Original article

Preference and factors associated with the type of delivery among new mothers in a public maternity hospital

Preferência e fatores associados ao tipo de parto entre puérperas de uma maternidade pública

Preferencia y factores associados al tipo de parto entre parturientas de una maternidad

Luana Dantas Vale[a]
Eudes Euler de Souza Lucena[b]
Cristyanne Samara Miranda de Holanda[c]
Rosângela Diniz Cavalcante[c]
Marquiony Marques dos Santos[d]

ABSTRACT

Objective: To identify reproductive and socioeconomic factors that influence the preference for a method of childbirth.
Method: Data were collected using semi-structured interviews with 233 women in postpartum care. Data were analyzed using association tests, namely the Chi-square test and multiple logistic regression.
Results: The preference for vaginal childbirth was cited by 58% of women. The main reasons for this preference were quick post-partum recovery, a negative experience in Caesarean childbirth and fulfilment through motherhood. Analysis of the logistic models of preference for vaginal delivery according to the independent variables revealed a greater occurrence in women who had previous experience of this type of delivery (PR: 1.91; CI: 1.15-3.17) and had received prior guidance (PR: 1.76; CI: 1.06-2.90).
Conclusion: Findings highlight the need to transform the model of care provided during pregnancy and childbirth.
Keywords: Parturition. Perception. Women's health.

RESUMO

Objetivo: Identificar os fatores obstétricos e socioeconômicos que influenciam a preferência pelo tipo de parto. A coleta de dados se deu por meio de entrevista semiestruturada com 233 puérperas.
Método: Analisaram-se os dados por meio dos testes de associação do tipo teste qui-quadrado e regressão logística múltipla.
Resultados: A preferência pelo parto vaginal foi citada por 58% das mulheres. As principais justificativas que apontaram essa preferência foram a recuperação pós-parto rápida, experiência negativa no parto cesáreo e realização pessoal a partir da maternidade. Ao analisar o modelo de regressão logística da preferência pelo parto vaginal em função das variáveis independentes, evidenciou-se maior ocorrência nas mulheres que tiveram experiência anterior desse tipo de parto (RP: 1,91; IC: 1,15-3,17) e orientação prévia (RP: 1,76; IC:1,06-2,90).
Conclusão: Achados evidenciam necessidade de transformação no modelo de atenção à gestação e ao parto.
Palavras-chave: Parto. Percepção. Saúde da mulher.

RESUMEN

Objetivo: Identificar los factores reproductivos y socioeconómicos influyen la preferencia por el tipo de parto. La recolección de datos se realizó mediante entrevista semiestructurada a 233 parturientas.
Método: Fue utilizado el análisis la asociación de tipo test qui-cuadrado y regresión logística múltiple.
Resultados: La preferencia por el parto vaginal fue nombrada por el 58% de las mujeres. Los principales motivos que justificaron esta preferencia fueron: recuperación postparto rápida, experiencia negativa con la cesárea y realización personal a partir de la maternidad. Al analizar el modelo de regresión logística de la preferencia por el parto vaginal en función de las variables independientes, destacó la mayor frecuencia en mujeres que tuvieron experiencia anterior de este tipo de parto (RP: 1,91; IC: 1,15-3,17), así como orientación previa (RP: 1,76; IC: 1,06-2,90).
Conclusión: Los resultados de este estudio indican la necesidad de transformar el modelo de atención a la gestación y el parto, a través de iniciativas que incluyan acciones de preparación al parto.
Palabras clave: Parto. Percepción. Salud de la mujer.

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[a] Universidade do Estado do Rio Grande do Norte (UERN). Caicó, Rio Grande do Norte, Brasil.

[b] Universidade do Estado do Rio Grande do Norte (UERN). Curso de Graduação em Enfermagem. Curso de Graduação em Odontologia. Caicó, Rio Grande do Norte, Brasil.

[c] Universidade do Estado do Rio Grande do Norte (UERN). Curso de Graduação em Enfermagem. Caicó, Rio Grande do Norte, Brasil.

[d] Universidade Federal do Rio Grande do Norte (UFRN). Natal, Rio Grande do Norte, Brasil.

INTRODUCTION

Since the 1970s, there has been an increase of interference in the process of birth in hospitals that has led to a higher number of surgical births, the active management of labour, the routine performance of episiotomy and the absence of companions during this moment[1].

With the institutionalization of labour and the introduction of new actors in this process, a new model of assistance was established that is leading to the increasing performance of interventions. This trend also reveals the existence of a model of care provided at birth and the routine use of interventionist practices that result in high rates of Caesarean sections[2].

The Ministry of Health encourages normal childbirth, the reduction of unnecessary C-sections and the recovery of childbirth as a physiological act. However, Brazil still has one of the highest rates of Caesarean section in the world. This reality can be justified by scientific advancements in the field of obstetrics and improved surgical techniques. Other possible reasons are the fear of pain linked to vaginal birth, the possibility of scheduling childbirth, surgical sterilization, prior Caesarean delivery, fear of injuries to the anatomy and physiology of the vagina, and the belief that vaginal birth is riskier and that Caesarean childbirth is painless[2-3]. In addition, another cause of the growing number of C-sections in Brazil, as in other countries, is the preference of women for this type of delivery[4].

The process of choosing the type of delivery is complex and controversial[5] and can be influenced by professionals, patients and their relatives, health institutions, and others. It is therefore necessary to closely observe and better understand the process of choosing a method of childbirth in different locations. This is especially necessary in Brazil due to the extensive social heterogeneity of Brazilian regions.

Although literature presents important data that can shed further light on the factors that determine the preference for a childbirth method, related studies on the predictors of women residing in areas with high social inequality and a low human development index are scarce. Studies that improve childbirth assistance are essential for the better elaboration of public health policies that help reduce the alarming rate of Caesarean delivery in the country, especially in areas far from large urban centres.

In light of this requirement, the assumption is that the high rate of Caesarean births in Brazil is influencing the image women construct around the idea of the birth method. Reasons such as the fear of pain associated to normal birth, the belief that the Caesarean delivery is less painful and less risky for the mother and her newborn, lack of due preparation during prenatal care and labour, or the preference of obstetricians for Caesarean section because it is less time-consuming, seem to influence the choice of this childbirth method.

Consequently, the aim of this paper is to analyze the preference for childbirth methods and verify associations with obstetric and socioeconomic factors in a benchmark public maternity hospital in the State of Rio Grande do Norte.

METHODS

This is a cross-sectional study conducted at a public maternity hospital that is a benchmark in deliveries in the city of Caicó/RN and surrounding cities. Cross-sectional studies are investigations that produce "snapshots" of the health of a population or community based on an individual assessment of the health status of each of the members of the investigated group[6].

The population defined for this study was women in the puerperium. The criteria for inclusion were women who had given vaginal birth 18 hours previously or more; women who had undergone a Caesarean section 24 hours previously; and women who were between 13 and 40 years of age. Although adolescents are configured as a vulnerable group, they were included in this study due to the high number of pregnant adolescents. They accounted for 18% of all the pregnant women registered at the SISPRENATAL in 2010 in the State of Rio Grande do Norte, while women ≥ 40 years were less frequent.

The births registry of the institution reported 450 normal births and 645 Caesarean births in the year preceding the study. The indicator of proportion of women who had normal childbirth was employed to calculate the sample, as this group was smaller in number. The prevalence of normal childbirth of 42% in a finite population of 1,095 pregnant women the year before the investigation was considered to calculate the sample. The employed parameters were type I errors at 5% and type II errors at 20%. The result was multiplied by 1.5% as a non-response rate, obtaining a number of 233 women. The strategy of allocating the participants was for convenience purposes, since they were the volunteers who had given birth during the data collection period.

The dependent variable in the study was the preference for the type of delivery (vaginal or C-section). The independent variables were the following socioeconomic variables: age, paid work (yes/no), family income (up to a minimum

wage, one to two minimum wages, three to four minimum wages, five or more minimum wages), education (illiterate, incomplete primary school, finished primary school, incomplete secondary school, finished secondary school, incomplete higher education, finished higher education), marital status (single, married, divorced, common-law marriage); and the following obstetric variables: antenatal consultation, type of previous birth (for multiparous women), gestational age, complications of childbirth (dystocia and dehiscence), a professional who provided prenatal care (doctor and nurse), number of pre-natal consultations, complications during pregnancy (yes/no), current labour method (normal, C-section or forceps), and prior guidance on the labour process. These variables were used to create closed questions, with the option of "other" for cases in which the available options were not accurate.

The interview was applied with the new mothers who were willing to participate in the survey after signing an informed consent statement, at the nursing sector of the maternity ward and in the individual rooms in the private sector of the hospital.

Data were analysed using the Statistical Package for Social Sciences (SPSS) version 20.0. Once the database was structured, a descriptive analysis of the data was initially carried out based on the socioeconomic and reproductive variables. The association between the preference for type of childbirth and socioeconomic and reproductive variables was verified using the Chi-square statistical test. To check the magnitude of these associations, we used the Prevalence Ratios (PR) and their respective Confidence Intervals (95%).

To meet the predictors, logistic regression was used through hierarchical analysis (forward) to estimate the prevalence of a preference for a method of delivery. Modelling was initiated by the most significant variables, and then the other variables were added one by one, accepting a p value of critical <0.20 to compose the model. The permanence of the variable in multiple analysis was based on the Likelihood Ratio Test, absence of multicolinearity, and its capacity to improve the model using the Hosmer-Lemeshow test. Finally, residue was analysed to isolate the cases that had undue influence on the model, causing little adherence. The significance level of 5% was adopted for all the tests.

The ethical aspects of research involving human beings were observed, pursuant to Resolution No. 466/2012. The research project was submitted to the Research Ethics Committee of the Universidade do Estado do Rio Grande do Norte - UERN and approved with protocol number 0060.0.428.428-11 (CAAE).

RESULTS

In all, data from 233 recent mothers were collected. Of the women participating in the study, 111 (47.6%) were unemployed, 89 (38.2%) had completed their secondary education, 152 (65.2%) were married or in a common-law marriage, and 133 (57.1%) had a household income of one to two minimum wages. The average age of the new mothers was 24 years (Table 1).

More than half of the population in the survey were first-time mothers (51.2%). Among the participants with previous birth history, most of them had the experience of vaginal birth (56.8%). Of the 233 new mothers, 184 (79%) reported having attended at least six prenatal consultations. However, 110 (47.2%) of them did not receive any guidance on childbirth during the consultations with the doctor or nurse.

Of the total 233 deliveries, 131 (56.2%) were C-sections and 102 (43.8%) were vaginal births. The average gestational age at time of delivery was around 39 weeks.

With respect to professionals who provided prenatal care, the nurses provided 55.4% of the consultations, doctors provided 30% of the consultations, and 14.6% of the consultations were provided by both professionals. The preference for vaginal childbirth was quoted by 135 women (58%). The justifications for the preference for normal childbirth included faster postpartum recovery and negative experience in the Caesarean postpartum. The desire for Caesarean section was related to the fear of the pain, insecurity in relation to local assistance, negative normal birth experiences, the desire to have tubal ligation and positive Caesarean birth experiences.

In terms of association, there was no relationship between the variable age, job type, education, marital status, income, number of prenatal consultations and gestational age with the variable preference for vaginal delivery. On the other hand, the preference for vaginal birth was associated with previous normal delivery, showing a prevalence of 60.60% over previous Caesarean births; who received prior guidance (33.9%) in comparison to those who did not receive prior guidance; and among the women who received pre-natal care from the physician had a "protection" factor of 27.1% to not prefer vaginal birth (Table 2).

In the logistic regression model, the variables previous Caesarean delivery and did not have previous guidelines, adjusted by the variable professional who provided pre-natal care, remained independently associated with the variable preference for Caesarean birth (Table 3).

Table 1 – Socioeconomic profile of the new mothers of a public maternity ward, according to the delivery method. Caicó/RN, 2014

Variables	Categories	Caesarean		Normal	
		N	%	n	%
Employment	Employed	42	18	30	12.9
	Unemployed	60	25.7	51	21.9
	Self-employed	11	4.7	5	2.1
	Other	18	7.7	16	6.9
Education	Illiterate	0	0	3	1.3
	Did not finish primary school	21	9	30	12.9
	Finished primary school	10	4.3	15	6.4
	Did not finish secondary school	29	12.4	17	7.7
	Finished secondary school	55	23.6	34	14.6
	Did not finish university	10	4.3	0	0
	Finished university	6	2.6	2	0.9
Marital status	Married	42	18	20	8.6
	Single	45	19.3	31	13.3
	Common-law marriage	42	18	48	20.6
	Divorced	2	0.9	3	1.3
Family income	Up to 1 minimum wage	26	11.1	30	12.9
	1-2 minimum wages	72	30.9	61	26.2
	3-4 minimum wages	28	12	11	4.7
	5 minimum wages or more	5	2.1	0	0
	Total	131	56.2	102	43.8

Source: Research data, 2014.

DISCUSSION

In this study, there was a higher prevalence of Caesarean section, although the preference for vaginal birth was cited by 135 (58%) of the interviewed women, which agrees with other authors[7] who indicated that vaginal birth is desired by 82.1% of new mothers. The study *Nascer no Brasil* showed that approximately 66% of the respondents preferred vaginal birth at the beginning of pregnancy, 27.6% reported preference for Caesarean delivery and 6.1% did not have a well-defined preference[4].

The reasons presented by the women who prefer vaginal birth are diverse[8]. Some claim that it is due to better postpartum recovery in comparison with Caesarean section, while others ascribe this preference not only to faster recovery, but also to possible complications during Caesarean section. On the other hand, the justifications presented for the preference for Caesarean delivery are fear of pain and Caesarean section as a convenience for tubal sterilization[4-9].

An investigation on the aspects related to the preference for a given type of delivery concluded that the fear of pain, the experience of friends and the possibility of vaginal injuries were singled out by women as being some of the reasons for the preference for Caesarean birth[5].

This indicates that the assumption that C-section is quick and painless is widespread in society. It is oftentimes presented as the best method of childbirth, and is defended by some actors in this process, such as health services, professionals, families, and others, among others, who use this conception to justify the intervention to themselves and to others[5].

According to the Ministry of Health, labour and birth assistance is strongly marked by intense medicalization, as well as unnecessary and potentially iatrogenic interference[2-10]. Corroborating this fact, the occurrence of

Table 2 – Association of preference for vaginal birth with the socioeconomic and obstetric variables. Caicó/RN, 2014

Variables	Categories	Preference for vaginal birth				
		n	%	*p* value	PR	CI (95%)
Age	Under 24 years	69	57.0	0.790	0.956	0.768 -1.190
	Over or equal to 24 years	65	59.6			
Type of employment	Formal	41	58.6	1.000	1.008	0.795 -1.277
	Informal	93	58.1			
Education	Illiterate up to basic education 1 completed	48	61.5	0.561	1.088	0.869 -1.361
	From basic education 2 to higher education completed	86	56.6			
Marital status	Married	90	59.2	0.629	1.081	0.844-1.383
	Single	40	54.8			
Family income	Up to 2 minimum wages	109	58.3	1.000	1.003	0.757 -1.328
	3 salaries or more	25	58.1			
Prenatal consultation	Up to 3 consultations	4	57.1	1.000	0.980	0.511-1.880
	4 consultations or more	130	58.3			
Type of previous birth	Normal	43	68.3	0.017	1.606	1.079 -2.391
	Caesarean	17	42.5			
Gestational age	Less than 39 weeks	68	56.2	0.593	0.928	0.746-1.155
	Equal to or more than 39 weeks	66	60.6			
Complications at childbirth	Yes	30	57.7	1.000	0.987	0.759 -1.285
	No	104	58.4			
Prenatal professional	Doctor	31	45.6	0.034	0.729	0.545-0.977
	Nurse	80	62.5			
Delivery guidelines	Yes	81	65.9	0.018	1.329	1.057-1.673
	No	53	49.6			

Source: Research data, 2014.

Caesarean section in this research is well above the levels stipulated by the World Health Organization (15%). In a study carried out in hospitals in the states of São Paulo, Pernambuco and Distrito Federal[11], the proportion of this method was 30.1%. This trend was also detected in a national survey, where the proportion of Caesarean deliveries was much greater than the desire of the women for this intervention. In fact, it was approximately three times greater than the initially referred preference, both in the private and public sector[4]. A high rate of Caesarean sections are particularly worrying in first-time mothers because it reinforces the idea of a greater possibility of future Caesarean sections, considering that, in practice, a prior Caesarean section is configured as an almost absolute indication for a new C-section[5].

It is worth mentioning that fear of vaginal birth is also associated, in a more masked manner, with the care provided during labour and birth to the women and their families. A study conducted with healthcare professionals from three institutions in the city of Cuiabá, Mato Grosso, with regard to the humanized practices advocated by Ministry of Health[2], showed that the humanization of childbirth and birth assistance is not yet a reality. Although professionals have a clear idea of the main aspects of humanization, they admit having difficulties in changing their care practices[10].

With regard to women who already had a history of vaginal birth, it was found that they prefer this method for a possible second pregnancy at a rate of 60% higher than those who had previously had a Caesarean birth. Literature shows that women who deliver by vaginal birth have a

Table 3 – Logistic regression model between the preference for Caesarean childbirth associated with socioeconomic and obstetric variables. Caicó/RN, 2014

Variables[a]	Categories		PR	CI (95%)	PRaj	CIaj (95%)
	Reference	Exposure				
Type of previous birth	Normal	Caesarean	1.81	1.15-2.84	1. 91[b]	1.15-3.17
Previous guidelines	Yes	No	1.48	1.08-2.01	1.76[b]	1.06 - 2.90

Source: Research data, 2014.

[a]Adjusted by the variable: professional who performed prenatal care. [b] p value < 0.05. Hosmer-Lemeshow test: $p = 0.999$.

CI: Confidence interval; ICaj: Adjusted Confidence Interval. PR: Prevalence Ratio; RPaj: Adjusted Prevalence Ratio.

clear preference (85.3%) for this same method. The experience of previous births is configured as a strong element that influences the current decision on the method of delivery. These women also claim that if the prior experience of childbirth was positive, it becomes their first preference for later deliveries, and if negative, the experience leaves marks that reinforces their fears and concerns[9].

In the group that preferred vaginal birth, most of the participants also claimed they had been exclusively accompanied by a professional nurse and had received prior guidance on labour during prenatal care. However, in the multivariate analysis model, this variable was not significant.

It is possible to affirm that the nurse, a member of the multidisciplinary team, is configured as one of the health professionals to encourage vaginal birth, promote the expression of sensitivity, subjectivity and intersubjectivity in the care environment, stimulate the physiology of birth, allow female protagonism, and respect their citizenship and their human and reproductive rights[12].

This study shows that the participation of professional nurses in prenatal care can contribute to improve compliance with actions recommended by the Labour and Birth Humanization Programme. According to the new mothers, the guidelines they received helped them learn more about the gestational process and the moment of labour itself, which is feared and involves many expectations[13]. The women who maintained their decision to give vaginal birth at the end of their pregnancy showed a lowest proportion of Caesarean sections, which shows the importance of supporting and encouraging women to choose vaginal birth[4].

Most participants were housewives who had no formally registered employment[14]. The small number of women who had paid employment in this study opposes the current trend of women´s insertion into the labour market, since statistics show a growing economically active population represented by women[15].

The occurrence of vaginal birth among women with up to eight years of schooling was greater than among those who had more than eight years of schooling, although there was not statistical significance with the preference for a delivery method. Studies conducted by other authors[16-18] also found no association between the educational level and the type of delivery. On the other hand, some studies[19-20] found a higher incidence of births by Caesarean section among women with a higher educational level. With respect to the marital status of participants, again no statistically significant association was detected[7].

The limitations of this study include the fact that the subjects had just given birth and that they were the only ones to participate in the research. The current negative or positive experience in relation to birth may have contributed to the preference for the method of delivery. However, the results of this study show that the form of organization of care and the influence of medical professionals during prenatal care affects the manner in which these women decide and express their preference for a method of delivery.

These findings reveal the need to change the practices of professionals who offer healthcare services for women during pregnancy and the puerperium in order to minimize damage and maternal mortality, and stimulate the conscious participation of women in the delivery process.

CONCLUSIONS

Caesarean section is the most prevalent childbirth method experienced by the participants of this study, representing more than half of the total number of births. However, vaginal birth was the preferred method for the majority of the new mothers interviewed for this study. The main factors that determined the preference for normal childbirth were faster postpartum recovery, prior experience of this delivery method and information/guidance on the risks and benefits of the different childbirth methods during prenatal follow-up.

Logistic regression identified that women who had already been submitted to Caesarean delivery and had not received previous guidelines during pregnancy were more prone to decide against normal childbirth.

The preference for method of birth did not present significant associations in relation to socioeconomic variables, although there were significant associations in terms of the obstetric factors experienced by the women. This finding supports the planning of actions through scientific evidence and reveals the need to redirect professional conduct and practices so that medical professionals may provide the appropriate care for this populations during pregnancy and the puerperium.

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Author's address:

Eudes Euler de Souza Lucena
Rua André Sales, 667, Paulo XI
59300-000 Caicó – RN
E-mail: eudeseuler@hotmail.com

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