Original Article

Factors associated with poor adherence to colpocytological examination in adolescent mothers*

Fatores associados à baixa adesão ao exame colpocitológico em mães adolescentes

Factores asociados a la baja adhesión al examen colpocitológico en madres adolescentes

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ABSTRACT

Objective: To analyze the factors associated with low adherence to the Papanicolaou exam in a group of adolescent mothers. **Methods:** An observational, transversal study conducted in two public hospitals in Joinville, Santa Catarina. The sample consisted of 416 adolescent mothers. Data were collected during the period from March to September 2010 through interviews, during hospitalization. **Results:** Adolescents who presented lower adherence to the Papanicolaou testing were younger than 15 years, students, with low education and family income, that used the condom as a contraceptive method, who had only one child, who attended fewer than six prenatal visits, and were not solicited to take the test during pregnancy. **Conclusion:** The variables of age range, occupation, education level, years of education, method of contraception, parity, number of prenatal visits and the offer of colpocytological examination during pregnancy, were significantly associated with completion of the Papanicolaou test.

Keywords: Vaginal smears; Uterine cervical neoplasms; Early diagnosis; Adolescent

RESUMO

Objetivo: Analisar os fatores associados à baixa adesão ao teste de Papanicolaou em um grupo de mães adolescentes. **Métodos:** Estudo observacional, transversal realizado em dois hospitais públicos de Joinville, Santa Catarina. A amostra constituiu-se de 416 puérperas adolescentes. Os dados foram coletados no período de março a setembro de 2010 por meio de entrevista, durante a internação hospitalar. **Resultados:** As adolescentes que apresentaram menor adesão à realização do teste de Papanicolaou foram as com idade inferior a 15 anos, somente estudantes, com baixa escolaridade e renda familiar, que utilizaram o preservativo como método contraceptivo, que possuíam somente um filho, que realizaram menos que seis consultas pré-natais e que não foram solicitadas a fazer o teste durante a gestação. **Conclusão:** As variáveis faixa etária, ocupação, escolaridade, anos de estudo, método contraceptivo, paridade, número de consultas pré-natais e a oferta do exame colpocitológico durante a gestação, foram significativamente associadas à realização do teste de Papanicolaou.

Descritores: Esfregaço vaginal; Neoplasias do colo do útero; Diagnóstico precoce; Adolescente

RESUMEN

Objetivo: Analizar los factores asociados a la baja adhesión al test de Papanicolao en un grupo de madres adolescentes. **Métodos:** Estudio observacional, transversal realizado en dos hospitales públicos de Joinville, Santa Catarina. La muestra se constituyó de 416 puérperas adolescentes. Los datos fueron recolectados en el período de marzo a setiembre de 2010 por medio de una entrevista, durante el internamiento hospitalario. **Resultados:** Las adolescentes que presentaron menor adhesión a la realización del test de Papanicolao fueron las que tenían edad inferior a 15 años, solamente estudiantes, con baja escolaridad e ingreso familiar, que utilizaron el preservativo como método anticonceptivo, que poseían solo un hijo, que realizaron menos de seis consultas prenatales y que no fueron solicitadas a hacerse el test durante la gestación. **Conclusión:** Las variables grupo etáreo, ocupación, escolaridad, años de estudio, método anticonceptivo, paridad, número de consultas prenatales y la oferta del examen colpocitológico durante la gestación, fueron significativamente asociadas a la realización del test de Papanicolao.

Descriptores: Frotis vaginal; Neoplasias del cuello uterino; Diagnóstico precoz; Adolescente

** Study extracted from the master dissertation entitled "Pregnant adolescents and Pap smear for cervical cancer: Socioeconomic, demographic, obstetric and gynecological characteristics" – presented at the University of Joinville Region – UNIVILLE – Joinville (SC), Brazil.*

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INTRODUCTION

The Cervical Cancer (CC) presents high mortality rate and, even with government programs and campaigns that publicize its prevention, it remains a public health problem in Brazil [1]. There are approximately 500.000 new cases/year worldwide, the CC is the second most common type of cancer among women and also responsible for approximately 260.000 deaths per year, with most cases in developing countries [2,3]. Despite been introduced in Brazil in the 50s, it is estimated that about 40% of women aged between 25 and 64 have never done a Pap smear, preventive exam for cervical cancer [2]. According to the National Cancer Institute José Alencar Gomes da Silva (INCA), 17.540 of new cervical cancer cases are estimated in Brazil in 2012-2013, still being the second cause of deaths of neoplasm among women. In Santa Catarina, 380 new cases are estimated for the same period [4].

The main risk factor of CC development is infection due to human papillomavirus (HPV). Despite being regarded as a necessary condition, HPV infection itself is not an enough trigger of this neoplasm [4,5]. Other factors related to immunity, genetics, sexual behavior [4], heredity, menarche, obesity and prolonged therapy based on hormones [6] seem to influence the mechanisms that determine the behavior of the infection and also the progression to premalignant lesions or cancer [4]. Age also affects this process, given that the majority of HPV infections in women aged under 30 spontaneously regress, while above that age, persistence is most common [4]. Tobacco smoking increases the risk of CC development and even more when smoking is initiated at an early age [6-7].

All women aged between 25 and 64, or those who have already started sexual activity regardless of age, must take the exam plus those who have never submitted themselves to the cytopathologic test [4,8]. Beforehand tracking of CC allows an increasing number of diagnoses of low-grade lesions, considered as non-harbinger and only typical cytological manifestation of HPV infection. As such lesions are most likely to regress, the beforehand diagnosis also results on a decreasing number of colposcopy, diagnostic and therapeutic procedures [8]. Aside non-melanoma skin cancer, the CC has a great potential for prevention and cure when early diagnosed [4]. In Brazil, about 80% of CC controls are still performed when a woman seeks health services for obstetric or gynecological reasons [9], the preventive aspect of taking the test to avoid the disease still deserves further exploration. Low education level, low family income, living without a partner, use of oral contraceptives, absence of gynecological problems, shame or fear regarding the test, difficulty accessing health care and lack of medical advice [10], are highlighted factors associated with non-adherence to Pap smear test in Brazil, among others. In addition to the factors previously mentioned, some authors even describe the sort of language used in CC prevention campaigns as another factor which influences the adhesion of women to prevention campaigns [1]. The fact is that women, in most cases, interprets Pap smear as a diagnostic tool rather than incorporate it as a preventive routine [11].

Over the past years, the onset of sexual activity among women has been increasingly earlier, between 13 and 15 years old [12-14] approximately. However, despite the fact CC prevention campaigns are also being addressed to sexually active teenagers, effective strategies and setting implementation are still a challenge for developing countries [4].

Due to the lack of data regarding adherence to the Pap smear, specifically in young adolescents, this study aimed to analyze the factors associated with poor adhesion of the exam in a group of adolescent mothers.

METHODS

It is a cross-sectional study performed at Darcy Vargas Maternity (DVM) and Children's Hospital Dr. Jesser Amarante Faria (CHJAF), both public institutions in Joinvillle, SC.

The subjects of the study were young women aged between 10 and 19 years, these adolescent mothers were included from a convenience sampling, which were attended in DVM and CHJAF from March to September 2010. Exclusion criteria covered the teenagers who: were admitted at risk as in the Intensive Care Unit (ICU) and emergency departments, had some illness that prevented them from participating in the study, had the death of their babies during admission in these institutions; did not reside in Joinville, did not have a legal guardian to allow their participation in the study and refused to participate.

Following the inclusion criteria, 604 adolescent mothers had their children in the investigated institutions over the period of study. From those, 188 were excluded: 147 by not residing in Joinville, 27 were discharged from the hospital on Sunday, 12 due to the fact the newborn or mother had been hospitalized at-risk and two due to their refusal to participate. Thus, 416 mothers comprised the subjects study effectively.

A questionnaire was used as an instrument for data collection addressing information such as: socioeconomic and demographic information, obstetric and gynecological information, tobacco smoking and Pap

smear adherence. In order to identify interpretation errors and allow inclusion of other necessary issues, the questionnaire was pre-tested before starting the study.

Data collection was performed over postpartum period according to available time that day, once with the adolescent. All of them were informed about the objectives of the study and the right to refuse to participate. The volunteers who agreed to participate signed a Consent form (CF), when emancipated or over 18 years. For those under 18, the CF was signed by their parents or legal guardians. For the survey, a structured questionnaire was used on issues involving socioeconomic, demographic information as well as obstetric and gynecological data about the mother and the newborn, when appropriate. The teenager was also questioned about their knowledge on Pap smear. All data were collected by the researcher only.

The development of the study met with the requirements of the National Health Council / Ministry of Health – Resolution 196/96, which regulates researches involving human beings. The project was approved by the Ethics Committee of the Regional Hospital Hans Dieter Schmidt under case No. 003/10.

Data were analyzed with the Statistical Package for Social Science (SPSS) software version 16.0. In order to investigate the association between the dichotomous variable "Pap smear adherence" (yes and no) and predictor variables, we used Chi-Square test. In order to compare two means, the "t" test for independent samples and normal distribution was used. In case of non-normal distribution, Mann-Whitney test was used. Normality was checked using the Kolmogorov-Smirnov test. The bivariate and multivariate analyzes were performed by unconditional logistic regression. In multivariate analysis, we used the *Enter* method attached with the theoretical model and respecting the hierarchical levels, the objective was to observe the effects of variables adjusted to each other within each block. Sociodemographic variables were considered on a first level block and the inclusion of other variables occurred in the second block. To avoid excluding possible confusing factors, variables with $p < 0.20$ of any levels were retained in the model until the end, even when its significance with the introduction of other variables with lower hierarchical level was lost. Unadjusted and adjusted cross-product odds ratio (OR) were estimated and its respective 95% confidence intervals for the variables which remained in the model. In all analyzes, they were considered significant when $p < 0.05$.

RESULTS

The study included 416 adolescent mothers with a mean age of 17.46 years (SD = 1.386), with 13 to 19 years as minimum and maximum age. The mean age of onset of sexual activity was 14.92 years (SD = 1.429). Regarding socioeconomic and demographic characteristics, 57.7% belonged to the age group equal or greater than 18 years, 76.2% were married or had a stable union, 65.8% were neither studying nor working, 30.2% had not completed primary education, 16.8% smoke, and on average, adolescents had studied 9.19 years (SD = 1.862) (Table 1). When comparing the group of adolescents who did not adhere to Pap smear test with those who did (Table 1), it can be observed that the percentage of adolescents aged <15 years (81.8%) and only students (58.9%) who did not take smear test was significantly higher, compared to those in the age group between 15 to 18 years (60.0%) plus ≥ 18 years (40.4%) and housewives/non-students (50.4%) or work (34.8%). Regarding education, a significant rise and increase was observed upon the frequency on adhering to the exam with increasing level of education. Mean years of education (9.54 vs 9.19 years) and age (17.77 vs 17.46 years) were also significantly higher for the adolescents group who reported having accomplished Pap smear. Nine teenagers could not answer the family income.

Gynecologic and obstetric features of adolescents according to Pap smear adherence can be observed in Table 2. Adolescents who reported non-adherence to exam and used condoms as contraceptive method were significantly more frequent when related to adolescents in other categories. About those who reported not using any kind of contraceptive method, the most frequent were those who did the test (57.4%). Continuing with the data presented in Table 2, there was a greater frequency of mothers who did not take the test in the group that had an only child (52.3%). Regarding the number of antenatal appointments, adolescents with less frequency in the exam were those who made fewer antenatal appointments. There were no statistical differences between the proportions of students from other variables shown in Table 2. Two adolescents did not know how to answer the age of menarche and the beginning of their sexual activity, four refused to answer the number of sexual partners they have had in the past three years, 136 did not use any contraceptive method, and four did not do an antenatal.

Table 1 – Socioeconomic and demographic characteristics of adolescent mothers, according to the Pap smear adherence. Joinville-SC, 2010. n = 416.

Characteristics	Pap Smear adherence				Total (n = 416)		p
	Yes (n = 211)		No (n = 205)				
	n	%	n	%	n	(%)	
Age group (years)							<0.001*
< 15	2	18.2	9	81.8	11	2.6	
15 to 18	66	40.0	99	60.0	165	39.7	
≥ 18	143	59.6	97	40.4	240	57.7	
Marital status							0.059*
Married/stable union	169	53.3	148	46.7	317	76.2	
Other	42	42.4	57	57.6	99	23.8	
Occupation							0.013*
Housewives/Non-students	136	49.6	138	50.4	274	65.9	
Students	30	41.1	43	58.9	73	17.5	
Other	45	65.2	24	34.8	69	16.6	
Education							0.008*
ES Incomplete	49	38.9	77	61.1	126	30.3	
ES Complete	43	50.6	42	49.4	85	20.4	
HS Incomplete	72	56.2	56	43.8	128	30.8	
HS Complete and Higher education	47	61.0	30	39.0	77	18.5	
Monthly family income (MW)* **							0.609*
1 – 2	85	53.5	74	46.5	159	39.1	
3 – 5	92	48.2	99	51.8	191	46.9	
≥ 6	29	50.9	28	49.1	57	14.0	
Smoking							0.897*
Yes	36	51.4	34	48.6	70	16.8	
No	175	50.6	171	49.4	346	83.2	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Years of education	9.54	1.730	8.83	1.929	9.19	1.862	<0.001**
Age (years)	17.77	1.226	17.14	1.470	17.46	1.386	<0.001**

ES: Elementary School; HS: High School; MW: Minimum wage (R$ 510.00). *: *p*-value obtained by Chi-square test; **: *p*-value obtained by "t" test; ***: n = 407.

Table 2 – Gynecologic and obstetric characteristics of adolescent mothers according to the Pap smear adherence. Joinville-SC, 2010. n = 416.

Characteristics	Pap Smear adherence				Total		p
	Yes		No				
	n	%	n	%	n	(%)	
Menarche age (n=414)							0.129*
< 12	69	57.5	51	42.5	120	100	
12 to 13	112	49.6	114	50.4	226	100	
≥ 14	29	42.6	39	57.4	68	100	
Onset age of sexual activity (n=414)							0.124*
< 15	77	50.3	76	49.7	153	100	
15 to 16	114	54.0	97	46.0	211	100	
≥ 17	19	38.0	31	62.0	50	100	
Number of sexual partners over the last 3 years (n=412)							0.852*
1	115	49.8	116	50.2	231	100	
2 to 3	76	52.4	69	47.6	145	100	
≥ 4	19	52.8	17	47.2	36	100	
Contraceptive method (n=416)							0.001*
Condom	38	40.4	56	59.6	94	100	
Contraceptive pill	107	61.5	67	38.5	174	100	
Other	8	66.7	4	33.3	12	100	
Do not use	58	42.6	78	57.4	136	100	
Age when first child was bore (n=416)							0.150*
< 15	7	31.8	15	68.2	22	100	
15 to 16	59	49.2	61	50.8	120	100	
≥ 17	145	52.9	129	47.1	274	100	
Parity (n=416)							0.007*
1	164	47.7	180	52.3	344	100	
≥ 2	47	65.3	25	34.7	72	100	
Antenatal appointments (n=416)							0.021*
< 6	55	42.3	75	57.7	130	100	
≥ 6	156	54.5	130	45.5	286	100	
Type of service in which antenatal was conducted (n=412)							0.119*
Public	197	50.1	196	49.9	393	100	
Private	13	68.4	6	31.6	19	100	
Smoking during pregnancy (n=416)							0.095*
Yes	22	44.9	27	55.1	49	100	
No	14	66.7	7	33.3	21	100	

*: p-value obtained by Chi-square test.

Table 3 shows data information related to Pap smear. It is observed that those to whom the test was not offered during pregnancy (75.5%) were the least that adhered to Pap smear related to those to whom the test was offered (34.9%). However, there were no statistical differences between the proportions of adolescents who reported been informed about the exam. Thirty-one adolescents did not take Pap smear and four the antenatal care.

Table 3 – Information about Pap smear in adolescent mothers, according to their adherence. Joinville-SC, 2010. n = 416

Characteristics	Test adherence				Total		p
	Yes		No				
	n	%	n	%	n	(%)	
From those who received information about the test, who told them? (n = 385)							0.186*
Mother or relatives	79	53.4	69	46.6	148	100.0	
School	5	45.5	6	54.5	11	100.0	
Health professional	121	58.2	87	41.8	208	100.0	
Other	6	33.3	12	66.7	18	100.0	
Was the test offered during pregnancy? (n = 416)							<0.001*
Yes	175	65.1	94	34.9	269	100.0	
No	36	24.5	111	75.5	147	100.0	
Type of service which the test was offered (n = 412)							0.021*
Public	260	66.2	133	33.8	393	100.0	
Private	8	42.1	11	57.9	19	100.0	

*: Chi-square test.

Also related to exam information, from 205 adolescents who reported non-adherence to the exam, 174 (84.5%) revealed that they had received some information about it. The reasons revealed by adolescents for non-adherence of Pap smear were fear (33.6%), followed by the fact that they were careless regarding the procedure (22.9%), by being during pregnancy (17.6%), shame (17.1%), and other reasons (8.8%).

Table 4 presents the unadjusted and adjusted analysis results of predictor variables associated with the outcome "Pap smear adherence". Three demographic variables were included in the first block analysis, according to statistical criteria previously established and other variables in the second block. After first block analysis, even though a significant association (p = 0.059) was not presented, the marital status variable was kept in the model. Second level variables from theoretical model were then assessed, corresponding to gynecological and obstetric variables. Among the predictor variables included in the model, the following showed significant effect on Pap smear adherence: age 15-18 years (OR = 2.61, p < 0.001) and <15 years (OR = 5.50, p < 0.001), school years (OR = 2.04, p = 0.019), onset of sexual activity for the age group 15 to 16 years (OR = 0.44, p = 0.021) and <15 years (OR = 0.32, p = 0.021), type of service in which antenatal care was conducted (OR = 0.28, p < 0.026) and if the test was offered during pregnancy (OR = 5.33, p < 0.001). The onset age of sexual activity and type of service where the test was performed have shown to be protective factors for test adherence, even after adjustment. In terms of age, it can be noticed that, although the risk has been mitigated to the range <15 years after adjusted analysis, there is a gradual increase risk with decreasing age. Regarding the number of antenatal appointments, even though it was shown no significant effect on Pap smear adherence after adjustment, such variable is revealed as a risk factor for non-adherence to the test (OR = 1.37; p = 0.198).

Table 4 – Logistic regression results having as outcome non-adherence to the test in adolescent mothers. Joinville-SC, 2010. n = 416.

Variable	Univariate analysis			Multivariate analysis		
	OR	CI95%	p	OR	CI95%	p
Age group (years)			<0.001			<0.001
≥ 18	1.00	-		1.00	-	
15 to 18	2.21	1.476 - 3.313		2.61	1.599 - 4.273	
< 15	6.63	1.403 - 31.372		5.50	0.848 - 35.733	
Marital status			0.059			0.764
Married/stable union	1.00	-		1.00	-	
Other	1.55	0.983 - 2.444		1.08	0.631 - 1.872	
School years			<0.001			0.019
≥ 8	1.00	-		1.00	-	
< 8	2.46	1.459 - 4.161		2.04	1.123 - 3.720	
Onset age of sexual activity (years)			0.129			0.021
≥ 17	1.00	-		1.00	-	
15 to 16	0.52	0.277 - 0.981		0.44	0.219 - 0.920	
< 15	0.60	0.315 - 1.162		0.32	0.148 - 0.717	
Contraceptive method			0.024			0.179
Condom	1.00	-		1.00	-	
Other	0.58	0.367 - 0.932		0.69	0.404 - 1.185	
Antenatal appointments			0.021			0.198
≥ 6	1.00	-		1.00	-	
< 6	1.63	1.077 - 2.487		1.37	0.846 - 2.240	
Type of service			0.127			0.026
Public	1.00	-		1.00	-	
Private	0.46	0.173 - 1.245		0.28	0.092 - 0.861	
Was the test offered during pregnancy?			<0.001			<0.001
Yes	1.00	-		1.00	-	
No	5.74	3.654 - 9.019		5.33	3.245 - 8.758	

DISCUSSION

Although it has been considered a simple, low cost and effective prevention technology for cervical cancer and its precursor lesions, many women still fail to adhere to Pap smear in Brazil. Among the most known factors in the literature, this study also pointed out fear and health neglect as the main causes of adolescent girls for not taking the test. In this study, the fact that most (84.5%) women did not adhere to the test even after receiving some information about it, may indicate flaws on how this information is being passed. Some researchers question whether health professional training covers the new public generated by increasingly early sexual initiation [14]. Many myths, prejudices and fantasies involving sexuality are still evidenced. The low access to knowledge about prevention of cervix cancer and sexuality in family scope, especially in low-income adolescents, should be compensated with information in the classroom and health education campaigns, using appropriate techniques and language for this population [14]. In a study developed in a hospital in São Paulo – Brazil, the authors point to the lack of definitive and proper

housing as another feature that also hinders the call of women to adhere to periodic examinations [15]. Such feature is important due to its impairing to bond Women's Health Unit of their neighborhood, worsening professional health care tracking their health status. Other researchers [16], in a population-based study conducted in Campinas – Brazil, also reported difficulty on accessing health services, the nature of the test which involves the exposure of genitalia, emotional unease reasons for some women due to compunction and taboos as other factors associated with the non-adherence to Pap smear [16]. It can be noticed that the main factors associated with poor adherence to the smear test may be changed basically with education focusing prevention, something still set as background for most population in Brazil. Although women are considered more careful with health, adolescents require greater educational support and a differentiated approach, due to characteristic changes over this age group. Early start taking the test is already being considered in other countries. In the United States, the American Cancer Society has indicated taking the test only after the onset of sexual activity. Afterward, preventive exams started to be recommended from 18 years, and in 2002, recommendation for preventive exams took place for three years after onset of sexual activity, with maximum age of 21 [17]. Family Health Strategy, a model of primary health care adopted in Brazil with constantly growth, can be a differential on overcoming the boundaries regarding Pap smear adherence, since it is able to identify and capture women who halt taking the test.

Other results from this study confirm previous findings. Some authors found a lower frequency adherence to the test for women who: used condoms [11,18-19], were afraid [11,19], parity were lower than two [11], were singles [11,14,18,20], did their antenatal care in the public health system [11], had low family income [14,20], had lower schooling [11,20] and were part of younger age groups [11,14,18,20]. The number of antenatal appointments is also closely associated with Pap smear adherence. In this study, 57.7% of adolescents who did not adhere to the test reported having fewer than six antenatal appointments, a result that is in agreement with findings from other studies [18]. Such result was similar with obtained in this study, when teenagers were asked about the offer of the test during pregnancy. When the test was not offered during this period, 75.5% of adolescents reported non-adherence to the test, reinforcing the fact that during pregnancy, correct orientation of pregnant women is critical to ensure adherence to the necessary tests for the mother and the baby. The regular contact of adolescents with antenatal program care is important answering questions and providing awareness about the condition of being mother, as well as greater personal maturity. Participation and training of health professionals are essential in this regard. Although it wasn`t highlighted in this study, 58.2% of the adolescents who reported adherence to the test had received this information from health professionals. Professional quality and the way to approach teenager when asked to adhere to the test are hence highlighted. Educational practice actions embedded on all daily attendance focused on female population are pointed out from some authors to lay emphasis on, at the same time disclosing risk factors regarding cervical cancer development and the importance to adhere to Pap smear periodically [21].

This study also points out a higher percentage of adolescents who adhered to the test and reported been working. There are accounts in the literature that women who work have higher proportions of suitable attitudes when facing Pap smear, in other words, there is a necessity for adhering to the test regularly for them [22]. Such matters possibly flood this association causing women who work exclusively at home having less autonomy to make decisions regarding their health. Another possibility is that women who work outside their home have greater access to information in contacts with other workers or employers, which can promote preventive health practices [23].

Motherhood in adolescence is considered a public health problem in Brazil and worldwide, since it increases health vulnerability problems to women and children [12]. In this study, logistic regression results (Table 4) showed that the chance of a teenager non-adherence to Pap smear increases significantly if they are under 15 years old. This could mean that, the younger these adolescents are, the least are their chances of adherence to the test, showing shortcoming expansion on offering the test for younger age groups [10]. This is an important fact since onset sexual activity has occurred at an earlier age among adolescents. But even though Pap smear has not been performed in these adolescents before pregnancy, the correct information and adherence to the test should not be overlooked during pregnancy, when a woman is most receptive to information and goes more frequently to health services [10,13]. Such feature is noticed when antenatal and Pap smear offer during pregnancy data are analyzed. In this study, although not significant ($p = 0.198$), there was an increase chance of 37.0% to a teenager non-adherence to Pap smear when their antenatal appointment participation was less than six (Table 4). Relative to Pap smear offer during pregnancy, not offering the test by health professionals increased 5.33 times the chances of a

teenager non-adherence to it (Table 4), agreeing with what was observed by other authors, who showed an increase adherence to the test besides improving its coverage and CC tracking [10,13-14].

As highlighted by other authors [11,20], one limitation of this study arises from the fact that the information about Pap test adherence has been reported by adolescents, unchecked by the researcher in medical records and therefore affected by recall and information bias. Some teenagers may not distinguish properly between the gynecological test and material collection for a Pap smear, and the test may have been requested because of gynecological complaints during appointment with healing but not preventive intent. Even though, some authors have shown that the Pap smear account by adolescent and young adult women is effective and therefore, must be considered [24]. Other limiting factors to be considered are sort of study, cross-sectional, which bounds the interpretation of these associations as derived from cause-effect relationships, and convenience sampling, which may not represent the entire study population suitably.

Lastly, the data presented here show that it is necessary to intensify the Pap smear offer for teenagers. It is suggested that further studies may be developed in order to find new strategies of adherence to the test by these adolescents after their onset sexual activity. Another important issue points to education activities about the exam adherence and CC, regardless of age, i.e., information must be delivered to adolescents essentially before their onset of sexual activity.

CONCLUSION

The outcomes of this study revealed that the variables of age, occupation, education, schooling years, adopted contraceptive method, parity, number of antenatal appointments, type of service where antenatal care was performed and if Pap smear was offered during pregnancy are significantly associated with the test adherence regarding the adolescents investigated. Such outcome emphasizes the importance of adherence to the test on young women due to their early onset sexual activity. Regarding information about the test, the fact that it was offered during pregnancy, especially in women who attended to six or more antenatal appointments, has significantly increased the frequency of adherence. Given the above, it is believed that the use of more effective strategies approaching teenagers attached with health programs should provide greater coverage of Pap smear.

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