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Analysis of labor assistance in a university hospital

Análise da assistência ao trabalho de parto em hospital universitário

Análisis de la asistencia al trabajo de parto en hospital universitario

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This study aims at analyzing the assistance offered to women during childbirth, according to the principles prescribed by the Prenatal and Birth Humanization Program. This is an observational, exploratory, descriptive, quantitative study, developed in a university hospital in the city of Uberlândia, Minas Gerais, Brazil, from January to March 2012. Most participants were women from 21 to 25 y/o (30.9%), white (57%), with 8 to 11 years of formal education (51.6%), married or living with a partner (58%), housekeepers (56.5%), who had their partner present (82.1%). Among the 207 women, 42.5% were primigravidae, 48.3% were nulliparous, and 84.5% had no previous abortions. Regarding their gestational age, 36.6% were pregnant for 40 weeks or longer. Among them, 67.1% underwent cesarean sections and most did not undergo partographs. The pregnant women receivd unnecessary medication and the rates of cesarean sections were inadequate, rendering the assistance incompatible with the principles prescribed by the Prenatal and Birth Humanization Program.
Descriptors: Midwifery**;** Labor, Obstetric; Humanizing delivery; Pregnancy.

Este estudo tem como objetivo analisar a assistência prestada às mulheres durante o trabalho de parto, de acordo com os princípios preconizados pelo Programa de Humanização do Pré-Natal e Nascimento. Trata-se de um estudo observacional, exploratório–descritivo, de abordagem quantitativa, desenvolvido em um hospital universitário na cidade de Uberlândia, no período de janeiro a março de 2012. Predominaram mulheres com idade entre 21 e 25 anos (30,9%), brancas (57%), com escolaridade entre 8 a 11 anos (51,6%), casadas ou amasiadas (58%), do lar (56,5%) e que tiveram a presença do acompanhante (82,1%). Dentre as 207 mulheres, 43,5% eram primigestas, 48,3% nulíparas e 84,5% sem abortos anteriores. Quanto à idade gestacional, 36,6% estavam com 40 semanas de gestação ou mais, sendo que, destas, 67,1% realizaram parto cesáreo e a maioria não foi acompanhada por partograma. Conclui-se que as gestantes foram submetidas a intervenções medicamentosas desnecessárias e as taxas de indicação de parto cesáreo foram desfavoráveis, com assistência prestada incompatível com os princípios preconizados pelo Programa de Humanização do Pré-Natal e Nascimento.
Descritores: Tocologia; Trabalho de parto; Parto humanizado; Gravidez.

Este estudio tiene como objetivo analizar la asistencia prestada a las mujeres durante el trabajo de parto, de acuerdo con los principios preconizados por el Programa de Humanización del Pre-Nacimiento y Nacimiento. Se trata de un estudio observacional, exploratorio-descriptivo, de abordaje cuantitativo, desarrollado en un hospital universitario en la ciudad de Ubêrlandia, Minas Gerais Brasil, en el periodo de enero a marzo de 2012. Predominaron mujeres con edad entre 21 y 25 años (30,9%), blancas (57%), escolaridad entre 8 a 11 años (51,6%), casadas o amancebadas (58%), amas de casa (56,5%) y que tuvieron la presencia del acompañante (82,1%). Entre las 207 mujeres, 43,5% eran primíparas, 48,3% nulíparas y 84,5% sin abortos anteriores. En cuanto a la edad gestacional, 36,6% estaban con 40 semanas de gestación o más, siendo que, de estas, 67,1% realizaron parto cesáreo y mayor entre aquellas que no fueron acompañadas por el partograma. Se concluye que las gestantes fueron sometidas a intervenciones medicamentosas innecesarias y las tasas de indicación de parto cesáreo fueron desfavorables con asistencia prestada incompatible con los principios preconizados por el Programa de Humanización del Pre-natal y Nacimiento.
Descriptores: Partería; Trabajo de parto; Parto humanizado; Embarazo.

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INTRODUCTION

Birth is one of the main events in the life of a woman, since it is the event that transforms them in mothers. Therefore, the quality of women healthcare during labor has been recognized as a strategy to be implemented to make childbirth a positive and satisfactory experience for women and their families[1].

Until the end of the XVIII century, childbirth was a ritual among women, performed in the houses of families with the help of midwives. At the end of the XIX century, a process of change started, with attempts of controlling this biological event from obstetric professionals, removing it from the realm of the female and considering it as a medical practice. Childbirth and birth, previously understood as physiological and feminine events, started to be seen as medical and masculine events, including the notion of risk and that of pathology as a rule, not as an exception, as was the case before. In this technocratic model, women were no longer the protagonists, and the physician was responsible for the process[2].

In this context, interventions such as episiotomy, use of oxytocin, nasopharyngeal aspiration and cesarean sections, all of which should be used sparingly, only in situations of need, began to be used with a large number of women and and their children being assisted in hospitals in the country. These excess interventions no longer considered emotional, humane and cultural aspects involved in the process of giving birth, forgeting that birth assistance has a unique character that goes beyond the process of getting sick and dying[3].

In the last 15 years, the initiatives for birth healthcare humanization doubled in the Brazilian Unified Health System (SUS), aiming to bring back a phisiological understanding of birth. These humanization efforts were centered around the avoidance of excessive childbirth medicalization, inequalities, and around quality healthcare, all of which are still real challenges for the country[4].

In June 2000, the Ministry of Health created the Prenatal and Birth Humanization Program (PHPN), aiming at reducing the high rates of maternal, perinatal, and neonate deaths, through quality assistance that prescribed the recovery of dignity and natural practices for the childbirth process[5].

The implementation of PHPN defined strategies for the improvement of obstetric care, through the adoption of measures to secure access, coverage, and quality of prenatal follow-up. Additionally, the program reiterated the need to establish links between prenatal care and labor, as well as changes in the physical structure of hospitals and professional capacitation, among other demands[6].

Recently, the World Health Organization (WHO) issued new guidelines for standards of healthy pregnant women healthcare throughout the world. They prescribe that medical and nursing teams should not interfere in childbirth unless there is an actual chance of complication[7].

Adequate and individualized assistance to labor is vital to offer comfort and well-being during the childbirth process. According to the WHO, a quality assistance must be based on the consideration that there must be a clear reason for an interference in the natural childbirth process[3].

Despite all movements that favor labor and birth humanization, the medicalization of the pregnant body has been expanding in Brazil. The process is evident, clearly expressed by the high cesarean section rates (among the highest in the world), which are accepted as "natural" both among health professionals and the laypeople[8]. Despite scientific evidences that prove that the excess of interventions increase maternal and neonate morbidity and mortality, there current model is still predominantly medicalization and hospital centered, extensively employing harmful practices[9].

The analysis of labor assistance includes a survey of professional practices during the labor process, which recognizes that the team is the facilitator, but that the women's competence in the process of generating and giving birth needs to be recovered. This study aims at analyzing the assistance offered to women during labor in the maternity of the General Hospital at the Universidade FEderal

de Uberlândia, according to the principles of the Prenatal and Birth Humanization Program.

METHOD

This is an observational, exploratory, descriptive, quantitative research, developed in the maternity of the General Hospital at the University Hospital at Universidade Federal de Uberlândia (GH -UFU), in which nearly 150 chilbirths take place monthly. The sample calculation was carried out with a confidence level of 95%, a standard deviation of 5%, and variance of 85.6%.

Data for the study was collected from 207 parturient women admitted in the prepartum room of the GH-UFU maternity ward from January to March 2012, who accepted participating in the study. Data collection consisted in the *in loco* observation of labor monitoration procedures, and the analysis of the records that included information about the labor. Chi-square and Odds Ration tests were applied, and $p<0.05$ was considered to be significant. The statistical softwares used were the SPSS - Statistical Package for the Social Sciences - version 17 for Windows, and Biostat 5.0.

The project of this study was in accordance to Resolution 466/12 by the National Health Council (CNS), and was approved by the Research Ethics Committee of the Universidade Federal de Uberlândia (CEP/UFU) under protocol 361/11.

RESULTS

From the 207 parturient women, 139 (67.1%) were submitted to cesarean sections (CS) and 68 (32.9%) had a natural delivery (ND). Most participants were women from 21 to 25 y/o, a total of 64 (30.9%). 118 (57%) were white, 107 (51.6%) had from 8 to 11 years formal education, 120 (58%) were married or lived with a partner, 117 (56.5%) were housekeepers, and 170 (82.1%) had a companion present during labor. Among the 207 women, 90 (43.5%) were primigravidae, 100 (48.3%) were nulliparous, and 175 (84.5%) had not had previous abortions. Regarding their gestational age, 76 (36.6%) had 40 or more weeks of gestation. Among them, 51 (67.1%) had CS, 25 (32.9%) had ND, and 154 (74, 4%) had not undergone previous CSs.

Non-primiparous women were 19 times more likely to progress to CS than primiparous women (Odds Ratio 19.1, CI 4.4-81.4, $p<0.00$). Most (69.6%) women had no previous history of ND, and among these, 78.5% evolved to CS and 21.5% to ND (Table 1).

Table 1. Type of previous delivery of women cared for in the Maternity of the GH-UFU, Uberlândia-MG, 2012.

Previous labor type	Cesarean section	%	Normal Delivery	%	Total	%	X^2 p-value	OD	CI	p
Cesarean sections										
None	88	(57.1)	66	(42.9)	154	(74.4)	27.3 <0.00	19.1	4.4-81.4	<0.00
1	43	(95.5)	2	(4.5)	45	(21.7)				
2	3	(100)	-	-	3	(1.5)				
≥ 3	5	(100)	-	-	5	(2.4)				
Normal Delivery										
None	113	(78.5)	31	(21.5)	144	(69.6)	27,0 <0.00	5,1	2,7-9,8	<0.00
1	12	(44.4)	15	(55.6)	27	(13.0)				
2	9	(34.6)	17	(65.4)	26	(12.6)				
≥ 3	5	(50.0)	5	(50.0)	10	(4.8)				

Most parturient women had their arterial pressure (AP) and axillary temperature (AT) measured only once (74.3%) and Fetal Heartbeat Rates (FHR) measured at least four times (58.5%). The touch to verify cervix dilation was carried out four times or more (68.6%) and, in these cases, 64.8% underwent CSs, while 35.2% had NDs. Regarding uterine dynamics (DU), in 55.1% of cases women were evaluated four

times or more. The partogram was used in 32.8% of cases. The number of c-sections was higher (p<0.00) when the women did not undergo partograms (Table 2).

Table 2. Procedures carried out in the monitoring of women under labor attended in the Maternity Ward of the GH-UFU, Uberlândia-MG, 2012.

Procedures	Cesarean section		Normal Delivery		Total	
	N	%	N	%	N	%
AP verification						
Did not take place	5	(41.6)	7	(58.3)	12	(5.8)
1	105	(68.2)	49	(31.8)	154	(74.3)
2	15	(75.0)	5	(25.0)	20	(9.6)
3	7	(70.0)	3	(30.0)	10	(4.9)
≥ 4	7	(63.6)	4	(36.4)	11	(5.4)
Temperature						
Did not take place	18	(47.4)	20	(52.6)	38	(18.4)
1	113	(72.4)	43	(27.6)	156	(75.4)
2	5	(55.6)	4	(44.4)	9	(4.3)
3	-	-	-	-	-	-
≥ 4	3	(75.0)	1	(25.0)	4	(1.9)
FHR verification						
Did not take place	11	(64.7)	6	(35.3)	17	(8.2)
1	10	(71.4)	4	(28.6)	14	(6.7)
2	25	(80.6)	6	(19.4)	31	(14.9)
3	19	(79.2)	5	(20.8)	24	(11.7)
≥ 4	74	(61.2)	47	(38.8)	121	(58.5)
Touch - DC verification						
Did not take place	11	(78.6)	3	(21.4)	14	(6.7)
1	8	(61.5)	5	(38.5)	13	(6.4)
2	10	(71.4)	4	(28.6)	14	(6.7)
3	18	(75.0)	6	(25.0)	24	(11.6)
≥ 4	92	(64.8)	50	(35.2)	142	(68.6)
UD assessment						
Did not take place	12	(70.6)	5	(29.4)	17	(8.2)
1	12	(75.0)	4	(25.0)	16	(7.8)
2	25	(73.5)	9	(26.5)	34	(16.4)
3	17	(65.4)	9	(34.6)	26	(12.5)
≥ 4	73	(64.0)	41	(36.0)	114	(55.1)

Among women who underwent CSs, 46.5% were taken to have a warm shower, 59.5% walked, 41% had exercise in the Bobat ball, 34.5% exercised on the bar. Regarding those who underwent ND, 53.5% had warm showers, 40.5% walked, 59% exercized on the Bobat ball, and 65.5% exercised on the bar. The number of c-sections was higher (p<0.05) among parturients who were not submitted to non-pharmacological pain relief methods and labor induction.

Among the 207 women, 52.2% were told to fast. In 20.3% of the labors, a companion was present, and in 38.7% an amniotomy was performed. Venous hydration was prescribed in 67.1% of cases, oral hydration in 30.5% of them, and in 25.6%, the women were given advice related to non-pharmacological techniques for pain control and labor induction (Table 3).

Table 3. Procedures related to the humanization of assistance to women attended in the Maternity Ward of the GH-UFU, according to the type of labor, Uberlândia-MG, 2012.

Procedure	Cesarean Section				Normal Delivery				Total			
	NO		YES		NO		YES		NO		YES	
	N	%	N	%	N	%	N	%	N	%	N	%
Women encouraged to walk	53	(76.8)	86	(62.2)	16	(23.2)	52	(37.8)	69	(33.3)	138	(66.7)
Women prevented from walking	129	(65.5)	10	(100)	68	(34.5)	-	-	197	(95.2)	10	(4.8)
Fasting prescription	44	(44.4)	95	(88.0)	55	(55.6)	13	(12.0)	99	(47.8)	108	(52.2)
Non-pharmacological control of pain	110	(83.3)	29	(38.7)	22	(16.7)	46	(61.3)	132	(63.7)	75	(36.3)
Exercises on the ball	106	(85.5)	33	(39.7)	18	(14.5)	50	(60.3)	124	(60)	83	(40)
Shower	97	(84.4)	42	(45.6)	18	(15.6)	50	(54.4)	115	(55.5)	92	(44.5)
Companion participating in the techniques	123	(74.5)	16	(38.0)	42	(25.5)	26	(62.0)	165	(79.7)	42	(20.3)
Amniotomy	100	(78.7)	39	(48.7)	27	(21.3)	41	(51.3)	127	(61.3)	80	(38.7)
Venous hydration	48	(70.6)	118	(85.5)	20	(29.4)	21	(15.2)	68	(32.9)	139	(67.1)
Oral hydration	112	(77.8)	27	(42.8)	32	(22.2)	36	(57.2)	144	(69.5)	63	(30.5)
Guidance on non-pharmacological pain relief techniques	120	(78.0)	19	(35.8)	34	(22.0)	34	(64.2)	154	(74.4)	53	(25.6)

DISCUSSION

The fact that in this study most deliveries were CSs (67.1%) goes against the cesarean rates advocated by the WHO and the Brazilian Ministry of Health. Considering a population, CS rates above 10% are not associated to the reduction of maternal and neonate mortality[3].

The elevation of CS rates is a worldwide phenomenon since the last decades of the 20th century[10]. There has been a difference in the rates of c-sections among the countries, which is related to their different socioeconomic conditions.

The rates are higher in more developed regions (27.2%) when compared to extremely underdeveloped regions (27.2%).[11]. Ecological studies indicat that these rates also differ among the different regions of the same country, as it happens in Brazil, which is one of the countries with the highest number of cesarean sections in the world, whose tendency is increasing even more[12,13]. Even developed countries such as the United States (25%) and Canada (23%) have higher CS rates [14].

The prevalence of women from 21 to 25 y/o, white, low educational level, married/living with partner, is similar to that of other studies[7]. Companions were present in 82.1% of deliveries, which is similar to the 94.1% rate found in a study from Rio de Janeiro[15]. The right to have a companion present is guaranteed to women by law 11.108 from 2005[10].

Most women were primiparous, nulliparous, with no history of abortion. This data, according to a logistical regression, showed that non-primiparous women are 19 times more likely to require c-sections than primiparous women ($p<0.00$). This data is in accordance to that of a study from Maringá-PR that found that multiparous women attended by SUS or by the private system, who had undergone previous c-sections are 11 times more likely to have another c-section[16]. It is common for physicians to decide repeat the

same surgical procedure, despite the lack of clear or plausible reasons. Therefore, the indiscriminate repetition of this procedure among multiparous women is a medical practice that is not based on evidence[17].

It was found that, regardless of their previous birth, most women underwent CSs (x^2 27.0 - p<0.00). According to data from the Ministry of Health, the percentage of vaginal childbirth is still below the ideal in Brazil[3]. The high percentage of c-sections with no clinical reason leads to consequences in the neonate and maternal health when it comes to efficacy and efficiency, including the use of health services and the distribution of demand and supply in SUS[18].

Despite there being controversies, there is a tendency to consider that the benefits of ND after a CS are higher then the maternal and fetal risks, meaning these are strategies to diminish the rates of unnecessary c-sections[3].

One of the most importat data found in this study was that c-sectins are more frequent (p<0.00) when there is no partogram. Although partograms are mandatory in maternities partnered with the Unified Health System[7], 67.2% of labors did not comply. In the research Being Born in Brazil, the partogram was used in 45% of deliveries observed[12].

During an *in loco* observation of labor, it was found that procedures such as AP and FHR verification, as well as vaginal touch, and UD, were carried out differently from what the World Health Organization prescribes.

Among the cases observed, it was found that only one AP verification was carried out. AP monitoring during labor is indispensable, since arterial hypertension inis the main cause of maternal death in Brazil, being responsible for 25% of deaths[10].

FHR listenings were carried out with a frequency ≥ than four in most labors. This finding is not in accordance to the prescriptions of the Ministry of Health, which recommend that fetal well-being evaluation in low-risk parturients should be carried out using intermittent listening (before, during, and immediately after a contraction, for at least 1 minute and every 30 minutes, being recorded as a single rate for all places of birth) and the Pinard horn or Doppler fetal monitor[3].

Cervical dilatation was found four times or more in most deliveries, which may increase the possibility of infections and generate discomfort for the mother. This data is in agreement with a study conducted in Teresina-PI, in which cervical dilatation was performed in 99.2% of births[19]. It should be emphasized that the number of touches should be as low as possible, since frequent touches may be uncomfortable to the mother and traumatic to maternal tissues[20].

Regarding axillary temperature (AT) in most cases there was only one verification, carried out during labor. This result is different from that of another research from 2008, in which there were no AT in 91.8% of labors[24].

The UD of most women were verified four times or more, differing from a study in Teresina in which 98.3% of parturients had their UD evaluated once or more[19].

It was found that the adoption of non-pharmacological pain relief methods and labor induction had positive influences on the evolution of the labor, contributing for NDs to take place. Most women had warm showers, walked, exercized on the Bobat ball and on the bar.

The number of c-sections was higher (p<0.05) among parturients who were not submitted to non-pharmacological pain relief methods and labor induction. This study is corroborated by the results of a 2017 research, in which the the non-pharmacological pain control in assistance led to better maternal outcomes and to a greater satisfaction of women regarding their parturition process[22].

In this study, 37.7% of women exercized in the Bobat ball, a higher percentage than the one from a study in Rio de Janeiro, in which this practice was used in only 7% of cases[15]. Another important information regards the number of NDs, which was higher (p<0.00) among women who did the Bobat ball exercise and had showers.

The National Guidelines for Normal Delivery, recently published by the Ministry of Health, recommend that, whenever possible,

professionals should suggest immersion in water for the women to give relief to the pain of labor[3]. Some studies state that bathing in warm water reduces pain and positively influences in the evolution of labor[23].

It was found that, despite being contraindicated for regular-risk pregnancies procedures such as amniotomy and venous hydration were recommended in most cases. Approximately 38.7% women were submitted to amniotomy and 67.1% to venous hydration. These data reiterate the fact that the prescriptions of the National Policy for Child Delivery and Birth are not well implanted, and professionals still carry out practices that have been discredited by current scientific evidences[24].

In this study, it was found that, regarding maternal care, there is no compliance to techniques that favor normal deliveries and the cesarian section rates are incompatible to the resources available for pain relief and labor induction.

considering the observation that there is a significant association between the number of normal deliveries and the use of the partogram, this study reiterates the importance of correctly filling the partogram, so that all pregnant women can be monitored during their labor.

Regarding the use of non-pharmacological methods of pain relief and labor induction, it should be reiterated that there is a positive relation between the use of these methods and improvements in the evolution of labor and in the experiences of women as they give birth.

CONCLUSÃO

It was found that women health care during labor is still a challenge, both in the quality of the assistance and in the principles of care, since the model currently used is still centered in medications and hospital environments.

In general, the pregnant women in this study were submitted to unnecessary medication and non-pharmacological techniques to relieve pain and induce labor were little encouraged. Rates of cesarean delivery recommendation were high, procedures to humanize and monitor labor were below expected and the assistance offered was not compatible with the principles recommended by the PHPN.

The most important data found refer to a significant association between the number of NDs and the use of the partogram and non-pharmacological pain relief and labor induction methods. Therefore, it should be highlighted that changes in the context of assistance require available evidences regarding health support during labor to be incorporated, as to make viable the good practices that the PHPN prescribes.

It stands out, as a limitation of this study, that undernotification may have happened, that is, the records might not include some procedures that were conducted. The *in loco* observation method may also be considered a limitation, since the presence of the researcher may inflence the conduct of the professionals.

This study suggests that new investigations should be performe to produce knowledge about the Brazilian reality with regards to women's care during labor, to offer subsidies that contribute to incorporate scientific evidences into the assistance being offered.

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CONTRIBUTIONS

Bárbara Dias Rezende Gontijo and **Efigenia Aparecida Maciel de Freitas** took part in the conception, delineation, analysis, and interpretation of data, as well as in the writing of the article and its critical review. **Kleber Gontijo de Deus** contributed to the analysis and interpretation of data, as well as in the writing of the article and its critical review.

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