

Recurrence of teenage pregnancy: associated maternal and neonatal factor outcomes

Thamara de Souza Campos Assis (<https://orcid.org/0000-0001-6207-5962>)¹

Katrini Guidolini Martinelli (<https://orcid.org/0000-0003-0894-3241>)¹

Silvana Granado Nogueira da Gama (<https://orcid.org/0000-0002-9200-0387>)²

Edson Theodoro dos Santos Neto (<https://orcid.org/0000-0002-7351-7719>)¹

Abstract *The present study aims to analyze the socioeconomic and demographic factors associated with the recurrence of teenage pregnancy, as well as to verify the association with unfavorable maternal and neonatal outcomes. It is a cross-sectional study, based on data from “Nascer no Brasil”, comprised of adolescent mothers and their newborns. Univariate and multiple logistic regression were used to indicate the factors associated with this recurrence. Recurrence of teenage pregnancy was associated with a maternal age of 17-19 years (OR=3.35; 95%CI=2.45-4.59); an inadequate education for their age (OR=4.34; 95%CI=3.50-5.39), with no intention of becoming pregnant; residency in the state capital; and the fact that the partner is the head of the family. However, as independent primiparous teenagers, there is a greater chance of hypertension and restricted intrauterine growth. It can therefore be concluded that there is a high percentage of teenage pregnancies in Brazil. Teenagers with a partner, inadequate education, and no reproductive planning are more likely to have two or more pregnancies before the age of 20, demonstrating difficulties in postponing the first pregnancy. However, as primiparous teenagers, they are more likely to have complications than multiparous teenagers.*

Key words *Pregnancy in adolescence, Prenatal care, Pregnancy complications, Pregnancy outcome, Socioeconomic factors*

¹ Programa de Pós-Graduação em Saúde Coletiva, Departamento de Medicina Social, Universidade Federal do Espírito Santo. Av. Marechal Campos 1468, Maruípe. 29040-090 Vitória ES Brasil. thamarasc@yahoo.com.br

² Escola Nacional de Saúde Pública Sérgio Arouca, Fundação Oswaldo Cruz. Rio de Janeiro RJ Brasil.

Introduction

According to the Pan-American Health Organization (PAHO), Brazil presented one of the highest teenage pregnancy rates in Latin America in 2016, with 68.4 live births in every 1,000 girls aged 15-19 years¹. Although the percentage of teenage pregnancies has diminished over time, the recurrence of pregnancies remains stable, at approximately 20%². In Rio Grande, municipality of the extreme South of Brazil, the overall recurrence rate among teenagers was of 53.6%, given that two years after the first birth, half of the teenagers had become pregnant once again, and in three years, this rate increased to 80%³.

The recurrence of early pregnancy can compromise the future of these young girls and their children, since a new birth during adolescence often occurs in contexts of social inequality, perpetuating the history of poverty⁴. The social determinants of the teenagers, added to factors like inadequate pre-natal care⁵, unintentional pregnancy⁶, and repeated pregnancy in a short period of time⁷ can lead to unfavorable maternal and neonatal repercussions.

Newborns from teenage mothers, when compared to adult mothers, present a greater chance of negative outcomes, such as premature births, low birth weight, and neonatal mortality^{8,9}. There is also a greater chance of other complications, including urinary infections, abortions, pre-eclampsia, hypertension associated with a premature rupture of the membranes during teenage pregnancies¹⁰⁻¹².

However, information on the recurrence of teenage pregnancy (associated factors and maternal and perinatal outcomes) is scarce in the literature^{13,14}. Thus, as a means through which to contribute to the formulation of effective strategies for the reduction of the early recurrence of pregnancies within the teenage population, this study aims to analyze the socioeconomic and demographic factors associated with the recurrence of teenage pregnancy, as well as to verify the association with unfavorable maternal and neonatal outcomes.

Methods

The data for this study were obtained from the national study "*Nascer no Brasil*", a hospital-based study conducted with postpartum women and their newborns collected between February 2011 and October 2012. The sample

was selected in three stages. The first stage included hospitals with more than 500 births/year, which were stratified according the macroregions of the country (North, South, Northeast, Southeast, and Midwest), the location (capital or countryside), and the type of service (public, private, or mixed). The second stage defined the number of days necessary to interview 90 postpartum women in each of the 266 previously selected hospitals (minimum of 7 days), using the inverse sampling method. In the third stage, postpartum women and their newborns were selected, with additional information available about the sample design¹⁵.

The complex sample design was taken into consideration during the entire statistical analysis. Each selection stratum received a procedure of calibration of the rate of basic sample weight to ensure that the distribution of postpartum women was similar to that observed in the births among the sampled population in 2011, deriving weighted percentages.

This analysis considered all of the newborns from postpartum teenagers of less than or equal to 19 years of age, categorized as primiparous or multiparous (teenagers with recurring pregnancies). No postpartum women of less than 12 years of age were found in this study. The data were collected through electronic forms. This study considered the information from interviews with the teenager herself during hospitalization; those from the pre-natal card, which were photographed and transcribed; and those from the maternal and newborn medical records. This last piece of data was collected after the teenagers had been released from the hospital or on the 42nd day of hospitalization, and/or after the newborn had been released or on the 28th day of hospitalization. All details regarding data collection are available for consultation¹⁶.

Various sociodemographic variables were used: maternal age (12-16 years, 17-19 years), education (adequate, inadequate for age), economic classification according to the Brazilian Association of Market Research Institutes (classes A/B, C, D/E), race/color (white, black, brown, yellow, and indigenous), region of residency (North, South, Northeast, Southeast, and Midwest), intention to become pregnant (yes, no), marital status (without partner, with partner), paid work (yes, no), location of residency (capital, other municipalities), and head of the family (mother herself, partner, father/mother/other person).

The negative maternal and neonatal outcomes considered for the association with the

recurrence of teenage pregnancy were: low birth weight (yes, no), prematurity (yes, no), Intrauterine Growth Restriction (IUGR) (yes, no), adequacy of weight for the gestational age (small, adequate, large for the gestational age), neonatal hospitalization (without, with Intensive Care Unit (ICU), without hospitalization), use of oxygen (yes, no), Apgar 5 min <7 (yes, no), neonatal death (yes, no, stillbirth), gestational diabetes (yes, no), hypertension - chronic hypertension, preeclampsia, eclampsia, and HELLP syndrome (yes, no), syphilis infection (yes, no).

Later, for the outcomes that revealed an association (hypertension and IUGR), directed acyclic graphs (DAGs) were constructed. For hypertension, the variables suggested by the DAG for controls were: Body Mass Index (BMI) (underweight, normal weight, overweight, and obese), financing of the birth (public, private), adequacy of pre-natal care (adequate, inadequate), economic classification according to the Brazilian Association of Market Research Institutes, and type of birth (vaginal/forceps, Caesarean section). For the IUGR, the following variables were used: BMI, preeclampsia, type of birth and HIV, syphilis, and other infections.

The Rao-Scott (X^2) chi-squared test was used to verify differences between the proportions, considering a 95% confidence interval (95%CI). After, to verify which social conditions were associated with the recurrence of teenage pregnancy and to understand if the parity was associated with hypertension and IUGR, the univariate and multivariate logistic regression analyses were applied. This study tested the effect of the interaction before the final regression analysis. The variables initially selected for adjustments were those indicated by the DAGs formulated for each outcome. Later, what remained in the model were those with a p -value ≤ 0.05 , and those whose pseudo- R^2 statistics (Cox & Snell and Nagelkerke) were closest to 1, indicating the best adjustment.

This study was approved by the Research Ethics Committee of the National Public Health School from the Oswaldo Cruz Foundation, logged under protocol number 92/2010. Digital consent was obtained from each postpartum woman after having read the free and informed consent form before the interview. The secondary data analysis conducted in this article was approved by the Research Ethics Committee of the Health Sciences Center of the Federal University of Espírito Santo, logged under protocol number 3.565.689/2019.

Results

This study counted on the participation of 4,571 postpartum teenagers, including 3,721 primiparous and 850 multiparous (18.6%). When comparing the teenagers in the first stage of gestation with those in recurring pregnancies, it was possible to observe that the recurrence of pregnancy occurred more often in teenagers aged 17-19 years ($p < 0.001$), in less favorable sociodemographic and demographic conditions, such as inadequate education for their age ($p < 0.001$), economic classes C, D+E ($p = 0.022$), unplanned gestation ($p < 0.001$), teenagers who live with their partner and who were the head of the family ($p < 0.001$), and teenagers who lived in the their state's capital city ($p = 0.022$) (Table 1).

After adjustments to the final model, the recurrence of teenage pregnancy was associated with a maternal age of 17-19 years (OR=3.35; 95%CI=2.45-4.59), inadequate education for their age (OR=4.34; 95%CI=3.50-5.39), unintentional pregnancy (OR=2.34; 95% CI=1.77-3.08), residency in the state's capital city (OR=1.40; 95%CI=1.10-1.78), and partner as the head of the family (OR=2.07; 95%CI=1.47-2.91) (Table 2).

Table 3 shows the maternal and perinatal outcomes associated with the recurrence of teenage pregnancy. Only hypertension ($p = 0.029$) and IUGR ($p = 0.002$) were associated with primiparity. Upon adjusting the models of the relationship between parity and negative maternal and neonatal outcomes, the primiparity continued to be associated with hypertension (OR=1.54; 95%CI=1.01-2.35) and the IUGR (OR=1.90; 95%CI=1.23-2.91), even when controlling important confounding factors (Table 4).

Discussion

The recurrence of teenage pregnancy was of 18.6% and proved to be associated with socioeconomic and demographic factors, such as an age from 17-19 years, inadequate education for their age, unintentional pregnancy, residency in the state's capital city, and partner as the head of the family. In addition, the IUGR and hypertension proved to be negative outcomes associated with primiparity, even when controlling important confounding factors.

Adequate education is a protective factor for the women not to have a recurrent pregnancy during their adolescence, that is, the teenagers

Table 1. Socioeconomic and demographic characteristics of teenagers with recurrence of pregnancy. Brazil, 2011-2012.

Variables	Total	Primiparous	Multiparous	χ^2
	4,571	3,721 n (%)	850 n (%)	P-value
Mother's age				<0.001
12-16 years	1,375 (30.1)	1,285 (34.5)	90 (10.6)	
17-19 years	3,196 (69.9)	2,436 (65.5)	760 (89.4)	
Education				<0.001
Adequate for age	1,909 (42.2)	1,773 (48.0)	136 (16.4)	
Inadequate for age	2,614 (57.8)	1,921 (52.0)	693 (83.6)	
Economic classification				0.022
Class A+B	495 (10.9)	427 (11.6)	68 (8.0)	
Class C	2,465 (54.3)	2,049 (55.5)	416 (49.2)	
Class D+E	1,577 (34.8)	1,215 (32.9)	362 (42.8)	
Skin color				0.786
White	1,243 (27.2)	1,029 (27.6)	214 (25.2)	
Black	404 (8.8)	325 (8.7)	79 (9.3)	
Brown	2,848 (62.3)	2,308 (62.0)	540 (63.6)	
Yellow	45 (1.0)	37 (1.0)	08 (0.9)	
Indigenous	31 (0.7)	23 (0.6)	08 (0.9)	
Region of the country				0.059
North	613 (13.4)	464 (12.5)	149 (17.6)	
Northeast	1,467 (32.1)	1,199 (32.2)	268 (31.6)	
Southeast	1,685 (36.9)	1,399 (37.6)	286 (33.7)	
South	494 (10.8)	403 (10.8)	91 (10.7)	
Midwest	311 (6.8)	256 (6.9)	55 (6.5)	
Intention to become pregnant				<0.001
Yes	1,575 (34.7)	1,332 (36.1)	243 (28.7)	
No	2,964 (65.3)	2,361 (63.9)	603 (71.2)	
Marital Status				<0.001
Without partner	1,435 (31.4)	1,247 (33.5)	188 (22.1)	
With partner	3,133 (68.6)	2,472 (66.5)	661 (77.9)	
Paid work				0.351
Yes	538 (11.8)	425 (11.4)	113 (13.3)	
No	4,030 (88.2)	3,294 (88.6)	736 (86.7)	
Location of residency				0.022
Capital	3,085 (67.5)	2,553 (68.6)	532 (62.6)	
Other municipalities	1,486 (32.5)	1,168 (31.4)	318 (37.4)	
Head of the family				<0.001
Woman herself	139 (3.1)	109 (3.0)	30 (3.6)	
Partner	2,485 (54.9)	1,903 (51.7)	582 (69.2)	
Father/Mother/Other person	1,901 (42.0)	1,672 (45.4)	229 (27.2)	

Source: Authors.

with an inadequate education, when compared to those with an adequate education, were twice as likely to become pregnant, which was demonstrated in a study conducted with 59,000 live births in Rio de Janeiro⁷. In the state of Ceará, when the teenagers had eight or less years of ed-

ucation, the risk of recurrent pregnancy nearly doubled (RR=1.8; 95%CI=1.3-2.6)¹⁷. This negative context tends to worsen with subsequent teenage pregnancies, since the pregnancy itself contributes to the lack of education and to school evasion.

Table 2. Socioeconomic and demographic factors associated with the recurrence of teenage pregnancy. Brazil, 2011-2012.

Variables	Gross OR (95%CI)	Adjusted OR (95%CI)
Mother's age		
12-16 years	1.00	1.00
17-19 years	4.47 (3.33-6.01)	3.35 (2.45-4.59)
Education		
Adequate for age	1.00	1.00
Inadequate for age	4.70 (3.76-5.87)	4.34 (3.50-5.39)
Economic classification		
Class A+B	1.00	-
Class C	1.28 (0.69-2.37)	-
Class D+E	1.87 (0.98-3.65)	-
Region of the country		
North	1.57 (1.14-2.18)	-
Northeast	1.10 (0.80-1.50)	-
Southeast	1.00	-
South	1.10 (0.78-1.55)	-
Midwest	1.05 (0.73-1.53)	-
Intention to become pregnant		
Yes	1.00	1.00
No	1.40 (1.11-1.78)	2.34 (1.77-3.08)
Marital status		
Without partner	1.00	1.00
With partner	1.77 (1.40-2.23)	0.59 (0.32-1.08)
Intention to become pregnant * marital status	-	-
Location of residency		
Capital	1.00	1.00
Other municipalities	1.31 (1.04-1.64)	1.40 (1.10-1.78)
Head of the family		
Woman herself	2.01 (1.07-3.76)	1.52 (0.65-3.56)
Partner	2.24 (1.79-2.79)	2.07 (1.47-2.91)
Father/Mother/Other person	1.00	1.00

Note: This study tested the interaction between: maternal age and education; marital status and head of the family; education and economic class; intention to become pregnant and marital status. The interaction that proved to be significant was kept in the adjusted model. The final model was adjusted by the variables that were kept in the model.

Source: Authors.

Inadequate education is related to the early onset of sexual activity, which increases the chances of teenage pregnancy and its recurrence¹⁸. Each year that we are able to postpone the first gestation in teenagers, the probability of repeated births is reduced by 23%. Therefore, improving teenagers' educational level, in addition to increasing their chances in the work market, contributes to a conscious postponement of pregnancy¹³.

In addition to education, the low family income contributes to the recurrence of teenage pregnancies, which can perpetuate the history of teenage pregnancy for generations, which hinders

the family's social ascension^{4,19}. Thus, the limited perspective of professional growth, the lack of educational attractiveness, and the difficulty to enter the work market contribute to these teenagers considering the role of being a mother in their pregnancies to be a life option^{20,21}.

An unintended pregnancy is also something that marks teenage pregnancy. One study, conducted in the countryside of the state of Goiás, found that 75% of the teenagers who had a recurrent pregnancy had no intention of becoming pregnant²². Moreover, those who had a recurrent pregnancy, when compared to other teenagers, presented a greater chance of never having used

Table 3. Negative maternal and neonatal outcomes associated with the recurrence of teenage pregnancy. Brazil. 2011-2012.

Negative outcomes	Total	Primiparous	Multiparous	χ^2
		n (%)	n (%)	P-value
Newborn				
Low birth weight				0.474
No	4,063 (89.8)	3,301 (89.6)	762 (90.6)	
Yes	462 (10.2)	383 (10.4)	79 (9.4)	
Prematurity				0.640
No	3,974 (86.9)	3,230 (86.8)	744 (87.5)	
Yes	597 (13.1)	491 (13.2)	106 (12.5)	
IUGR				0.002
No	4,347 (95.1)	3,521 (94.6)	826 (97.2)	
Yes	224 (4.9)	200 (5.4)	24 (2.8)	
Adequacy of weight for gestational age				0.086
Small	146 (3.2)	124 (3.4)	22 (2.6)	
Adequate	4,092 (90.4)	3,342 (90.7)	750 (89.2)	
Large	288 (6.4)	219 (5.9)	69 (8.2)	
Neonatal hospitalization				0.341
Without ICU	274 (6.0)	223 (6.0)	51 (6.0)	
With ICU	246 (5.4)	212 (5.7)	34 (4.0)	
No hospitalization	4,028 (88.6)	3,268 (88.3)	760 (89.9)	
Use of oxygen				0.067
No	3,935 (86.7)	3,182 (86.1)	753 (89.3)	
Yes	602 (13.3)	512 (13.9)	90 (10.7)	
Apgar 5 min <7				0.220
No	4,285 (99.0)	3,488 (98.9)	797 (99.4)	
Yes	45 (1.0)	40 (1.1)	5 (0.6)	
Neonatal death				0.850
No	4,504 (98.5)	3,668 (98.6)	836 (98.4)	
Yes	44 (1.0)	34 (0.9)	10 (1.2)	
Stillbirth	23 (0.5)	19 (0.5)	4 (0.5)	
Pregnant woman				
Gestacional Diabetes				0.202
No	4,366 (95.5)	3,546 (95.3)	820 (96.5)	
Yes	205 (4.5)	175 (4.7)	30 (3.5)	
Hypertension				0.029
No	4,189 (91.6)	3,388 (91.1)	801 (94.2)	
Yes	382 (8.4)	333 (8.9)	49 (5.8)	
Syphilis infection				0.246
No	4,530 (99.1)	3,691 (99.2)	839 (98.7)	
Yes	41 (0.9)	30 (0.8)	11 (1.3)	

Source: Authors.

a contraceptive (OR=1.69; 95%CI=1.25-2.29)⁶. One longitudinal study, conducted in Uganda, observed that the percentage of teenagers who wanted to postpone the birth of the second child increased from 22.5% in 1995 to 43.1% in 2016,

highlighting the need to provide support to these teenagers through better reproductive planning services¹³.

Family planning and reproductive health among teenagers are still questions of inequali-

Table 4. Factors associated with hypertension and Intrauterine Growth Restriction. Brazil, 2011-2012.

Variables	Gross OR (95%CI)	Adjusted OR (95%CI)
Hypertension		
Recurrence of teenage pregnancy		
Primiparous	1.60 (1.05-2.45)	1.54 (1.01-2.35)
Multiparous	1.0	1.0
BMI		
Underweight	0.68 (0.45-1.04)	0.68 (0.45-1.02)
Normal weight	1.0	1.0
Overweight	2.24 (1.27-3.21)	2.03 (1.42-2.88)
Obese	4.09 (2.50-6.69)	3.47 (2.14-5.59)
Financing of birth		
Public	2.25 (1.28-3.98)	3.46 (1.95-6.12)
Private	1.0	1.0
Adequacy of pre-natal care		
Adequate	1.0	-
Inadequate	1.64 (1.12-2.42)	-
Economic class		
Class A+B	0.98 (0.57-1.69)	-
Class C	1.43 (1.03-1.97)	-
Class D+E	1.0	-
Type of birth		
Caesarean	3.66 (2.75-4.88)	3.65 (2.74-4.85)
Vaginal/Forceps	1.0	1.0
Intrauterine Growth Restriction (IUGR)		
Recurrence of teenage pregnancy		
Primiparous	1.94 (1.27-2.96)	1.90 (1.23-2.91)
Multiparous	1.0	1.0
HIV, syphilis, and other infections		
Yes	2.40 (0.96-6.00)	2.42 (0.97-6.03)
No	1.0	1.0
Preeclampsia		
Yes	1.55 (0.92-2.64)	-
No	1.0	-
Diabetes		
Yes	2.17 (0.88-5.36)	-
No	1.0	-

Note: The final model of each of the outcomes (hypertension and IUGR) was adjusted by the variables that were kept in the final model, representing the recurrence of teenage pregnancy, BMI, financing of the birth, and type of birth for hypertension, and the recurrence of teenage pregnancy and infection (HIV, syphilis, and other infections) for IUGR. BMI: body mass index.

Source: Authors.

ty in health care. Reproductive health as a public health policy, as well as the provisions for effective contraceptive methods among teenagers, are in need of more comprehensive debates²³. Half of the teenagers in Brazil of the low and middle-income classes have unintentional pregnancies. This is because the teenagers in particular have substantial sexual and reproductive healthcare needs that go unattended. Teenagers from 15 to

19 years of age, who wish to avoid pregnancy, have less access to modern contraceptive methods than women at a reproductive age who wish to avoid pregnancy. Teenagers confront barriers to obtain contraceptive care, especially those who do not have partners, due to the fear of exposing that they are sexually active. Married women are forced to confront the social pressure of having children, especially in low and middle-income

countries, which see a perspective of life in marriage²⁴.

In African nations, recurring teenage pregnancies are associated with the onset of sexual activity and with early marriages among teenage girls²⁵⁻²⁷. The factors associated with a quick repetition of pregnancy among women are those who are currently married or living together with their partners, who generally live in poorer rural regions, and who are in the early years of their marriage²⁸, which can be explained by the unequal access to family planning among married and poorer teenagers²⁹.

Due to the specific characteristics of teenagers, health policies for this population are necessary but are currently insufficient³⁰. The lack of attraction to primary health care among the teenagers can lead to an unintentional pregnancy, inadequate pre-natal care, and, consequently, negative outcomes in the first gestation, mainly explained by late access to health services and preconception care^{23,31}.

Teenage mothers present a greater chance of gestational hypertension³², in addition to pre-eclampsia and eclampsia³³, while their newborns face a greater risk of low birth weight, premature birth, and severe neonatal conditions²⁰.

Primiparous teenagers present a complex context, marked by profound changes, primarily by physical changes, worries about their image, greater responsibility, and distancing from friends³⁴, which can contribute to negative maternal and neonatal outcomes, such as those identified in this study. In Indonesia, one study with more than 80,000 women, in which teenage women were compared with adult women, and primiparous with multiparous women, found that the teenage and primiparous women are more likely not to perceive the signs of the dangers of pregnancy³⁵. In practice, the primiparous teenagers tend to wait longer to search for health services and stay away from pertinent care, thereby increasing the risk of gestational complications³⁶.

One study in Thailand, conducted only with primiparous women, found a greater chance of gestational hypertension among young teenagers (≤ 15 years) (OR=1.90; 95%CI=1.02-3.54), which in older teenagers (16-19 years) (OR=1.29; 95%CI=1.03-1.62) when compared to adults³⁷. In addition, the earlier the pregnancy, the greater the chance of the women contracting chronic hypertension, that is, there is a significant and robust association between early gestation and the subsequent state of hypertension, hence the need to postpone the first pregnancy³⁸.

IUGR is an incapacity of the fetus to reach its genetic potential in body mass. The etiologies are diverse, including placental insufficiency, maternal malnutrition and smoking, genetic disorders, drugs, and obesity³⁹. Such an alteration occurs in approximately 9% of the newborns, with a greater prevalence in children of teenagers and primiparous women ($p < 0.05$)⁴⁰.

The nutritional state of the teenagers is one of the factors that contributes to the development of IUGR. Malnutrition among young mothers (aged ≤ 16 years, primiparous and menarche ≤ 12 years) proved to be associated with negative neonatal outcomes, such as low birth weight and extremely low birth weight⁴¹. The low pre-gestational weight and the low weight gain during pregnancy, which is more common among teenagers, are associated with higher rates of fetal growth restriction⁴².

In the Southern regions of India, women with a BMI below their weight (OR=1.7; 95%CI=1.3-2.1) and anemic (OR=1.29; 95%CI=1.01-1.6) presented a greater chance of having smaller newborns than normal for the gestational age⁴³. Likewise, one study, conducted with 542 postpartum teenagers in a public maternity hospital in Rio de Janeiro, concluded that the teenagers with an adequate pre-gestational weight presented better neonatal outcomes, such as birth weight ≥ 2500 g ($p = 0.018$)⁴⁴.

There is still a scarcity of studies related to the recurrence of teenage pregnancy, which are often sensitive to socioeconomic and demographic characteristics. The present study is important, as it uses data from "*Nascer no Brasil*", the first national study with obstetric and perinatal data, including postpartum teenagers, which presented nearly 20% of the national sample, considering births in public, private, and mixed hospitals.

This study does, however, present limitations, such as the elapsed time since the data were collected (10 years), which most likely implies a scenario that is different than the current reality, given that, in recent years, we have witnessed economic, political, and social crises, which most likely increase the strength of the association between more vulnerable adults and the recurrence of pregnancy during adolescence. Not having data from the last birth for multiparous women, not including births in small hospitals and home births, not asking about the use of contraceptive methods, and asking about the intention to become pregnant shortly after the birth may have caused a bias in the collected information, which also show the limitations of this study.

This study exposed the fact that the recurrence of pregnancy during adolescence increases with the maternal age, and tends to be much more prevalent among those aged 17-19 years, who education was inadequate for their age, in those who did not plan their pregnancy, in those who reside in the state's capital city, and in those who have a partner who is the head of the family. These characteristics show how a new pregnancy during adolescence is related to the lack of family planning and the spread of poverty throughout the country.

In addition, one positive aspect of the present study was the research conducted on the clinical repercussions associated with the recurrence of teenage pregnancies, with hypertension and IUGR related to primiparity and not to the recurrence of teenage pregnancies, even when controlling the confounding factors.

Although teenage pregnancy is a social problem, and its recurrence is an even more complex issue, when analyzing the negative maternal and

perinatal outcomes, primiparous women are the most affected. This occurs due to the higher age of the recurring pregnancy group, since it is well-known that after 16 years of age, the gestational complications are drastically reduced. Nevertheless, this does not exclude the incentive to postpone a teenage pregnancy and its non-recurrence. Therefore, as a health service, when a pregnancy cannot be avoided, we should provide greater care to the primiparous women.

In this light, it is necessary to implement effective health education programs that involve schools, families, and health services, in an attempt to defer teenage pregnancies, as well as strengthen family planning, especially among poorer teenagers and those without partners. Moreover, for primiparous teenagers, establishing a connection between health professionals and the teenager and offering pregnancy support groups are necessary measures to recognize risk factors for gestational complications, as well as a way to create effective support networks.

Collaborations

TSC Assis participated in the conception, planning, analysis, interpretation of results and writing of the work. KG Martinelli participated in the design, planning, interpretation of results and final review of the work. ET Santos Neto participated in the design, planning, interpretation of results and final review of the work. SGN Gama participated in the design, planning, interpretation of results and final review of the work.

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Article presented 03/11/2021

Approved 26/04/2022

Final version presented 28/04/2022

Chief editors: Romeu Gomes, Antônio Augusto Moura da Silva

