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ORIGINAL ARTICLE

MATERNAL AND NEONATAL CHARACTERISTICS FROM THE LIVE BIRTH DECLARATION

CARACTERÍSTICAS MATERNAS E NEONATAIS A PARTIR DAS DECLARAÇÕES DE NASCIDOS VIVOS

CARACTERÍSTICAS MATERNAS Y NEONATALES POR LAS DECLARACIONES DE LOS NACIDOS VIVOS

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ABSTRACT

Objective: to characterize the maternal and neonatal conditions, using data from the Information System about Live births. ***Method:*** a descriptive study that analyzed 9987 births, residents in a regional polo city from Minas Gerais/MG, occurred from 2008 to 2011. The collected data through the Live Birth Declaration and conducted the descriptive analyze of variables relative to the maternal, pregnancy, labor and newborn condition. ***Results:*** the majority of mothers were 20 and 34 years old, 9 to 11 schooling years and more than their half are married. It was observed the increment on the operatory labor and prematurity number at the time. More than 70.0% of the mothers had made seven or more prenatal appointments and the majority had less than four live newborns and less than two dead newborns. The Apgar at the 1st and 5th minute with a great condition and reduction at the low weight prevail. ***Conclusion:*** prenatal and labor assistance interventions must be prioritized by the health professionals. ***Descriptors:*** Live Births; Birth Certificates; Health Information System; Health Assessment.

RESUMO

Objetivo: caracterizar as condições maternas e neonatais, utilizando-se de dados do Sistema de Informação sobre Nascidos Vivos. ***Método:*** estudo descritivo que analisou 9.987 nascimentos, residentes em município polo regional de Minas Gerais/MG, ocorridos entre 2008 e 2011. Dados coletados a partir da Declaração de Nascido Vivo e realizada análise descritiva de variáveis relativas às condições maternas, gestação, parto e do recém-nascido. ***Resultados:*** a maioria das mães com 20 e 34 anos, 9 a 11 anos de estudo e mais da metade são casadas. Observou-se aumento de partos operatórios e prematuridade no período. Mais de 70.0% das mães fizeram sete ou mais consultas de pré-natal e a maioria teve menos de quatro filhos nascidos vivos e menos de dois filhos nascidos mortos. Prevalece Ápgar no 1º e 5º minuto com ótima condição e redução na proporção de baixo peso. ***Conclusão:*** intervenções na assistência pré-natal e parto precisam ser priorizadas pelos profissionais da saúde. ***Descritores:*** Nascidos Vivos; Declaração de Nascimento; Sistema de Informação em Saúde; Avaliação em Saúde.

RESUMEN

Objetivo: caracterizar las condiciones maternas y neonatales, utilizando los datos del Sistema de Información nacidos vivos. ***Método:*** estudio descriptivo que examinó 9.987 nacimientos, que viven en el centro regional de la ciudad de Minas Gerais/MG, se produjo entre 2008 y 2011. Los datos recogidos de la Declaración de Nacido Vivo y realizó un análisis descriptivo de las variables relacionadas con enfermedades de la madre, el embarazo, el parto y el recién nacido. ***Resultados:*** la mayoría de las madres tenían de 20 a 34 años de edad, 9 a 11 años de estudio y más de la mitad están casadas. Hubo un aumento de partos instrumentales y parto prematuro en el período. Más del 70,0% de las madres tenía siete o más visitas prenatales y la mayoría tenía menos de cuatro nacidos vivos y menos de dos nascidos muertos. Prevalece el Apgar a 1 y 5 minutos en condiciones óptimas y la reducción de la proporción de bajo peso al nacer. ***Conclusión:*** intervenciones en la atención prenatal y el parto deben ser priorizadas por profesionales de la salud. ***Descriptores:*** Nacidos Vivos; Certificado de Nacimiento; Sistema de Información Sanitária; Evaluación de la Salud.

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INTRODUCTION

It is extremely important to know the population health determinants so that the planning could be conducted and the effective measures implement which aim the health condition improvement. The live births number knowledge and their characteristics are essential to health indicators creation, in its epidemiological and socio economical factors, which can set up a community's reality.[1-2]

The information used in the refereed health indicators are available on the Information System about the Live Births (SINASC in portuguese), created in 1990 by the Healthy Ministry and decentralized to others states from 1998. Since this date, it became the main databases to evaluate the actions, services and conduct scientifically researches on the maternal-children area. The system has as basis the Live Birth Declaration (LBD), which has as the main objective to provide information about the mother's characteristics, pregnancy conditions, labor and the specific newborns, providing a significant data contribution.[3] The Live Birth Declaration is an official instrument with required use, standardized in the entire national territory, to the data collection about live birth and considered as a legal document to the drawing up of birth certificate by the civil registry office.[4]

Brazilian studies, when evaluate the birth profile using the Information System about the Live Births' basis, showed that among the newborn observe characteristics, prevailed a higher number of male children, being the most part of weigh of 2500g and about 90% of the labor at term (>37 weeks), however was observed a percentage increase on the premature birth and operatory labor.[1-2,5] Those and others exposition factors influence the children mortality, that in despite of the tendency points to an annual reduction of 4.5%, the Brazil's rate if compared to developed countries over the years, still keep elevated.[6]

According to the maternal characteristics and pregnancy and labor condition were evidenced a higher prevalence of 20-34-year-old mothers[7] and schooling high or equal to eight years old study in some Brazilian regions. There were a predominance on the vaginal labor, although was observed an increment on the prenatal appointment number (7 or more appointments) but it is still verified low covers.[1-2]

Regarding to the Information System about the Live Birth's information quality, studies has shown larger covery[8-9], larger data reliability[10-1] and less Live Birth Declaration areas incompleteness.[12] The Information System about the Live Birth is set currently as an extremely valuable instrument to characterize the labor and birth situation, the mothers and their babies, which allow to follow this segment profile, the population and describe adequate health policies, according to the risk profile.[13] One of this system's advantages is the conduction, in low price, of population basis studies and with national spread.[14]

Thus, this study aims to characterize the mothers and neonatal conditions, using data from the Information System about the Live Births.

METHOD

A descriptive study conducted through the municipal Information System about the Live Births' data basis, from 2008 to 2011. This kind of study allow us to know the event distribution, on the population, through the organization of the information referring to the people, place and time characteristics.[15]

The studied city is the larger city in the west expanded region in Minas Gerais, with estimated population in 217404 inhabitants.[16] It is the center of the expanded region being reference to the secondary and tertiary attendance from all the region where there are others 52 cities. There are 15 Traditional Basic Care Unities, 12 Health Family Team, a polyclinic, an emergency care unity and a psychosocial care center. Others private and philanthropic establishment participate in a complementary way of the Health Unic System (SUS), among them 16 specialized services and three hospitals.[17]

The studied population was composed of 10266 hospital births, living in the city, occurred from 2008 to 2011. From those, 279 births were excluded for being from mothers who don't live in the studied city, thereby the studied population were 9987.

Data were collected through the Live Birth Declaration, which have the variables relatives to the mothers condition as the mother's age (younger than 15; 16 to 19; 20 to 34; older than 35); mother's schooling (less than 8 years, 9 to 11, 12 and more), categorized pregnancy length in 36 or less (pre-term) and 27 or more weeks (termed), Kind of labor (vaginal and operatory), prenatal appointments number (less than 6 appointments and 7 or more appointments), living sons from previous pregnancies number and born dead sons number. The weight at birth, categorized as low weigh (newborns

weighing less than 2500g), and adequate weight (newborn weighing 2500g or more), newborn gender (female and male); Apgar at the 1st and 5th minutes as newborn referents variables.

The completeness Live Birth Declaration pointed to 100% of variables register, weight at birth, mother's age, kind of labor, kind of pregnancy and newborn's gender. At the others studied variables, the incompleteness varied from 0.2% to 1.8%, a classification considered excellent (less than 5%).[18] Concerning to the others variables that contained at the Live Birth Declaration (mother's marital status, race/skin color, mother's occupation and activity hive, congenital malformation and/or chromosomal anomaly detection) weren't evaluated due to the incompleteness larger than 20%, evaluated as bad[18], being this study's limitation.

Was used the *Statistical Package for the Social Sciences* (SPSS®), version 17.0 to tabulation and data analysis. For the studied population characterization we conducted the frequencies distribution and/or central tendency measure and variable dispersion.

This study obeys to the ethical precepts from the Resolution 466/12 from the Health National Council and was approved by the Ethical Committee evolving human beings according to the registered number 392702.

RESULTS

When analyzing the maternal characteristics, we identify the 20-34 year-old mothers prevalence, more than the half married, and from 9 to 11 schooling years. There was a teenager pregnancy reduction on the analyzed period. We also verified that the majority of the mothers had less than 4 alive newborns and less than 2 dead newborns.

Table 1. Characteristics refering to the maternal conditions, in Minas Gerais, 2008 to 2011.

Variables*	Anos							
	2008		2009		2010		2011	
	n	%	n	%	n	%	n	%
Mothers' age								
Younger than 15	37	1.5	27	1.1	16	0.6	31	1,2
16 to 19 years old	281	11.0	251	10.3	244	9.8	233	9.3
20 to 34 years old	1885	74.0	1780	73.2	1848	74.1	1836	73.0
Older than 35	343	13.5	374	15.4	387	15.5	414	16.5
Marital Status								
Single	1124	44.7	1109	46.1	1092	44.2	1093	43.7
Married	1393	55.3	1297	53.9	1381	55.8	1410	56.3
Schooling								
Less than 8 years	609	24.1	523	21.7	420	17.0	432	17.3
9 to 11 years	1481	58.6	1455	60.2	1553	62.7	1564	62.5
12 or more years	438	17.3	437	18.1	503	20.3	506	20.2
Live newborns number								
Less than 4 sons	2399	97.1	2299	95.7	2395	96.7	2431	97.5
4 or more sons	71	2.9	103	4.3	81	3.3	62	2.5
Dead newborns number								
Less than 2 sons	2426	99.5	2376	99.1	2458	99.2	2430	97.5
2 or more sons	11	0.5	21	0.9	19	0.8	62	2.5

*The blank or ignored field varie from 0.7 to 1.85%

In relation to the pregnancy and labor conditions the analysis pointed that there were a predominance of newborns to terms (pregnancy's length of 37 weeks or more). However the premature labor proportion had an expressive increase at the last analyzed year (9.6%). We observed the operatory labor increase between the years 2008 and 2011, varying from 58.8% to 63.2%, respectively. The prenatal appointment number (7 or more appointments) has also increased at this period, from 71.9% in 2008 to 76.7% in 2011 (Table 2)

Table 2- Characteristics referring to the analyzed birth's pregnancy and labor conditions, in Minas Gerais, 2008 to 2011.

Variables*	Years							
	2008		2009		2010		2011	
	n	%	n	%	n	%	n	%
Pregnancy Lenght								
36 weeks or less	195	7.7	176	7.2	186	7,5	240	9,6
More than 37 weeks	2342	92.3	2255	92.8	2308	92.5	2261	90.4
Kind of Labor								
Vaginal	1050	41.2	949	39.0	869	34.8	925	36.8
Operatory	1496	58.8	1483	61.0	1626	65.2	1588	63.2
Prenatal Appointments								
1 to 6 appointments	704	28.1	635	26.3	558	22.4	585	23.3
7 or more	1804	71.9	1784	73.7	1928	77.6	1924	76.7

* The blank or ignored field varie from 0.01 to 0.65%

The presented data on Table 3 are related to the neonatal characteristics. It was observed the Apgar at the 1st and 5th minute with a great condition, between the years 2008 and 2011. The major part of the newborns, was born weighing from 2500g to 4000g, we highlight the low weight newborn proportion reduction from 9.2% to 8.9% on the analyzed period.

Table 3. Characteristics referring to the analyzed birth's neonatal condition.

Variables*	Years							
	2008		2009		2010		2011	
	n	%	n	%	n	%	n	%
Ápgar at the 1st minute	41	1.6	33	1.4	40	1.6	42	1.7
Serious conditions								
Moderate Conditions	93	3.7	86	3.5	100	4.0	103	4.1
Light Difficulty	100	3.9	83	3.4	98	3.9	81	3.2
Great Conditions	2308	90.8	2225	91.7	2254	90.4	2274	91.0
Ápgar at the 5th minutes	3		3	0.1	4	0.2	6	0.2
Serious conditions	24	0.1	16	0.7	18	0.7	15	0.6
Moderate Conditions	17	0.9	32	1.3	31	1.2	42	1.7
Light Difficulty	2498	0.7	2376	97.9	2439	97.9	2441	97.5
Great Conditions		98.6						
Weight at birth								
(in grams)	235	9.2	216	8.9	221	8.9	225	8.9
Less than de 2.500g	2234	87.7	2145	88.2	2190	87.8	2223	88.4
2500 to 4000g	77	3.0	71	2.9	84	3.4	66	2.6
4000g or more								

* The blank or ignored field varie from 0.2 to 0.3%

DISCUSSION

The Live Birth Declaration filling Fields' completeness is an extremely important criteria to the health information quality, and, consequently, to the neonatal and maternal conditions evaluation and monitoring. Furthermore, institutionalize the national basis evaluation provide to the managers a higher knowledge and security at the decisions directed to the quality care. In this study, the majority of the analyzed variables presented incompleteness less than 10%, being classified as good the ignored/not filled field percentage.[18] In despite of the achieved advances, the maternal occupation and activity hive and congenital malformation and/or chromosomal abnormality detection still have elevated incompleteness, preventing its analyzes. This situation can be modified through the flux organization, sharing and informational competence. In this aspect is highlighted the necessity of a bigger institutional support, material resources improvement, human and procedural resources management, adequate to the informational practice conduction and to its product appropriation at the maternal children health care.[19]

About the maternal characteristics the great part of the births occurred in 20-34-year-old mothers. This fertility age occurs due to the better access to health education, contraceptive methods, life quality improvement and the women participation at the job market, thus, transferring the maternity to older ages.[20] Teenager mothers still represent a problem in the studied city. This fact allow us to consider that this young access to health care may keep highlighted, because the adolescence is a critic period in which the person is vulnerable due to the incomplete physical, emotional and educational formation, in addition to the socio economical conditions in which those young women are inserted.[20]

Regarding the marital status, almost half of the mothers were single, corroborating with

studies conducted in others places.[2,20] The authors attribute this fact to the number of mothers in adolescence, without any partner's support, emphasizing thus changes at the familiar structure over the years.[21-2]

The mother schooling variable presented larger numbers among mothers with 9 to 11 years. The mother schooling is a protection factor to the children, more the mother is educated, better are the conditions to guide them concerning the conduct and actions turned to the newborn adequate care.[20] According to a study conducted in a city placed in the South Minas Gerais, mothers with low schooling level may have a later begin at the prenatal control or the non adhesion to this assistance service.[22]

The results pointed to the pre-term labor increase (less than 36 weeks) at the studied period. This phenomenon may be explained through several associated factors, among them: the maternal age younger than 21 years old or older than 36 years old, low socio economical level, pre term labor antecedent, marital status, kind of mother occupation, nutritional status, mother inadequate weigh changing, race, absent or ineffective prenatal assistance, kind of labor, among others.[23-4]

Regarding to the kind of labor, the operatory labor increased and this can be related as for the maternal demand as for the medical preference, and the economical interests of the people evolved in this process. If in a side the women reveal preference for vaginal labor, in the other side, there is a popular concept that the operatory labor are chosen for being less painful and that the vaginal labor is more risked to the baby.[25]

Concerning to the prenatal appointment; the Health Ministry advocates as adequate seven or more appointments. In the studied city, during a period of 4 years, the adequate prenatal appointment proportion is increasing; however on the observed results they aren't in conformity to the expected, ticking to the primary care services insufficiency in the local health. In Imperatriz/ Maranhão[26] in a midsize public maternity, 60.0% of the researched sample, what are the premature newborn's mothers, did less than five prenatal appointments.

This studied presented Apgar rates at the 1st and 5st minute of great condition. It is important to take this variable in consideration to the newborns health situation analysis, mainly the low weight ones. Costa e Frias[27] presented doubts in relation to those two Live Birth Declaration field filling by non capable professionals who can transcribe reliable information. So, this is essential to evaluate those newborns' birth conditions and minimize future damages.

About the variable weight at birth, it is highlighted the low weight at birth, a study object from various authors, which bring analyses that show its relation to the neonatal prematurity and mortality. This event may be directly related to the maternal pregnancy and labor conditions, in additions to those processes triggering factors, the precarious socio economical conditions and the inadequate prenatal care.[28-9]

CONCLUSION

This study's results pointed over the years the operatory labor and pre-termed birth increment. This data is a worrisome factor that evidences the importance of new studies in this area. The descriptive study is the first step to the risk factors' epidemiological investigation, because generate hypothesis to be investigated in analytics studies, such as the necessity to understand some variables incompleteness triggering factors, and the evolved informational behavior of people in the SINASC's informational flux.

The knowledge about the maternal-children health conditions allow to ensure to the managers the change decisions, evidence vulnerability situations, conduct improvement at the health population assistance, promote a risk reduction approach, guarantee and actualize health strategies according to the SUS' principles.

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