

CHARACTERIZATION OF ADOLESCENT MOTHERS AND THEIR NEWBORNS, IN A SMALL-SIZED CITY, FROM 1995 TO 2009*

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ABSTRACT: This is a cross-sectional study that aimed to characterize the profile of adolescent mothers, and to compare social and obstetric characteristics, as well as characteristics of the newborns, among a group of early adolescents (10-14 years old) and late adolescents (15-19 years old), in the city of Bandeirantes, Paraná, Brazil, from 1995 to 2009. Information was collected in June 2012, from the DATASUS database. The results evidenced that, in the period of the study, there were 8,364 deliveries, out of which 1,833 (21.9%) were from adolescents – 73 (3.9%) in early ones, and 1,760 (96.1%) in late ones. Associated with pregnancy in early adolescence, there were characteristics like the mother's lower level of schooling, absence of a partner, smaller number of prenatal care visits, and low birth weight. The findings reiterate that worse socio-demographic conditions influence the occurrence and prognosis of adolescent pregnancy, reinforcing the importance health professionals have in the implementation of strategies that decrease its re (occurrence).

DESCRIPTORS: Adolescent Pregnancy; Health Profile; Risk Groups.

CARACTERIZAÇÃO DE MÃES ADOLESCENTES E SEUS CONCEITOS EM MUNICÍPIO DE PEQUENO PORTE, DE 1995 A 2009

RESUMO: Estudo transversal que teve por objetivo caracterizar o perfil de mães adolescentes e comparar características sociais, obstétricas e do recém-nascido entre o grupo de adolescentes precoces (10 a 14 anos) e tardias (15 a 19 anos), no município de Bandeirantes, Paraná, de 1.995 a 2.009. As informações foram levantadas em junho de 2.012, no banco de dados do DATASUS. Os resultados evidenciaram que no período em estudo, ocorreram 8.364 partos, dos quais 1.833 (21,9%) foram em adolescentes, sendo 73 (3,9%) entre as precoces e 1.760 (96,1%) entre as tardias. Esteve associada à gestação na adolescência precoce características como: menor escolaridade materna, ausência de companheiro, menor número de consultas de pré-natal e baixo peso ao nascer. Os achados reitera que piores condições sócio demográficas influenciam a ocorrência e o prognóstico da gravidez na adolescência, ressaltando a importância dos profissionais de saúde implementarem estratégias que diminuam sua (re)ocorrência.

DESCRIPTORIOS: Gravidez na adolescência; Perfil de saúde; Grupos de risco.

CARACTERIZACIÓN DE MADRES ADOLESCENTES Y SUS CONCEITOS EN UN PEQUEÑO MUNICIPIO, DE 1995 A 2009

RESUMEN: Estudio transversal que tuvo por objetivo caracterizar el perfil de madres adolescentes y comparar características sociales, obstétricas y del recién nacido entre el grupo de adolescentes precoces (10 a 14 años) y tardías (15 a 19 años), en el municipio de Bandeirantes, Paraná, de 1995 a 2009. Las informaciones fueron obtenidas en junio de 2012, en el banco de datos del DATASUS. Los resultados evidenciaron que, en el periodo en estudio, ocurrieron 8.364 partos, de los cuales 1.833 (21,9%) fueron en adolescentes, siendo 73 (3,9%) entre las precoces y 1.760 (96,1%) entre las tardías. Fueron asociadas a la gestación en la adolescencia precoz, características como: baja escolaridad materna, ausencia de compañero, poco número de consultas de prenatal y bajo peso al nacer. Los resultados apuntan que malas condiciones sociales y demográficas influencian la ocurrencia y el pronóstico de la gravidez en la adolescencia, destacando la importancia de la implantación de estrategias que ayuden a disminuir la (re)ocurrencia por parte de los profesionales de salud.

DESCRIPTORIOS: Gravidez en la adolescencia; Perfil de salud; Grupos de riesgo.

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INTRODUCTION

Adolescence comprehends the ages from 10 to 19 years old, being a phase of human development, essential for the individual to reach bio-psychosocial maturity. In this period, there is the quest for affective interpersonal relationship among youths and the discovery of sexuality and new body sensations. In this complex context of surprising and emerging transformations, the first sexual contacts happen and, thereby, adolescents often expose themselves to sexually transmissible diseases (STD) and unplanned pregnancy ⁽¹⁾.

Pregnancy in adolescence has been pointed as a "social issue". The increase of pregnancy in this phase of life brings concern, because, in addition to the higher obstetric risk, in this moment youths should be preparing themselves for adulthood, especially when it comes to studies and better access to the job market ⁽¹⁾. Besides, the fact that most of these births occur out of a marital relationship tends to aggravate the situations and then calls the attention of society and health services to the case ⁽²⁾.

Several studies, conducted in different locations, have explored the impact of adolescent pregnancy on maternal and neonatal mortality, showing that there is a higher incidence of complications during pregnancy, delivery and postpartum period in adolescents, such as miscarriage, restriction of intrauterine growth, gestational diabetes, pre-eclampsia, intrapartum fetal distress, premature birth, cesarean section with increase in wound dehiscence, and difficulties in breastfeeding⁽³⁻⁵⁾. Among the complications referring to newborns, it is possible to observe the incidence of malnutrition, hospitalization, mistreatment, and domestic accidents that can last for their entire childhood⁽⁶⁾.

There is, however, little information about the obstetric prognosis of early adolescents (10-14 years old), when compared to that of late ones (15-19 years old). Investigations about pregnant adolescents, typically limit their population to the second group, whereas information on younger women appear only in aggregated statistics. The few studies that included younger adolescents show inconclusive evidence in relation to the risks associated with conception in this population. This may reflect inconsistency in the definition of the limit to consider the gestation in early adolescence⁽⁷⁾.

Unplanned pregnancy in adolescence and its recurrence can be avoided through qualified and clarifying multiprofessional monitoring ⁽⁸⁾. Thereby, learning the magnitude of the problem and the profile of the adolescents and of their children becomes necessary, in an attempt to structure the scientific knowledge that subsidizes the assistance to be provided⁽⁹⁾.

Moreover, the recognition of factors associated with the issue of pregnancy in adolescence and its determinants and aggravations, is essential to direct the planning and elaboration of social and health public policies, especially in regions where the problem is considered endemic. In light of the exposed, the present study aimed to characterize the profile of adolescent mothers and to compare social and obstetric characteristics, as well as the characteristics of the newborn, among a group of early adolescents (10-14 years old) and late adolescents (15-19 years old).

METHODS

This is a cross-sectional and descriptive study conducted from a survey of the records of all newborns of adolescent mothers, living in the city of Bandeirantes, in a 15 years period, from January 1995 to December 31, 2009.

Bandeirantes is a small-sized city located in the northern region of the state of Paraná, Brazil, with a population of 32,184 inhabitants, and presents a human development index (HDI) of 0.727, considered medium. In the public health sector, it counts with eight Basic Health Units, six teams of Family Health Strategy Program, one unit for infant maternal assistance and one unit for general clinical assistance.

Data was collected in June 2012, through consultation to the electronic database available in the DATASUS – an organ of the Ministry of Health responsible for computerized systems. The source of information was the certificate of live birth (COLB), which is a form for data collection of the Brazilian System of Information on Live Birth (SINASC), completed for all births occurred in the country.

After the consultation, data was compiled in tables elaborated by the researchers themselves and was statistically analyzed in the Excel for Windows® 2007. For the purposes of this study,

the adolescent mothers were divided into two groups, according to their age group (10-14 years old and 15-19 years old). The variables of interest were dichotomized and then divided into: sociodemographic variables (marital status and years of study), obstetric variables (gestational age in the moment of delivery; type of pregnancy; type of delivery; and number of prenatal care visits), and variables of the newborn (Apgar score in the 1st and 5th minutes of life, and birth weight). Information presented as ignored in the database was excluded from the analysis.

To decrease the instability of the rates and to monitor the way the variables studied behave throughout time, data was grouped into three quinquennia (1995-1999, 2000-2004, 2005-2009) and was distributed into tables of absolute and relative frequency. To verify the difference between the groups assessed, statistical analyses were used, through the non-parametrical Pearson's chi-square test. There was a considerable numerical coincidence between the groups studied. Thus, some variables presented expected number of cases lower than 05 and, for this reason, during data analysis, Yates' chi-square test had to be employed. The level of significance was set at $p < 0.05$.

The study was developed in accordance with Resolution No 196/96 of the National Council of Health, and approved by the Standing Committee of Ethics on Research Involving Humans of the State University of Maringá, under No 005/2013, and did not require the use of an informed consent form, since data was obtained from secondary sources.

RESULTS

According to the DATASUS, from 1995 to 2009, in the city studied, 8,364 live births occurred, out of which 1,833 (21.9%) were in adolescents – 73 (3.9%) among the early ones, and 1,760 (96.1%) among the late ones. The number of births registered was higher in the last quinquennium.

By observing the sociodemographic characteristics throughout the quinquennia, it is noticeable that in both groups of expectant mothers the percentage of those without a partner was lower in the second quinquennium,

followed by a considerable elevation in the third one. However, overall, it is possible to verify that most of the late adolescents had a partner (52.4%), whereas among the late ones, the proportion was 26.7%, and there were statistically significant differences between groups (Tables 1, 2 and 3).

Regarding the mother's schooling, from the first to the second quinquennium, there was a considerable elevation in the percentage of adolescent expectant mothers with less than eight years of study, with tendency to stabilization of the rates in the last period. However, it was evidenced that 37.7% of the adolescents aged from 10 to 14 years old had more than eight years of study, whereas for those aged between 15 and 19 years old, this proportion was 61.0%, and a statistically significant difference was observed between both groups.

As for the obstetric variables, it is noticeable that, although gestational age lower than 37 weeks in the moment of delivery and multiple pregnancy have occurred with higher frequency among the early adolescent expectant mothers, and the C-section among the late adolescents, these variables presented no statistically significant differences between both groups.

Analyzing the evolution of the variable gestational age lower than 37 weeks in the moment of birth, over the quinquennia, it is possible to observe a decrease in the number of early adolescent expectant mothers that led the pregnancy to the term. In turn, the variable type of delivery remained stable throughout the quinquennia among the early and late adolescents.

It is also evidenced that the higher number of prenatal care visits was associated with pregnancy in early adolescence, and a little more than half (57.4%) of the adolescent mothers aged between 10 and 14 years old made seven or more prenatal care visits, whereas among the older ones, this percentage reached 73.8% (1,170 cases).

Regarding the variables of the newborn, most of the children of early adolescent mothers presented good vitality conditions (Apgar >7) in the first (87.5%) and fifth (97.2%) minutes of life. A similar picture was observed in newborns of mothers aged 15-19 years old, in which the proportion of newborns with Apgar score superior to seven, in the first and fifth minutes of life, were 91.7% and 97.4%, respectively, and there were no statistically measurable differences between both groups (Tables 4, 5 and 6).

Table 1 – Distribution of adolescent mothers, according to social and obstetric variables. Bandeirantes - PR-Brazil, 1995-1999

Year	1995 - 1999			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Marital status				
No partner	01	33,3	31	67,4
With partner	02	66,7	15	32,6
Years of study				
< 8 years	03	11,5	48	7,6
≥ 8 years	23	88,5	583	92,4
Gestational age				
< 37 weeks	01	3,4	33	4,4
≥ 37 weeks	28	96,5	702	95,6
Type of pregnancy				
Singleton	29	100	728	99
Multiple	-	-	07	1
Type of delivery				
Vaginal	23	79,3	586	79,6
Cesarean	06	20,7	150	20,4
Number of prenatal care visits				
< 7	06	24	79	14
≥ 7	19	76	483	86

Table 2 - Distribution of adolescent mothers, according to social and obstetric variables. Bandeirantes - PR-Brazil, 2000-2004

Year	2000 - 2004			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Marital status				
No partner	9	40,9	417	72,4
With partner	13	59,1	159	27,6
Years of study				
< 8 years	23	100	332	57,6
≥ 8 years	-	-	244	42,4
Gestational age				
< 37 weeks	3	13	68	11,7
≥ 37 weeks	20	87	509	88,3
Type of pregnancy				
Singleton	23	100	575	99,6
Multiple	-	-	2	0,4
Type of delivery				
Vaginal	16	69,5	382	66,3
Cesarean	7	30,5	194	33,7
Number of prenatal care visits				
< 7	11	47,8	197	34,1
≥ 7	12	52,2	380	65,9

Table 3 - Distribution of adolescent mothers, according to social and obstetric variables. Bandeirantes - PR-Brazil, 2005-2009

Year	2005 - 2009			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Marital status				
No partner	2	10	112	25,1
With partner	18	90	334	74,9
Years of study				
< 8 years	17	85	265	59,4
≥ 8 years	3	15	181	40,6
Gestational age				
< 37 weeks	2	10	20	4,4
≥ 37 weeks	18	90	427	95,6
Type of pregnancy				
Singleton	20	95,2	445	99,5
Multiple	1	4,8	2	0,5
Type of delivery				
Vaginal	14	70	294	65,7
Cesarean	6	30	153	34,3
Number of prenatal care visits				
< 7	12	60	140	31,3
≥ 7	8	40	307	68,3

Table 4 - Distribution of the characteristics of the newborns of adolescent mothers Bandeirantes-PR-Brazil, 1995-1999

Year	1995-1999			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Apgar in the 1st'				
≤ 7	5	17,2	80	10
> 7	24	82,8	715	90
Apgar in the 5th'				
≤ 7	1	3,4	26	3,5
> 7	28	96,6	709	96,5
Birth age				
< 2500 g	4	13,8	66	8,9
≥ 2500 g	25	86,2	669	91,1

Table 4 - Distribution of the characteristics of the newborns of adolescent mothers. Bandeirantes-PR-Brazil, 2000-2004

Year	2000-2004			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Apgar in the 1st'				
≤ 7	4	17,4	42	7,2
> 7	19	82,6	534	92,8
Apgar in the 5th'				
≤ 7	1	4,3	15	2,5
> 7	22	95,7	562	97,5
Birth age				
< 2500 g	5	21,7	42	7,2
≥ 2500 g	18	78,3	535	92,8

Table 5 - Distribution of the characteristics of the newborns of adolescent mothers. Bandeirantes-PR-Brazil, 2005-2009

Year	2005-2009			
	10-14 years old		15-19 years old	
Characteristics	n	%	n	%
Apgar in the 1st'				
≤ 7	-	-	28	6,2
> 7	20	100	419	93,8
Apgar in the 5th'				
≤ 7	-	-	6	1,3
> 7	20	100	441	98,7
Birth age				
< 2500 g	4	20	36	13,9
≥ 2500 g	16	80	411	86,1

DISCUSSION

Several researches about adolescent pregnancy have been conducted in Brazil^(7,10-13) and worldwide^(6,14-15). However, although this is a common theme in scientific-scholarly discussions, adolescents often face the lack of quality assistance services, due to the deficit of structured knowledge that might help the practice of professionals in health services. Thus, this vulnerable portion of the population is not provided with a comprehensive monitoring that aims to decrease eventual physical and psychological damages while experiencing early pregnancy (or pregnancies).

There is the belief that the elevation in mortality rate, observed in the last quinquennium of the period studied, derives from an intensified pressure by municipal managers on compulsory

notifications, including those of born-alive infants, resulting in an increment and greater rigor put into the completion of the COLBs. Such assertion is corroborated by the decrease in the number of fields completed as ignored in the COLBs and in the DATASUS database over the years.

The rate of adolescent pregnancy (21.9%) and pregnant early adolescents (3.9%) verified is very similar to that found in analogous research conducted in the state of Espírito Santo, which found a prevalence of adolescent pregnancy of 20.0%, and 3.89% of these ones occurred at the ages from 10 to 14 years old⁽¹¹⁾.

A worrisome situation that calls attention is the fact that 73.3% of the early adolescent mothers are not in a stable marital relationship in the moment they give birth. Possibly, these girls have lived, among other problems, a conflicting relationship with their families, which made

pregnancy in adolescence a conjuncture even harder to be experienced. In this way, in many cases, the presence of a partner could represent a source of socio-emotional support for the pregnant adolescent.

The marital situation of the adolescents is one of the factors that influence the way they face the pregnancy and postpartum period. Thereby, health services need to be alert to this information, because there is evidence that the presence of a partner for the adolescent pregnant promotes self-care actions, such as a greater compliance with prenatal care visits⁽⁶⁾. Thus, nurses of the Family Health Strategy should know the marital situation of the pregnant adolescents of the area where they act, in order to elaborate intervention strategies that bring the partners to the service of attention to the health of expectant mothers, helping them to comply with prenatal care activities and to cope, as best as possible, with the difficulties that arise during pregnancy.

The absence of a partner also influences the birth conditions of children of adolescent mothers. A case-control study conducted in the city of Rio Grande, state of Rio Grande do Sul, with 547 newborns, out of which 41.1% were children of adolescent mothers, showed association between low birth weight and women without a partner. According to the authors of said study, such situation may relate to an emotional instability derived from the lack of psychological support from a partner, reduced family income due to the existence of one single source of income, and extreme ages, especially for those adolescent mothers that remain without a partner for a longer period⁽¹⁶⁾.

Most of the early adolescent expectant mothers (62.3%) had less than eight years of study. It is worth highlighting that the low level of schooling of the early adolescent mothers did not constitute a reliable social indicative, since the lower level of schooling can be explained by the fact that many of them are not old enough to reach eight years of study. Thus, what becomes relevant for this age group is the investigation about the continuation of the studies after pregnancy, because pregnancy in adolescence brings important consequences not only from the biological perspective, but also when it comes to social aspects, since among adolescent mothers quitting or postponing the studies is a common practice⁽¹¹⁾.

The number of prenatal care visits presents itself as a qualifier of the health assistance provided to the expectant mother. The Ministry of Health recommends at least seven prenatal care visits in the course of gestation⁽¹⁷⁾. Prenatal care allows much pathology, able to affect the baby, being treated or controlled during the gestational and postpartum period, thus avoiding harmful effects on child and mother. Moreover, prenatal care, when well performed, may contribute to the decrease in the occurrence of some specific problems in the moment of delivery⁽¹⁸⁾.

The proportion of expectant mothers that had seven or more prenatal care visits was lower among the early adolescents (57.4%) than among the late ones (73.8%). This situation results, in addition to the lower level of schooling and the absence of a partner, already mentioned in this reflection, from other factors, such as delayed beginning of follow-up, since many times the adolescents try to hide or even do not know about their gestational status; the quality of the assistance provided by health professionals; and the immaturity of the adolescents to understand about the importance of prenatal care monitoring, for their health and the health of their children⁽¹⁹⁻²⁰⁾.

From this perspective, study conducted in Rio Branco-AC, with 20 low-risk expectant mothers assisted in medical and nursing consultation of the Primary Attention, observed that the interviewees aged over 25 years old recognized more easily the relevance of this follow-up for the maintenance of their health and of their children, for it is a moment for undergoing exams and obtaining information and knowledge that prevent complications during the gestation and delivery, and subsidizes the prenatal care provided⁽⁸⁾.

Non-attendance to prenatal care visits, in turn, is associated with the development of complications during the pregnancy period, especially in the end of gestation, when these visits have to be more frequent, aiming for the assessment of the perinatal risk and of the most common clinical-obstetric complications in the third quarter⁽¹⁷⁾.

Besides the low number of early adolescent expectant mothers that had seven or more prenatal care visits, something that can be apprehended as negative was the fact that, when the evolution of this variable is analyzed temporally, it is possible to observe a tendency to elevation in the number of adolescents that did not comply with the prenatal

care visits. Such situation deserves the attention of health managers and professionals that work in Primary Care, in order to elaborate strategies that reach and stimulate the expectant mothers early for them to take prenatal follow-up seriously.

Another important obstetric characteristic is the gestational age in the moment of delivery, which, in this study, in spite of the low prematurity rate registered, evidenced a slight difference between both groups, with predominance of preterm births among the early adolescents, but with no statistically measurable differences.

This fact was verified in a documental study conducted in Fortaleza-CE, from consultation to medical records of 2,058 pregnant adolescents, which found that, although the total number of premature deliveries has been relatively superior in the group of early adolescents, the difference verified was not statistically significant⁽⁷⁾. However, other authors reiterate that the rate of premature delivery is considerably superior among adolescents aged 10-14 years old and, consequently, there is a greater possibility of bio-psychosocial complications⁽¹¹⁾.

By analyzing the temporal evolution of the type of delivery among the adolescents, it becomes evident that they are less exposed to surgical interventions. In this way, new possibilities open for the reduction of the current levels of surgical deliveries, which would constitute object of specific investigations. Perhaps, the medical practice concerned with performing a higher number of vaginal deliveries among adolescents is also one of the factors that explain why this study did not observe elevated rates of low birth weight and prematurity.

To investigate possible differences in the parameter of vitality of the newborns of early and late adolescent mothers, the Apgar score was analyzed in the first and fifth minutes of life, and no significant differences were observed between both groups. This parameter was selected for analysis, because the Apgar scores in the 1st and 5th minutes of life represent the best risk scale regarding the clinical conditions of the newborn in the moment of delivery. However, there are few studies conducted with newborns that bring statistics about this parameter⁽²⁰⁾.

In a survey carried out through the SINASC, in Montes Claros-MG, which distinguished early adolescents (10-14 years old) from late adolescents (15-19 years old) and adults (20 years old or over),

the authors, in a general way, found significantly worse results in the early adolescents, related to the number of prenatal care visits, higher incidence of prematurity, higher risk for low birth weight, and Apgar lower than seven in the fifth minute of life⁽¹⁹⁾.

About low birth weight, a higher prevalence of born-alive infants weighing less than 2,500g was evidenced among the early adolescent mothers. Thus, it is important to stress that children with low birth weight have increased risk for death in the first year of life, for developing infectious and respiratory diseases, for growing up with developmental delays, and for presenting, in the future, chronic diseases, such as obesity, dyslipidemia and heart conditions⁽²⁰⁾.

In general, the findings of this study could reiterate that worse sociodemographic conditions influence the occurrence and prognosis of adolescent pregnancy, especially among younger girls, which reinforces the importance of the implementation, by health professionals, of strategies that decrease its re(occurrence).

FUTHER CONSIDERATIONS

The findings of the present study point that adolescents aged between 10 and 14 years old, when compared with adolescents aged 15-19 years old, present certain characteristics that negatively influence the pregnancy and postpartum periods, which reinforces the conception that pregnancy in this age group has a higher risk. It was observed that these characteristics might influence healthcare (number of prenatal care visits) and interfere with birth conditions (low birth weight) and even with the way this child will be raised (mother's schooling, presence of a father). That is why the greater concern with the increase in early pregnancies.

It is believed that these specificities within the group of adolescents need to be better studied, to facilitate the comprehension of these factors in the genesis of the gestation in adolescence, and should be considered in the scheduling of supply of care services for family planning, prenatal care and delivery.

Learning the profile of the maternal-infant population of each location is essential, especially when adolescents are involved, because, then, the main gaps diagnosed can be filled. Studies of

this nature serve as guidelines for the elaboration of social and health policies that aim for the decrease in the occurrence of this social issue.

Something worthy of highlight is the lack of an important piece of information in the DATASUS database: the reoccurrence of pregnancy in adolescents. Therefore, this piece of information should be added to said database, since it is already collected during the completion of the COLB and can foster new analyses and discussions on the theme.

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