaxation, and breathing exercises, combined or separately, being effective in pain relief and comfort for parturients in active labor.[23-25]

This benefit was also considered by the interviewed mothers as the most resolutive in the moment of childbirth because they promoted relaxation and relief during labor.[23-25]

Although the mothers' opinions on the implementation of MNFAD state improved labor pain, description of considerable worsening of pain was also recorded. These divergent perceptions indicate that worsening the intensity of contractions helped in the evolution and speed of labor and delivery.[22]

Faced with a scenario in which the information about the relief of labor pain and non-pharmacological care are not widespread and valued,[1-8], it is not surprising that most women are unaware of these techniques, whose results were independent of all sociodemographic variables, which means that the knowledge or lack of it about these techniques is unrelated even with the mother's level of education.

However, when asked about whether they have heard about MNFADs, both those with less education and higher education expressed more knowledge, as opposed to less knowledge among those with incomplete education.

One hypothesis for this situation, which would require further study for confirmation, would be to associate education to income, and therefore, to the type of delivery within income ranges. The Brazilian reality[4] shows that low-income women (education) are in contact with the settings of normal birth, which explains at least "*have heard*" about MNFADs. Thus, even if the proportion of normal births and parity for women with more education is reduced, hearing about it may be related to more access to information. Finally, the lack of information on average schooling women can be explained by little access to information.

The limitations of this study are related to a specific institution, with one group of women, and during a short time, which can make generalizations difficult.

The obtained results may encourage similar research in other maternities in order to reveal the women's knowledge about MNFADs and promote a humanized assistance during labor.

CONCLUSIONS

In concluding the discussion of the results obtained in this study, which addressed methods to ease the pain of childbirth, it was concluded that the knowledge about MNFADs throughout the pregnancy period is deficient because the number of women who knew some non-pharmacological technique to relieve pain during childbirth was low.

During the prenatal care, the interviewees went through medical and nursing consultations and were not informed about the existing methods that help in labor pain. Some women had heard through the media and friends/relatives, however, when asked if they knew any pain relief strategy, the answer was negative.

This study evidenced that the focus of knowledge deficiency about non-pharmacological methods of labor pain relief is not in the maternity, but in the prenatal care performed by the interviewed women, independently of the studied variables, except for education.

The studied maternity adopts the WHO recommendations because puerperae were encouraged to practice MNFADs during labor, with the primacy of nurses in these guidelines.

The opinion of women was marked by ambiguity because they reported an increase in contractions, which influenced evolution and speed during labor. The most widely used technique, considered efficient and comfortable, was showering, which reduced the labor time and eased the pain sensation, causing relaxation in parturients.

The implications of the findings of this study will enhance the discussion to the improvement and enhancement of assistance during labor because it investigates the knowledge and opinions of puerperae in relation to MNFADs in context of stimulation to normal childbirth.

Considering that the application of MNFADs contributes to pain relief in labor, it is important to encourage the adoption and implementation of these techniques with professionals that cater to women, especially during the prenatal care.

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