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Predictive factors of abortion among teenagers with obstetric experience

Fatores preditores do abortamento entre jovens com experiência obstétrica

Thatiana Araújo Maranhão[I], Keila Rejane Oliveira Gomes[II], Idna de Carvalho Barros[III]

ABSTRACT: ***Objective:*** To analyze the predictive factors of abortion among teenagers with gestational history. ***Methods:*** Cross-sectional study carried out with 464 teenagers aged between 15 and 19 years, from Teresina, Piauí, who completed a pregnancy in the first quarter of 2006 in six city maternity hospitals. Data were collected from May to December 2008, at the teenagers' home, after their identification in the hospital records. For the univariate analysis of data, descriptive statistics was used, and for bivariate analysis, Pearson's χ^2-test and Z-test were applied. Multivariate analysis was performed by means of the Multiple logistic regression (MLR), with significance level of 5%. ***Results:*** Teenagers who had more than one pregnancy were almost nine times more likely to have an abortion when compared to those who had only one pregnancy ($p = 0.002$). Furthermore, the teenagers who reported being pressured by the partner to have an abortion were four times and a half more likely to do it, when compared to those pressured by relatives and friends ($p = 0.007$). ***Conclusion:*** The teenagers who had two or more pregnancies and were pressured by the partner to have an abortion were more prone to do it. Thus, it is necessary that programs of Family Planning include the teenagers more effectively, aiming at avoiding unwanted pregnancies among this population and, consequently, abortion induced in poor conditions.

Keywords: Pregnancy in adolescence. Sexual and reproductive health. Abortion. Abortion, spontaneous. Abortion, criminal. Abortifacient agents.

[I]Universidade Estadual do Piauí, Campus Prof. Alexandre Alves de Oliveira - Parnaíba (PI), Brazil.

[II]Universidade Federal do Piauí - Teresina (PI), Brazil.

[III]Instituto Federal de Educação, Ciência e Tecnologia do Piauí - Teresina (PI), Brazil.

Corresponding author: Thatiana Araújo Maranhão. Universidade Estadual do Piauí, Campus Prof. Alexandre Alves de Oliveira. Avenida Nossa Senhora de Fátima, s/n, Bairro de Fátima, CEP: 64202-220, Parnaíba, PI, Brasil. E-mail: thatymaranhao@hotmail.com

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RESUMO: ***Objetivo:*** Analisar os fatores preditores do abortamento entre jovens com antecedentes gestacionais. ***Métodos:*** Estudo seccional realizado com 464 jovens de Teresina, Piauí, que finalizaram uma gravidez no primeiro quadrimestre de 2006 em seis maternidades do município, com faixa etária entre 15 e 19 anos. Os dados foram coletados de maio a dezembro de 2008, no domicílio das jovens após sua identificação nos registros das maternidades. Para a análise univariada dos dados, utilizou-se a estatística descritiva, e para a análise bivariada empregou-se o teste do χ^2 de Pearson e o teste *Z*. A análise multivariada se deu por meio da Regressão Logística Múltipla (RLM), sendo empregado um nível de significância de 5%. ***Resultados:*** As jovens que tiveram mais de uma gestação foram quase nove vezes mais propensas a abortar quando comparadas àquelas que haviam vivenciado apenas uma gestação ($p = 0,002$). Além disso, as jovens que referiram ter sido pressionadas pelo parceiro a abortar eram quatro vezes e meia mais propensas a consumar o ato quando comparadas aos casos em que a pressão advinha de parentes e amigos do casal ($p = 0,007$). ***Conclusão:*** As jovens que vivenciaram duas ou mais gestações, e que sofreram pressão do companheiro para abortar, eram mais propensas a praticar o aborto. Assim, faz-se necessário que programas de Planejamento Familiar incluam, com maior profundidade, o público adolescente, com vistas a evitar gestações indesejadas nesta população e, consequentemente, o aborto induzido sob condições precárias.

Palavras-chave: Gravidez na adolescência. Saúde sexual e reprodutiva. Aborto. Aborto espontâneo. Aborto criminoso. Abortivos.

INTRODUCTION

Although pregnancy may bring a great happiness for some young women and their families, the unexpected and unwanted pregnancy, which is quite common among adolescents, may impact their interpersonal relationships because of the nonacceptance of pregnancy by family, friends, and partner, who may also be an adolescent[1,2]. As a result, some families propose abortion to teenagers, even when carried out under precarious and unsafe conditions, in order not to compromise their future and do not interrupt their personal dreams[3].

The World Health Organization (WHO) defines unsafe abortion as a procedure that interrupts pregnancy, either performed by persons lacking the necessary skills or in environments that do not comply with the minimum health standards[4]. It is classified as a serious problem, as it is responsible for significant portion of maternal deaths related to abortion[5].

The United Nations (UN) estimates that up to 3.2 million unsafe abortions involving teenagers take place in the developing countries every year. Moreover, if compared to adult women, adolescents are more prone to problems such as bleeding, septicemia, sterility, and death because of the use of dangerous methods. They also may postpone the search for medical help when complications arise[6]. In Brazil, it is estimated that 31% of pregnancies end up in spontaneous or induced abortions[7], and unsafe abortion accounts for 4% of maternal deaths[8]. Another concerning fact is the hospitalizations because of complications after abortion, which account for 10% of total hospitalizations for childbirth, representing a burden to the health system[9].

The National Abortion Survey (PNA) showed that, at the end of reproductive life, approximately one in every five women had a miscarriage, and more than half of abortions (59%) occurred when the participants were teenagers or young adults aged 12–24 years. In addition to being associated with youth, induced abortion is more common among less educated women and in half of the cases, the use of abortifacient drugs and hospitalizations after abortion were identified[8].

Study on the spatiotemporal trend of unsafe abortion in Brazil between 1996 and 2012 showed that, although this practice has been gradually reduced nationwide, this problem is still serious and neglected in the country. Among all Brazilian regions, the Northeast showed the highest number of unsafe abortions (21.6 abortions per 1000 women at childbearing age and rate of 39.7 abortions per 100 live births), and the state of Piauí showed similar numbers (20.9 abortions per 1000 women at childbearing age and rate of 39.7 abortions per 100 live births). The survey also highlighted significant regional differences, in which the majority of the miscarriages occurred in the poorest regions[10].

In Brazil, the true magnitude and repercussions of induced abortions is unknown because of its illegality, thus resulting in underreporting[11] and preventing the development of reliable indicators that support the implementation of more effective public policies[10]. Although the pregnancy percentage among adolescents in Teresina, Piauí — equivalent to 15.64%[12] — is known, there is no research that reveals data on abortions induced in this population of the municipality or about its predictors. In this perspective, local studies are fundamental to understand the dimension and aspects that influence this problem in a particular context. Thus, given that abortion occurs more frequently in youth[9], this study was aimed at analyzing the occurrence and predictors of abortion among young women with previous pregnancies.

METHODS

This is a cross-sectional study, which is part of a broader research entitled *Gravidez na adolescência: fatores preditores da reincidência* [Pregnancy in adolescence: predictors of recidivism] that was developed by the Nursing Department of the *Universidade Federal do Piauí* (UFPI). Data were collected from May to December 2008, among young people who lived in the urban area of the city of Teresina, capital of Piauí State, and had completed a pregnancy in the first 4 months of 2006, at the age of 15–19 years.

As the study that originated this research referred to the recurrence of pregnancy among teenagers, a retrospective search for young women in the medical records of the six maternity hospitals in Teresina, Piauí, being one state, four municipal, and one private institution was conducted. However, it is worth mentioning that this search was conducted 2 years after the completion of pregnancies that occurred in 2006, that is, they were sought in 2008. The criteria for the selection of this time frame was the minimum birth spacing recommended by the WHO, which is equivalent to 2 years when the last pregnancy resulted in live fetus[13].

As all forms of resolution of pregnancy would be included in the study, and not all of them are known in its magnitude because of the underreporting — as in the case of induced abortion — the calculation of the probability sampling was not feasible. Thus, the alternative that was chosen for the selection of the study participants was the accidental sampling, which consists of individuals who can be located at a stipulated time frame[14]. Thus, the cases were identified in the records of the delivery and nursing rooms, in which age and other data to locate the individual, such as phone number and address, were searched. If inaccuracies were detected, charts were retrieved from the general file for data confirmation.

After the identification of the targeted young women in the hospital records, they were first contacted by phone to receive an invitation to participate in the research. Second, an interview to be held in their domiciles was scheduled. When phone number was not available, but the address was known, two interviewers went to the residence of the adolescent to invite her to participate. For those who accepted to participate, the precodified and pretested form was immediately applied. However, when the participant, for any reason, was not available to respond to the form at that moment, telephone calls were made to schedule a new day and time for the interview.

It is worth mentioning that once the search for the participants occurred by means of secondary data from hospitals records and only after 2 years, many of them were not found. Moreover, the lack of access to cases of curettage in the private maternity was another limitation of the study, because of the confidential nature of such information.

As the internal repression and taboos on a particular topic are more significant, which is the case of abortion, obstacles to their verbalization are higher[15]. Thus, in an attempt to minimize the bias of "nonparticipation" or the underestimation of cases of abortion by omission or untruth of the answers, the questions that addressed abortion were fragmented.

Thus, to investigate the occurrence of abortion, emphasis was given to the total number of pregnancies, total number of births, total number of living children, and the type of delivery for each pregnancy. Similarly, direct questions concerning the induced abortion were replaced by questions that addressed the desire to be pregnant, if abortion was considered or if they were pressured to abort, and the use of abortive methods. Therefore, it is worth mentioning that there was no clear distinction on the abortion type, whether spontaneous or induced, during the interviews. However, it is possible to conclude that abortion was induced, by means of the questions concerning the use of abortion methods and the specification of the method used.

Age-years of schooling adequation index was used in this study to evaluate the proportion of adolescents who have achieved adequate education to their age. This index considers that the appropriate population to attend high school would be adolescents aged 15 – 17 years[16]. Therefore, schooling was considered inadequate when the adolescent did not fit this pattern.

Open variables were categorized and polytomous variables were dichotomized to enable the analysis. The question concerning the use of methods for terminating a pregnancy was an open-ended question on the form; however, for statistical analyzes purpose, it was changed to a close-ended question, in which the answers Misoprostol, Cytotec®, medication, pills, and medicine were all categorized as "medicines," and the responses associated with teas, leaves, and herbs were categorized as "home preparations."

For the variable "partner desired pregnancy at that time," results were grouped according to the response if the participant reported that her partner started conversations with her about pregnancy. Whenever partner's verbalization of his interest in pregnancy was not confirmed, even if the participant observed partner's desire for pregnancy, the response was classified as "did not declare" and was categorized as "missing" to minimize induction bias.

Precoded answers composed a database in the public domain application Epiinfo 6.04 (US Center for Disease Control and Prevention, Atlanta, GA, USA). Statistics and inferential analysis of the data were performed using the software Statistical Package for Social Sciences, version 17.0 (SPSS Inc. Chicago, IL 60606, USA).

For the univariate data analysis, descriptive statistics were applied. For the bivariate analysis, c^2 or Fisher's exact test were used, according to the adequacy, to identify possible associations of the occurrence of abortion (dependent variable) with sociodemographic characteristics and reproductive history (independent variables). The bivariate analysis provided the potential predictors of abortion to compose the multivariate model, for which the null hypothesis was rejected when $p \leq 0.05$. Multivariate analysis developed by means of the multiple logistic regression (MLR) pointed out, among sociodemographic and reproductive variables, the predictors for the occurrence of abortion, after considering $p < 0.05$. It is worth mentioning that the model of MLR was adjusted by the Enter method, which forces the input of variables in the regression model sequentially and independently[17].

The test of multicollinearity assumption required for MLR was conducted by means of the variance inflation factor (VIF), calculated by multiple linear regression. A VIF ≥ 4 was adopted as cutoff point for multicollinearity[18]. However, the test showed no evidence of multicollinearity among the independent variables of the study. The test of difference between two proportions (*Z* test) was used for the variable "abortion" in the first pregnancy and subsequent pregnancies.

The study was approved by the Ethics Committee of the UFPI, under CAAE n0056.0.045.000-08. Authors reported no conflict of interest, and the study followed the ethical and legal principles of research with human beings. The participant or the legal guardian of children under 18 years of age signed the informed consent form, based on resolution no. 196/96 from the National Health Council, which was in force at that time. Additionally, approvals from the manager of the state maternity, from the Municipal Health Foundation, from the manager of the Unified Health System in Teresina, Piauí, and from the director of the private maternity hospital were requested, so that the researchers could have access to patients' charts.

RESULTS

Among the 632 young women, from whom the information was obtained in the hospitals' records, 164 were excluded because the addresses were not located or because the individual was not found at home after three visits in different days and times. Additionally, three young women were excluded because they refused to participate in the study, and there was one death. Thus, the final sample consisted of 464 individuals.

The age of the participants ranged from 17 to 22 years, with an average age of approximately 20 years [standard deviation (SD) = 1.31], and predominant age range from 20 to 22 years (69.8%). The majority of the participants presented inadequate educational levels (86.9%), and half of them had monthly family income of up to one minimum wage (50.0%) (Table 1).

First pregnancy occurred when participants were aged between 12 and 19 years, with predominant age range from 15 to 17 years (56.9%) and average age of 16.6 years (SD = 1.62). Nearly half

Table 1. Sociodemographic characteristics and reproductive history of young women with obstetric experience in adolescence.

Characteristics	n	%
Age range (completed years)		
17 – 19	140	30.2
20 – 22	324	69.8
Schooling: age-range adequacy		
Yes	61	13.1
No	403	86.9
Family income (minimum wage)		
≤ 1	232	50.0
> 1 – ≤ 3	183	39.4
> 3	49	10.6
Age range at first pregnancy (completed years)		
12 – 14	53	11.4
15 – 17	264	56.9
18 – 19	147	31.7
Number of pregnancies		
1	228	49.1
2	146	31.5
3 or more	90	19.4
Number of births		
0	14	3.0
1	285	61.4
2	128	27.6
3 or more	37	8.0
History of abortion		
Yes	108	23.3
No	356	76.7
Number of abortions		
1	84	77.8
2	19	17.6
3 or more	5	4.6

of those young women were pregnant only once (49.1%) and approximately 1 in every 5 had at least 3 pregnancies (19.4%); however, the frequency of pregnancies among the participants ranged from 1 to 9 (Table 1). The age range of the child's father in the first pregnancy was from 13 to 50 years, with predominant age range of 20 – 29 years (57.1%) and average age of 23 years (SD = 8.22) (data not shown in tables).

The age of the second and third pregnancies ranged from 13 to 22 years, with the average age of 18.0 and 18.5 years (SD = 1.69 and 1.99), respectively. A frequency of 141 abortions was identified, and 108 women reported having experienced it, demonstrating that some women miscarried more than once. At least one abortion occurred in 23.3% of the participants, and 22.2% of them had already induced two or more abortions. The number of pregnancies resulting in abortion ranged from 1 to 7 for the same individual, and 51.1% of the miscarriages were associated with first pregnancy (data not shown in tables).

Table 2 shows that sociodemographic factors and participant's reproductive history were significantly associated with the occurrence of abortion, in the bivariate analysis.

Table 2. Occurrence of abortion and sociodemographic and reproductive characteristics of young women with obstetric history.

Variables	Occurrence of abortion						χ^{2*}	p-Value
	No		Yes		Total			
	n	%	n	%	n	%		
Age range (completed years)								
17 – 19	114	81.4	26	18.6	140	100.0	2.485	0.115
20 – 22	242	74.7	82	25.3	234	100.0		
Schooling: age-range adequacy								
Yes	53	86.9	8	13.1	61	100.0	4.061	0.044
No	303	75.2	100	24.8	403	100.0		
Family income (minimum wage)								
≤ 1	169	72.8	63	27.2	232	100.0	3.910	0.048
> 1	187	80.6	45	19.4	232	100.0		
Age range of the young women at first pregnancy								
12 – 14	35	66.0	18	34.0	53	100.0	3.826	0.050
15 – 19	321	78.1	90	21.9	411	100.0		
Age range of the child's father at first pregnancy								
13 – 19	108	74.5	37	25.5	145	100.0	0.593	0.441
≥ 20	248	77.7	71	22.3	319	100.0		
Partner already had children in the first pregnancy of the young women								
Yes	83	70.3	35	29.7	118	100.0	4.045	0.044
No	273	79.4	71	20.6	344	100.0		
Number of pregnancies								
1	219	96.1	9	3.9	228	100.0	93.778	0.000
More than 1	137	58.1	99	41.9	236	100.0		

*Pearson's χ^2.

The factors are age-grade adequacy (p = 0.044), family income (p = 0.048), age at first pregnancy (p = 0.050), the partner already had other children in the first pregnancy of the young women (p = 0.044), and the number of pregnancies (p = 0.000).

Among all women who had more than one pregnancy, approximately 1 in every 3 considered interrupting the pregnancy (33.0%), and 18.6% reported feeling pressured by others to induce abortion, being their relatives and/or child's father who most pressured the participant to abort (68.2%). It was also evidenced that 22.9% of them used some methods to interrupt pregnancies that were subsequent to the first, especially taking medications (55.6%) (Table 3).

With regard to the comparison of the variables related to the induced abortion practice during the first and subsequent pregnancies, two statistically significant differences were found. Primigravidas were more pressured to terminate the pregnancy when compared to multiparous women (p = 0.0285). On the other hand, the use of abortifacient methods

Table 3. Interruption of pregnancy in young women with obstetric experience.

Variables	First pregnancy		Subsequent pregnancies from first		*Z* Test	p-Value	95%CI
	n	%	n	%			
Thought about abortion							
Yes	127	27.4	78	33.0	-1.56	0.1185	-12.9 – 1.5
No	337	72.6	158	67.0			
Felt pressured to abort							
Yes	121	26.1	44	18.6	2.19	0.0285	1.1 – 13.8
No	343	73.9	192	81.4			
Who pressured to abort							
Partner	32	26.4	9	20.4	0.79	0.4309	-8.3 – 20.3
Relatives (her/his)	58	47.9	30	68.2			
Friends	31	25.6	5	11.4			
Used abortifacient method							
Yes	70	15.1	54	22.9	-2.55	0.0107	-14.1 – -1.5
No	394	84.9	182	77.1			
Abortifacient method applied							
Medication	36	51.4	30	55.6	-0.46	0.6479	-21.8 – 13.6
Home preparations	34	48.6	24	44.4			

were mentioned more often by participants who had interrupted pregnancy for the second or more times, compared with those participants who had completed the first pregnancy at that time (p = 0.0107) (Table 3).

Considering abortion after the discovery of pregnancy (p = 0.001), having been pressured by the partner to abort (p = 0.002), and having made use of abortifacient method (p = 0.000) significantly associated with the occurrence of abortion (Table 4).

In the multivariate analysis model, the participants who had more than one pregnancy were almost nine times more likely to miscarry compared with those who had experienced only one gestation (p = 0.002). The model also indicated that feeling pressured was not significant, but when the pressure to abort came from the partner, individuals were 4.5 times more likely to abort compared with those who were pressured by relatives and friends of the couple (p = 0.007) (Table 5).

Table 4. Occurrence of abortion and variables related to abortion among young women with obstetric history.

Variables	Occurrence of abortion							
	No		Yes		Total		χ^{2*}	p-Value
	n	%	n	%	n	%		
Thought about abortion								
Yes	124	68.5	57	31.5	181	100.0	11.217	0.001
No	232	82.0	51	18.0	283	100.0		
Felt pressured to abort								
Yes	103	72.5	39	27.5	142	100.0	2.011	0.156
No	253	78.6	69	21.4	322	100.0		
Who pressured to abort**								
Partner	18	52.9	16	47.1	34	100.0	9.627	0.002
Relatives (her/his) and friends	84	80.0	21	20.0	105	100.0		
Partner desired pregnancy for that moment***								
Yes	152	74.5	52	25.5	204	100.0	0.018	0.892
No	96	73.8	34	26.2	130	100.0		
Used abortifacient method								
Yes	58	54.2	49	45.8	107	100.0	39.489	0.000
No	298	83.5	59	16.5	357	100.0		

*Pearson's χ^2; **Three cases in which the partner pressured in the first pregnancy and family/friends pressured in the others were excluded; ***104 cases in which the partner did not express the opinion, and 26 cases in which the partner expressed different opinions for each pregnancy were excluded.

DISCUSSION

In this study, having more than one pregnancy was a predictor of abortion, even after adjusting in analysis of the logistic regression. This result corroborates with those found in several studies[19-21], such as of a nationwide study with sample of 12,612 women, which found that having more than one child born alive was positively

Table 5. Logistic regression model of potentially predictors of abortion among young women with obstetric history.

Variables	Adjusted OR*	p-Value	95%CI
Schooling: age-range adequacy**			
Yes**	0.284	0.216	0.039 – 2.091
No			
Family income (minimum wage)			
≤ 1	0.897	0.844	0.301 – 2.660
> 1**			
Age range of the young women at first pregnancy			
12 – 14	1.578	0.460	0.471 – 5.288
15 – 19**			
Partner already had children in the first pregnancy of the young women			
Yes	1.922	0.276	0.593 – 6.277
No**			
Number of pregnancies			
1**	8.987	0.002	2.275 – 35.506
More than 1			
Thought about abortion			
Yes	2.91	0.105	0.800 – 10.591
No**			
Who pressured to abort			
Partner	4.52	0.007	1.500 – 13.615
Relatives (her/his) and friends**			
Used abortifacient method			
Yes	2.393	0.146	0.739 – 7.751
No**			

*Adjusted Odds Ratio; **Reference category.

associated with both spontaneous and induced abortions[19]. Similarly, another study found that women who were experiencing the second pregnancy were 3.8 times more likely to induce abortion, whereas those who had experienced more than two pregnancies were 6.6 times more likely to abort[21].

In this perspective, the greater the number of unwanted pregnancies, the higher the chances for women to induce abortion as a birth control method. This fact points to the serious failure of reproductive health policies in Brazil, more specifically those related to family planning, which leads to risks not only to the health, but also to the lives of those women.

It is worth mentioning that the individual may have considered abortion because of pressure from family or partner to undergo the procedure. Therefore, the influence of the partner on the confirmation of pregnancy should be highlighted. This influence was an abortion predictor in multivariate analysis, as described by other authors[22-24].

A research on the decisions of women concerning unsafe abortion showed that the partner, also responsible for the pregnancy, was the person who influenced for abortion in 64% of the occasions, followed by friends and the mother of the young women[24]. The woman herself can also seek for opinions from people close to her to help in the decision, and also count on the experiences of other women with abortions[23,25]. The confidence in people, who are not health professionals in most cases, prevents the woman from seeking opinions of qualified people. This is possibly due to the illegal status of abortion, which puts her at risk because of complications from the procedure.

A research conducted in the Espírito Santo State showed that the partner's opinion was more significant than the family intervention. This result may be related to the fact that some teens do not share this information with family and make the decision alone or together with the partner[26]. Therefore, if there is no support from the partner, the choice for interrupting pregnancy usually defeats the desire to build and maintain a family, considering that facing social and family conflicts seems to be harder when experiencing a pregnancy without the support of the people around[2,22]. Men may be involved in the abortion process by seeking information about locations that carry out the procedure, by providing financial support thereof, or by accompanying the young woman during the procedure to provide emotional support[22].

The pressure to interrupt pregnancy was more common among those who were pregnant for the first time. This result was also mentioned by other investigations[23,27]. Research on induced abortion in youth showed that the highest proportions of abortions in the first pregnancy were reported by men, when referring to their partners, compared with women participating in the same research, who were also experiencing the first pregnancy. This result reinforces the significant influence of the partner in women's decisions about abortion[27].

The inadequacy age-grade maintained its association with the occurrence of abortion only in the bivariate analysis. However, the National Abortion Survey (PNA) points out that induced abortion occurs more frequently among women whose educational

level is very low. In PNA, the proportion of participants who induced abortion at some point in their reproductive lives was 23% among those who have up to the fourth year of elementary school. In contrast, the proportion of abortions dropped to 12% among those who reported having completed high school[8]. The educational level of women is a characteristic that deserves special attention as it directly influences the number of pregnancies and children[28], and, in this study, it was also a predictor for the occurrence of abortion.

The low socioeconomic level of the participants was demonstrated by the monthly family income, which was no more than one minimum wage for half of them. Unfavorable financial conditions are related to the difficulty of access to information and to effective contraceptive methods to prevent unwanted pregnancies. Thus, induction of abortion may serve as a family planning strategy for many women whose financial resources are scarce. This is worrying, once such procedure is often performed under unsafe conditions, contributing to the increase in maternal mortality and morbidity statistics[19].

It is worth mentioning that the variable "income" lost its significance after statistical adjustment. However, studies have shown that adolescents who perceive low income have expressed desire for pregnancy as a manner to get more respect from the people around them. This may result in a change of the profile of induced abortion, with decreased frequencies among this population and increased occurrence among young adults[8,19,29].

After adjustment, having thought about inducing abortion during pregnancy did not remain significantly associated with the occurrence of abortion. This may occur because discovery of unplanned pregnancy predisposes women to an emotional disorder that stimulates thoughts, even if brief, of inducing abortion. These thoughts emerge together with the search for solutions to the unexpected pregnancy and do not necessarily lead to the interruption of pregnancy[30].

According to the Ministry of Health of Brazil, doubts about the maintenance of pregnancy are quite common, as 73% of women aged from 18 to 24 years considered the possibility of aborting before opting for pregnancy maintenance[7]. On the other hand, a survey conducted in Sri Lanka pointed out that 12.3% of women who induced abortion initially considered continuing the pregnancy to term, whereas 42.7% of women who did not abort had considered abortion as a mean of interrupting pregnancy[23].

Abortifacient methods use associated with the occurrence of abortion; however, it did not remain significant after statistical adjustment, probably because of the fact that not all the participants who used abortifacient methods have been successful, probably because of the ineffective medication by underdosing or advanced gestational age[7].

The abortive method chosen by the participants of this study was also the primary method observed in other studies. Misoprostol and other drugs are the most referred methods, whereas the use of tea is associated with the attempt of normalizing menstrual cycle. In these cases, nonsignificant results may be explained by the fact that not

all women recognize the use of teas and home preparations as abortifacient methods because they are integrated in their routines or are treated as contraceptive methods[8,22,31,32].

This study had some limitations; however, those limitations could not prevent the study from being conducted. First, the lack of information about the cases of curettage at the private institution, because of the confidential status of those information may have led to the nonsignificance between the occurrence of abortion and socioeconomic status, after the statistical adjustment. This may occur because the majority of women who have better purchasing power, and who can afford health insurances, or pay for the procedure, opt for private health-care services. However, it is worth mentioning that most research on abortion used as sample only portion of women hospitalized because of abortion complications, and women who seek for the Unified Health System, demonstrating the induction of common selection bias in these studies[22,32].

Second, the type of abortion (spontaneous or induced) was not identified because of the possibility of reducing selection bias. However, among other inquiries applied indirectly, the use of abortive methods, which can interrupt an unwanted pregnancy, was discussed. Moreover, although considering the abortion induction and making use of abortifacient methods have not been statistically significant after adjusting, these variables presented *odds ratios* that have clinical significance, with a larger confidence interval. This may suggest inadequate sample of cases of abortion, probably because of the lack of access to cases of curettage of the private institution, which were not accounted.

In Brazil, there are significant regional differences, where most abortions occur mainly in regions with scarce financial resources. The state of Piauí, besides being one of the poorest states of the federation, presented abortion statistics which were similar to the average observed in the Northeast region[11]. In this perspective, although this is a local study, data may be generalized to other populations, especially those belonging to areas with low purchasing power.

CONCLUSION

Having experienced more than one pregnancy and having been pressured by the partner to abort were the factors that induced abortion in this study, obtained after adjustment in multivariate analysis. Additionally, sociodemographic and obstetric characteristics of participants did not differ from the literatures that address the theme.

Although this study has been part of a broader research on pregnancy relapse in adolescence, the proposed objectives for this extract have been achieved. However, to better understand the predictors of abortion and characterization of abortion practice, other studies about potential factors of influence on abortion such as planning or not the pregnancy, lack of partner support, and the use of contraceptive methods at the time of conception are necessary, independently of abortion findings.

Although public health policies have advanced in discussions about sexual and reproductive rights of women, family planning programs, including more effectively the adolescent populations are necessary. These programs may prevent unwanted pregnancies in this population and, consequently, reduce induced abortion under precarious conditions. Moreover, health services should consider, besides women, their families and particularly their partners as an extremely important focus of actions, as these are the individuals that influence the young women in their decisions about the maintenance or interruption of pregnancy.

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