

# Sexual initiation among adolescents (10 to 14 years old) and health behaviors

## *Início da vida sexual entre adolescentes (10 a 14 anos) e comportamentos em saúde*

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**ABSTRACT:** *Objective:* To assess the prevalence of sexual initiation until the age of 14 years old, as well as sociodemographic and behavioral factors. *Methods:* In 2008, 4,325 from the 5,249 adolescents of the 1993 birth cohort in Pelotas, Rio Grande do Sul, were interviewed. Sexual initiation was defined as the first intercourse up to the age of 14 years old. The information was obtained by interviewing adolescents in their houses, during the 2008 follow-up. The analyzed variables were: skin color, asset index, maternal and adolescents' schooling, experimental use of tobacco and alcohol, drunkenness episode, use of any illicit drug, illegal drug use by friends and involvement in fights during the past year. Use of condoms and contraceptive methods, number of partners and the age of sexual initiation were also analyzed. *Results:* The prevalence of sexual initiation by the age of 14 was of 18.6%. Lower schooling, asset index and maternal education were related to higher prevalence of sexual initiation until the age of 14, as well as being male or being born to adolescent mothers. Sexual intercourse was also related to the behavioral variables analyzed. Among adolescent girls who had intercourse up to the age of 14, 30% did not use contraception and 18% did not use condoms in the last sexual intercourse. Boys reported a higher number of sexual partners than girls. *Conclusion:* The results suggest a relationship between sexual intercourse ( $\leq 14$  years) and some health-risk behaviors. The non-use of condoms and contraceptives may make them vulnerable to experiencing unwanted situations. Education and sociocultural strategies for health should be implemented from the beginning of adolescence.

**Keywords:** Adolescent. Risk taking. Sexual behavior. Sexual and reproductive health. Sexual behavior. Cohort studies.

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**RESUMO:** *Objetivo:* Avaliar a prevalência de início da vida sexual até os 14 anos de idade e fatores sociodemográficos e comportamentais relacionados à sua ocorrência. *Métodos:* Em 2008, 4.325 adolescentes dos 5.249 pertencentes ao estudo de coorte de nascimentos de Pelotas, Rio Grande do Sul (1993) foram entrevistados. O início da vida sexual foi definido como primeira relação sexual ocorrida até os 14 anos. As informações foram obtidas através de questionários durante o acompanhamento de 2008, com entrevistas realizadas nos domicílios. As variáveis analisadas foram: cor da pele, índice de bens, escolaridade materna e do adolescente, uso experimental de cigarro e de álcool, episódio de embriaguez, uso de alguma droga ilícita pelo adolescente ou pelos amigos e envolvimento em brigas no último ano. Além dessas, foram analisados o uso de preservativos e contraceptivos, número de parceiros(as) e idade de iniciação sexual. *Resultados:* A prevalência de iniciação sexual foi de 18,6%, sendo maior no sexo masculino, nos adolescentes com menor escolaridade, de baixo nível econômico e naqueles cujas mães tinham baixa escolaridade e tiveram filhos na adolescência. A prática sexual esteve relacionada às variáveis comportamentais analisadas. Na última relação sexual, 30% das entrevistadas não haviam usado métodos contraceptivos e 18% não usaram preservativos. Meninos referiram maior número de parceiros(as) sexuais do que meninas. *Conclusão:* Resultados apontam uma relação entre iniciação sexual ( $\leq 14$  anos) e comportamentos vulneráveis à saúde. O não uso de preservativos e contraceptivos pode torná-los vulneráveis a experimentarem situações não desejadas. Estratégias educativas e socioculturais em saúde devem ser praticadas desde o início da adolescência.

*Palavras-chave:* Adolescente. Assunção de riscos. Comportamento sexual. Saúde sexual e reprodutiva. Comportamento sexual. Estudos de coortes.

## INTRODUCTION

The increasing interest in public policies addressed to sexual education for adolescents — like the insertion of sexual education in the curriculum, increasing public expenses with the distribution of contraceptive pills and campaigns for the prevention against sexually transmitted diseases (STDs) — is connected to the fact that the age of sexual initiation can define behavioral patterns and health-related risks in the future<sup>1</sup>. Part of the process to define health actions for this population is related to the very definition of adolescence, which includes the age group between 10 and 19 years old<sup>2</sup>. Since this is an acknowledged time of physical, biological and psychological transition, the experimentation and adoption of several behaviors (related to sexual intercourse, smoking and/or drugs) usually occur in this age group. Changes in this period are related to learning sociability skills, gender models, values, social moral and its difficulties, and such experiences make people more vulnerable<sup>3</sup>. Sexual behavior (representations, behavior, attitudes and sexual practices) is one of the expressions of adolescent behavior that gained much visibility and social control actions. In the early 2000s, the imminence of damage caused to health and/or deflections in linear school and work routines triggered governmental campaigns addressed to health education, focusing on the need to use condoms to prevent STDs and negative consequences of adolescent pregnancy, promoted by the National Coordination of STD and AIDS, from the Ministry of Health (MS)<sup>4</sup>.

The beginning of sexual life for Brazilians usually takes place during adolescence<sup>5</sup>. According to data from the MS, the mean age at first intercourse in Brazil is of 14.9 years old, and women start later than men<sup>6</sup>. More recent data demonstrate that 29% of the adolescents aged 13 to 15 years old, who were interviewed by the National Adolescent School-Based Health Survey (PeNSE), from 2010, have had sexual intercourse<sup>7</sup>.

Studies have shown that the younger the age of sexual initiation, the higher the chances of damage to health during and after adolescence<sup>8-11</sup>. In general, they emphasize that STDs and pregnancy are not always prevented, and this approach depends on the partner. They also demonstrated that the earlier the sexual initiation, the higher the number of sexual partners<sup>8-11</sup>. However, for some ages, the report of using condoms in the last intercourse by adolescents aged 15 years old or more, from several countries, has increased in the past years<sup>12</sup>.

In order to understand which factors are related to sexual behavior, researchers analyzed which other conducts or lifestyles are connected to the age of sexual initiation. Results pointed out that adolescents ( $\geq 15$  years old) who consume alcohol, smoke (tobacco), use illicit drugs and get involved in violent situations are also the ones who have earlier sexual initiation<sup>13-15</sup>. Despite the relevance of these data and even though the national adolescent health survey incorporated adolescents aged 13 and 14 years old, there are few population-based studies that assessed the sexual behavior of adolescents aged less than 15 years old<sup>7,16-19</sup>. Therefore, this study aims at assessing the prevalence of sexual initiation among adolescents aged 10 to 14 years old and factors related to sexual behavior. Providing information about what happens with adolescents in this age group, which is usually excluded from major surveys on the subject, can develop actions addressed to teachers, researchers and public policy managers. Sexual initiation at an early age can trigger important vulnerabilities with negative consequences throughout life.

## METHODS

This is a descriptive study with data obtained from the 15 year follow-up of the 1993 birth cohort in Pelotas. The city is located in the south of Brazil, in the state of Rio Grande do Sul, and has approximately 320,000 inhabitants; 93.1% of its population resides in the urban zone. In 1993, all live births ( $n = 5,249$ ) in the five nurseries of the city (about 99% of all local births), whose mothers lived in the urban zone, were assessed. Since then, those who accepted to participate have been periodically accompanied, according to methodology described in another publication<sup>20</sup>.

From January to September 2008, the 8<sup>th</sup> cohort follow-up was conducted, when all participants were called and 4,325 participated in the study. By structured interviews performed in the household, the adolescent and someone in charge answered questionnaires developed by local researchers, applied by trained interviewers. Three

questionnaires were used: one addressed to the person in charge, which was almost completely answered by the mother, and two addressed to the adolescents. One of them was applied by the interviewer, and the other one was self-applied (with multiple choice questions, known by the interviewers as confidential questionnaire). The latter was given to the adolescent, answered in a reserved place in the household and placed in a sealed envelope after its conclusion. The three questionnaires were previously tested in terms of comprehension and possibilities of response in a pilot study conducted with adolescents aged 14 to 16 years old, born in Pelotas, Rio Grande do Sul, and with those aged 15 years old who were not born in the city. The same process occurred with the instrument of the person in charge. In the general questionnaire, data about demographic, socioeconomic, behavioral and health characteristics were collected. The self-applied questionnaire of the adolescents investigated themes such as sexual behavior, use of alcohol, tobacco and other drugs.

The variables used to analyze this article were: asset index<sup>21</sup>, maternal age (full years at the time of first pregnancy) and maternal schooling (full schooling years, answered by the person responsible for the adolescent); skin color (reported by the adolescent) and schooling (full schooling years). The following variables were used from the confidential questionnaire: age of first intercourse; experimental use of tobacco and alcohol; use of contraceptives and condoms, number of sexual partners, previous drunkenness episode; involvement in fights with physical aggression in the past year; use of any illicit drug and awareness of friends who use illicit drugs.

The beginning of sexual activity during adolescence was defined as the first sexual intercourse occurring until the age of 14. Sexual initiation was approached through the following questions, without a filter question: "Have you had sexual intercourse?" and "How old were you when you had your first sexual intercourse?". Those who initiated their sexual activities before the age of 10 were excluded from the analyses. The instrument did not analyze if adolescents related to both men and women, or only men or women.

For operational purposes, exposure variables were analyzed in categories: skin color (white, black, mulatto, Asian and indigenous), asset index (in quintiles), maternal schooling (0 – 4, 5 – 8, 9 – 11 e  $\geq 12$  years old). Variables such as the experimental use of alcohol, drunkenness episode, use of illicit drug, use of any illicit drug by friends and involvement in fights in the past year had dichotomous answers (yes or no). The adolescent's schooling was categorized in grades ( $\leq 4^{\text{th}}$ ,  $5^{\text{th}}$ ,  $6^{\text{th}}$ ,  $7^{\text{th}}$  and  $\geq 8^{\text{th}}$ ). Maternal age at first pregnancy was grouped in  $\leq 14$  years old, 15 to 19 years old, 20 to 34 years old and  $\geq 35$  years old<sup>22</sup>.

At first, the analysis consisted of the sample description and the description of sexual initiation prevalence among adolescents aged 14 years old or less in relation to the other variables. Afterwards, risk behaviors for the sexual practice of adolescents who had sexual initiation in the same period were described, and, for girls, the characteristics

of the female group related to health were described. Analyses were stratified by sex. The behaviors observed in literature as being important for health were also assessed together, with the creation of a continuous numerical variable, in order to identify how many behaviors of this type referred to each adolescent.

Then, the following were described: age at first sexual intercourse, number of sexual partners until the day of the interview, use of condoms in the last sexual intercourse and characteristics related to sexually active adolescents in the assessed age groups. For girls, the use of contraceptive pills was also considered, besides having sexual intercourse without using any contraceptive method, previous appointment with the gynecologist, age of menarche and pregnancy of previous abortions.

There was also a bivariate analysis between the early sexual life in adolescence (10 to 14 years old) and the other exposure variables from the  $\chi^2$  test for categorical variables and the Fisher exact test for dichotomous exposure variables. All of the statistical analyses were conducted with 5% significance level and conducted with the software Stata, version 12.1 (Stata Corporation, College Station).

The study was approved by the Research Ethics Committee of the Medical School of Universidade de Pelotas. All of the participants (adolescents and people in charge) were interviewed after agreeing and signing the informed consent form.

## RESULTS

In 2008, 4,325 adolescents were interviewed, which corresponded to 82.5% of the original cohort. Table 1 shows the socioeconomic, demographic and behavioral aspects of the sample. About two thirds of the adolescents were white, and approximately half of them were female. Concerning schooling, 30.9% of the adolescents were behind in school (especially grade repetition), and girls had more full schooling years than boys. It was possible to observe that 58.6% of the adolescents had tried alcohol, and this behavior was more common among girls (62.4%), who also reported having friends who tried tobacco and illicit drugs. Drunkenness episodes were reported by 8.4% of the interviewees, and the male gender presented more frequent involvement in fights.

The prevalence of sexual initiation before the age of 15 was reported by 18.6% of the interviewees, with 95% confidence interval (95%CI 17.4 – 19.7), occurring in 20.9% (95%CI 19.1 – 22.7) of male adolescents, and 16.4% (95%CI 14.8 – 18.0) of female adolescents ( $p < 0.001$ ). Only 8 adolescents (1.1% of those who had intercourse until the age of 14) reported having had intercourse before the age of 10. Table 2 shows the prevalence of the beginning of sexual life in adolescence (10 – 14 years old) according to the assessed exposure variables. The adolescent's and maternal schooling, asset index of the family and maternal age at first pregnancy had an inverse relationship with the sexual initiation of adolescents between the assessed age groups.

Table 1. Sample description, 1993 birth cohort, Pelotas, Rio Grande do Sul, follow-up of 2008.

	Total (n = 4,325)	Male gender (n = 2,113)	Female gender (n = 2,212)	p-value
	n (%)	n (%)	n (%)	
Skin color				0.496 <sup>†</sup>
White	2769 (64.0)	1359 (64.3)	1410 (63.8)	
Black	611 (14.1)	304 (14.4)	307 (13.9)	
Mulatto	784 (18.1)	365 (17.3)	419 (18.9)	
Asian	76 (1.8)	38 (1.8)	38 (1.7)	
Indigenous	83 (1.9)	46 (2.2)	37 (1.7)	
Schooling (grade)				< 0.001 <sup>†</sup>
≤ 4 <sup>th</sup>	709 (16.5)	454 (21.6)	255 (11.5)	
5 <sup>th</sup>	621 (14.4)	350 (16.7)	271 (12.30)	
6 <sup>th</sup>	669 (15.5)	337 (16.1)	332 (15.00)	
7 <sup>th</sup>	741 (17.2)	336 (16.0)	405 (18.3)	
8 <sup>th</sup>	1569 (36.2)	623 (29.7)	946 (42.8)	
Asset index quintile				0.354 <sup>†</sup>
1 <sup>st</sup> (lower)	866 (20.1)	417 (19.8)	449 (20.4)	
2 <sup>nd</sup>	856 (19.9)	397 (18.9)	459 (20.9)	
3 <sup>rd</sup>	860 (20.0)	422 (20.4)	438 (19.9)	
4 <sup>th</sup>	865 (20.1)	429 (20.1)	436 (19.8)	
5 <sup>th</sup> (higher)	857 (19.9)	439 (20.9)	418 (19.0)	
Maternal age at first pregnancy (years)				0.788 <sup>†</sup>
≤ 14	97 (2.3)	47 (2.3)	50 (2.3)	
15 to 19	1784 (42.0)	884 (42.7)	900 (41.4)	
20 to 34	2280 (53.7)	1101 (53.2)	1179 (54.2)	
≥ 35	86 (2.0)	39 (1.9)	47 (2.2)	

Continue...

Tabela 1. Continuation.

	Total (n = 4,325)	Male gender (n = 2,113)	Female gender (n = 2,212)	p-value
	n (%)	n (%)	n (%)	
Maternal schooling (years)				0.922 <sup>†</sup>
0 to 4	924 (23.0)	457 (23.3)	467 (22.7)	
5 to 8	1658 (41.3)	800 (40.8)	858 (41.8)	
9 to 11	946 (23.6)	463 (23.6)	483 (23.5)	
≥ 12	488 (12.1)	242 (12.3)	246 (12.0)	
Trying tobacco				< 0.001 <sup>‡</sup>
No	3432 (81.2)	1760 (85.6)	1672 (77.0)	
Yes	796 (18.9)	296 (14.4)	500 (23.0)	
Trying alcohol				< 0.001 <sup>‡</sup>
No	1736 (41.4)	923 (45.5)	813 (37.6)	
Yes	2455 (58.6)	1104 (54.5)	1351 (62.4)	
Drunkenness episode				0.823 <sup>‡</sup>
No	3838 (91.7)	1871 (91.8)	1967 (91.5)	
Yes	350 (8.4)	168 (8.2)	182 (8.5)	
Use of any illicit drug				0.744 <sup>‡</sup>
No	4033 (97.9)	1961 (98.0)	2072 (97.8)	
Yes	86 (2.1)	40 (2.0)	46 (2.2)	
Friends using illicit drugs*				< 0.001 <sup>‡</sup>
No	3312 (85.0)	1663 (87.3)	1649(83.0)	
Yes	583 (15.0)	242 (12.7)	341 (17.1)	
Involvement in fights				< 0.001 <sup>‡</sup>
No	3670 (87.9)	1694 (83.5)	1976 (92.0)	
Yes	505 (12.1)	334 (16.5)	171 (8.0)	

\*Higher number of lost observations, n = 430 (9.9%); <sup>†</sup> $\chi^2$  heterogeneity test; <sup>‡</sup>Fisher's exact test.

Table 2. Prevalence of sexual initiation for the ages of 10 – 14 years old, stratified by sex, 1993 birth cohort, Pelotas, Rio Grande do Sul, 2008 follow-up.

	Sexual initiation in adolescence ( $\leq 14$ years old)		
	Total adolescents (n = 773)	Male gender (n = 420)	Female gender (n = 353)
	n (%)	n (%)	n (%)
Skin color	p = 0.002*	p = 0.241*	p = 0.001*
White	460 (17.1)	255 (19.6)	205 (14.8)
Black	110 (18.9)	66 (23.4)	44 (14.6)
Mulatto	161 (21.7)	79 (23.0)	82 (20.6)
Asian	20 (28.2)	9 (26.5)	11 (29.8)
Indigenous	22 (26.8)	11 (24.4)	11 (29.7)
Schooling (grade)	p < 0.001 <sup>‡</sup>	p < 0.001 <sup>‡</sup>	p < 0.001*
$\leq 4^{\text{th}}$	191 (28.9)	135 (31.8)	56 (23.7)
5 <sup>th</sup>	139 (23.3)	71 (21.5)	68 (25.6)
6 <sup>th</sup>	138 (21.1)	73 (22.4)	65 (19.9)
7 <sup>th</sup>	132 (18.5)	59 (18.3)	73 (18.7)
$\geq 8^{\text{th}}$	172 (11.1)	81 (13.5)	91 (9.7)
Asset index quintile	p < 0.001 <sup>‡</sup>	p < 0.001*	p < 0.001 <sup>‡</sup>
1 <sup>st</sup> (lower)	200 (24.3)	99 (25.7)	101 (23.1)
2 <sup>nd</sup>	170 (20.9)	79 (21.3)	91 (20.5)
3 <sup>rd</sup>	164 (19.7)	99 (24.4)	65 (15.3)
4 <sup>th</sup>	138 (16.4)	78 (19.0)	60 (14.0)
5 <sup>th</sup> (higher)	97 (11.6)	62 (14.5)	35 (8.6)
Maternal age at first pregnancy (years)	p < 0.001 <sup>‡</sup>	p = 0.001 <sup>‡</sup>	p < 0.001 <sup>‡</sup>
$\leq 14$	32 (33.7)	11 (23.9)	21 (42.9)
15 to 19	384 (22.4)	201 (24.1)	183 (20.9)
20 to 34	327 (14.8)	186 (17.7)	141 (12.2)
$\geq 35$	10 (12.1)	7 (19.4)	3 (6.4)

Continue...



Tabela 2. Continuation.

	Sexual initiation in adolescence ( $\leq 14$ years old)		
	Total adolescents (n = 773)	Male gender (n = 420)	Female gender (n = 353)
	n (%)	n (%)	n (%)
Maternal schooling (years)	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p = 0.001 <sup>†</sup>
0 to 4	190 (21.5)	107 (25.0)	83 (18.3)
5 to 8	283 (17.8)	156 (20.7)	127 (15.1)
9 to 11	136 (14.9)	69 (15.5)	67 (14.4)
$\geq 12$	55 (11.6)	35 (14.8)	20 (8.4)
Trying tobacco	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	429 (12.7)	270 (15.7)	159 (9.6)
Yes	342 (43.9)	149 (52.3)	193 (39.0)
Trying alcohol	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	140 (8.2)	96 (10.6)	44 (5.5)
Yes	622 (25.8)	315 (29.3)	307 (22.9)
Drunkenness episode	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	593 (15.7)	318 (17.4)	275 (14.1)
Yes	167 (48.7)	96 (59.3)	71 (39.2)
Use of any illicit drug	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	698 (17.6)	382 (19.9)	316 (15.4)
Yes	47 (57.3)	22 (57.9)	25 (56.8)
Friends using illicit drugs*	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	504 (15.5)	279 (17.2)	225 (13.7)
Yes	198 (34.4)	100 (42.2)	98 (29.0)
Involvement in fights	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>	p < 0.001 <sup>†</sup>
No	580 (16.0)	287 (17.3)	293 (15.0)
Yes	183 (37.0)	127 (39.2)	56 (32.8)

\* $\chi^2$  heterogeneity test; <sup>†</sup>Fisher's exact test; <sup>‡</sup> $\chi^2$  test for trend.

Sexual practice before the age of 15 was directly related to all risk behaviors. Among those who had tried tobacco, sexual activity between the ages of 10 and 14 occurred for 52.3 and 39.0% of boys and girls, respectively. Among male adolescents who had had a drunkenness episode, 59.3% reported having initiated their sexual activities before the age of 15, and this frequency was 3.4 times higher to that reported by the group which did not had previous drunkenness episodes. In both sexes, more than half of the ones who tried any illicit drug had their first sexual intercourse before the age of 15.

Figure 1 presents risk behaviors that affect health, separately for boys and girls, for individuals who have and have not initiated sexual activities between the ages of 10 and 14 years old. Both for boys and for girls, the prevalence of all assessed risk behaviors was superior in the group with sexual initiation. Among female adolescents who had their first intercourse before the age of 15, the experimental use of alcohol was prevalent for 87.5% of them; drunkenness, for 20.5% of them; and trying tobacco, for 54.8% of them. Among male adolescents, the experimental use of alcohol was reported by 76.6% of those who had

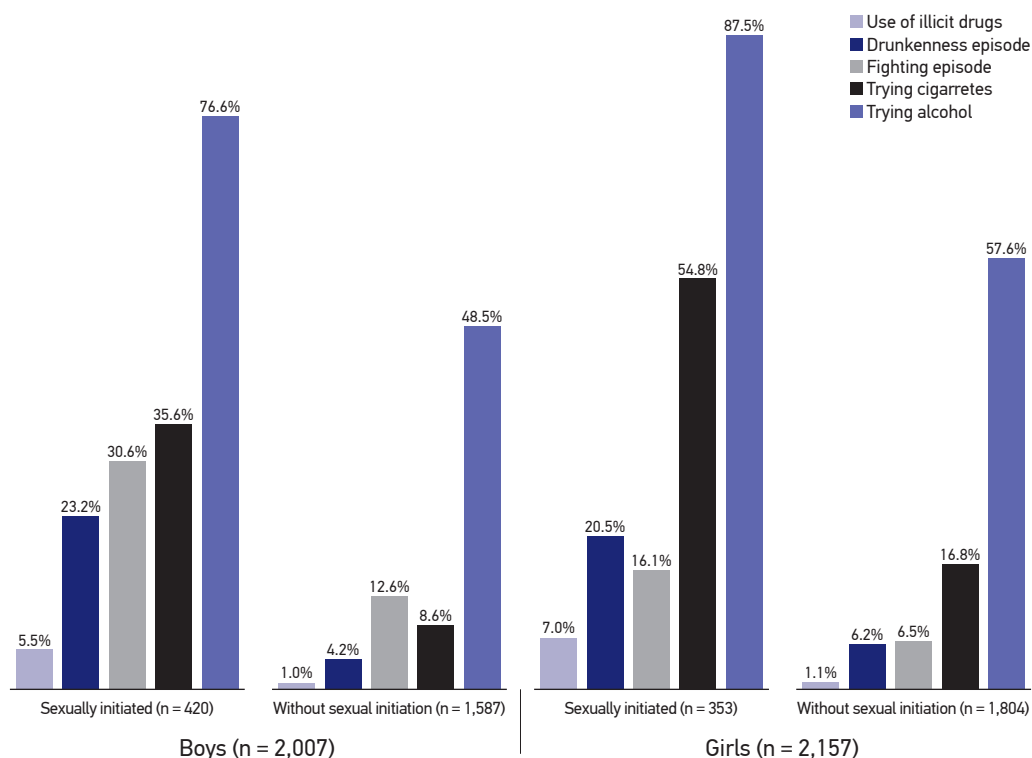


Figure 1. Prevalence of behaviors with regard to the status of sexual experience in adolescence (10 – 14 years old), according to sex. 1993 birth cohort, Pelotas, Rio Grande do Sul, 2008 follow-up.

had their first sexual intercourse, as well as the use of tobacco (35.6%) and the report of at least one fighting episode (30.6%). The use of illicit drugs was more common among the ones who had had their first sexual intercourse, in both genders.

By assessing the simultaneous occurrence of risk behaviors to health (trying tobacco and alcohol, drunkenness episode, use of illicit drugs and involvement in fights), it was observed that the prevalence of 2 or more of these behaviors was of 55.1% (95%CI 51.5 – 58.6) among the ones whose sexual activity initiated between the ages of 10 – 14 years old, in comparison to 17.6% (95%CI 16.3 – 18.9) of those who did not initiate sexual life in the same period.

With regard to age at first sexual intercourse, Figure 2 shows that most girls initiated it until the age of 14 (60.6%). This finding was different for boys, who began sexual activities earlier (53.0%);  $p < 0.001$ ). The use of condom in the last intercourse was mostly reported by male adolescents, who also mentioned having more than one sexual partner than women. Having had sexual intercourse with three or more partners was mentioned by 43.0% of male adolescents.

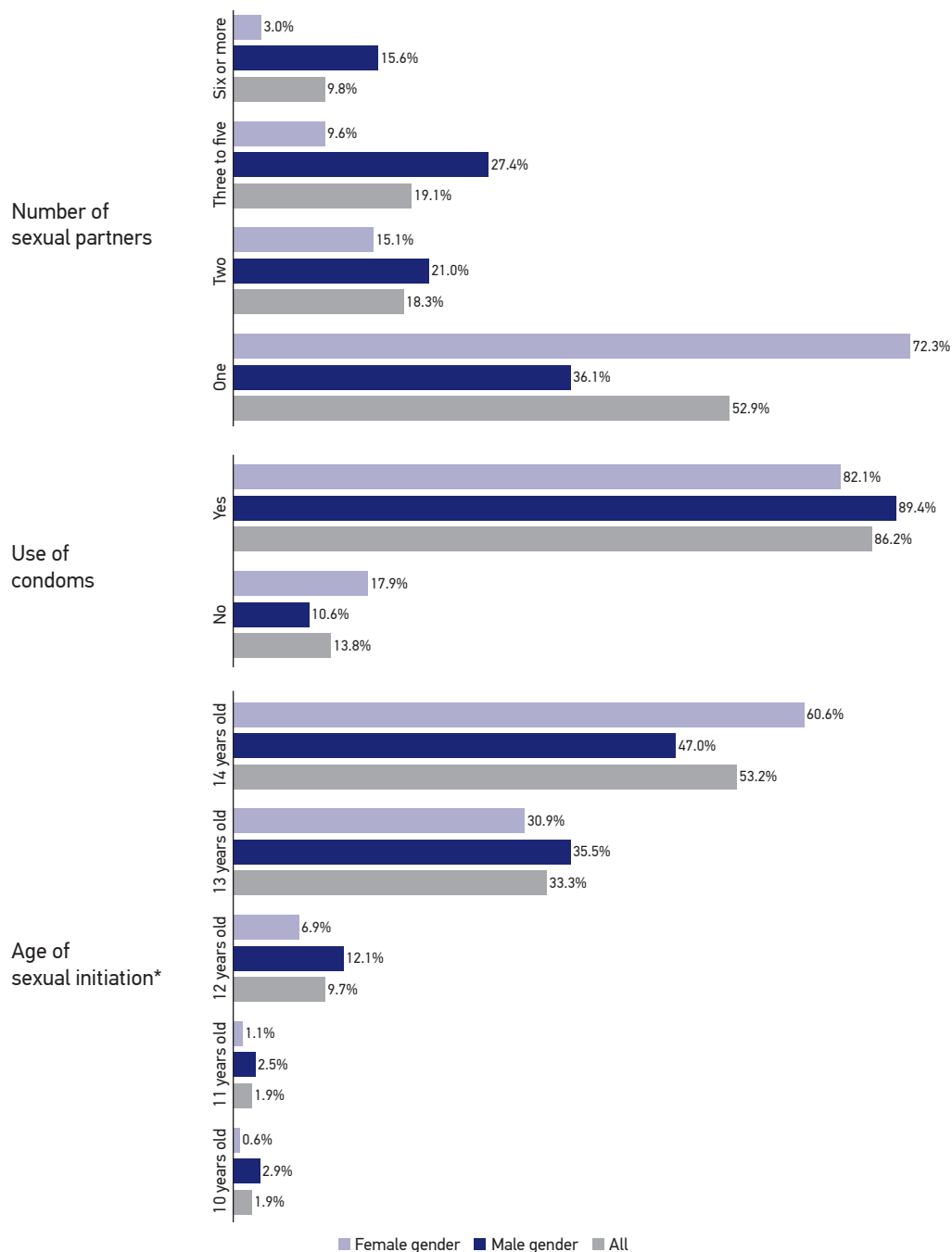
Characteristics associated with female sexual health were also analyzed, and are demonstrated in Table 3. Only two female adolescents who had had sexual intercourse did not report menarche, and almost half of the girls stated they have not been to the gynecologist. In the last sexual intercourse, about 30.0% of the female adolescents had not used any contraceptive method, and 17.9% did not use condoms. Among female adolescents, 7.3% reported pregnancy, and 2.9% reported previous abortions, spontaneous or provoked. Among boys who had their first sexual intercourse before the age of 15, 1.3% (95%CI 0.43 – 3.06) reported abortion and/or pregnancy of his partner.

## DISCUSSION

This study showed that sexual initiation between the ages of 10 – 14 years old was more common among the investigated adolescents, especially male ones, with lower schooling and low socioeconomic status. These data point out to a relationships between sexual initiation before the age of 15 and the occurrence (concomitant or not) of some behaviors that present risk to health.

The age of first sexual intercourse among the study's participants (10 – 14 years old) takes place at a moment in life when adolescents usually do not have the conditions (emotional and/or knowledge) that allows the management of situations that can bring future consequences to health, like having sexual intercourse for the first time “without feeling like it”<sup>23</sup> or adopting good contraceptive/preventive practices<sup>24</sup>.

In this study, boys start having sexual intercourse before girls, and report having had more sexual partners than them<sup>16,25</sup>. In the Brazilian context, this finding has been explained by social and cultural issues, such as the valorization of masculinity based on the age of sexual



\*Higher number of lost observations (2.2%).

Figure 2. Prevalence of sexual behaviors with regard to sexual experience in adolescence (10 – 14 years old), according to sex. 1993 birth cohort, Pelotas, Rio Grande do Sul, 2008 follow-up.

Table 3. Health-related characteristics in female adolescents who initiated their sexual life between the ages of 10 – 14 years old (n = 353). 1993 birth cohort, Pelotas, Rio Grande do Sul, 2008 follow-up.

Variables	n (%)
Uso de pílula anticoncepcional	
No	93 (39.9)
Yes	140 (60.1)
Intercourse without using any contraceptive method*	
No	70 (71.4)
Yes	28 (28.6)
Previous appointment with the gynecologist	
No	168 (48.7)
Yes	177 (51.3)
Age at menarche (years) <sup>†</sup>	
≤ 10	60 (17.5)
11	100 (29.2)
12	108 (31.5)
13	63 (18.4)
14	2 (3.5)
Previous pregnancy	
No	315 (92.7)
Yes	25 (7.3)
Previous abortion	
No	335 (97.1)
Yes	10 (2.9)

\*Higher number of lost observations, n = 255 (72.2%); <sup>†</sup>Only two adolescents did not report menarche.

initiation and on the number of relationships<sup>17</sup>. Maybe for similar reasons, boys reported getting involved in fights more frequently than girls.

These findings are consistent with other national and international studies, which assessed adolescents aged 15 years old or more. The results in this cohort also show an inverse relationship between economic status and schooling (of the adolescent and mother/person in charge) and sexual initiation, and this finding is in accordance with

other studies involving older adolescents<sup>6,16,17,26,27</sup>. It is believed that the lower schooling of interviewees with more frequent sexual practice between the ages of 10 and 14 years old can show pressures, norms, choices and social expectations experienced by these adolescents. The least privileged ones in terms of economy and those with low schooling may have felt pressured to pull away from the school system, since they collaborated with family expenses<sup>28</sup>, or they may have different ideas than those transmitted by institutions about how and with whom prevention in sexual intercourse should be used<sup>29</sup>. Analyses that are not demonstrated in this article show that, among boys who started their sexual life before the age of 15, 41.2% worked in the year prior to the interview, while 24.0% of those who had not had sexual initiation at that age worked.

The unprotected sexual practice, reports of pregnancy and abortions, in the short term, can be consequences of the distance imposed between them and these systems. Maternal schooling can reflect the importance of education, information transmission and family moral posture in the behavior of young people; however, it can be a confounding factor of the analyses, since this is a family income proxy<sup>30</sup>.

The age of the first pregnancy of the mother also influenced the sexual practice of the children. Daughters of women who got pregnant before the age of 20 had an earlier sexual initiation than the group of comparison. This was also observed in other studies<sup>31,32</sup>. Since they are young mothers, it is possible that they have similar values to that of their children's adolescence and of what is now expected of a 10 – 14 year old adolescent.

Among adolescents, the prevalence of using tobacco and alcohol, pregnancy, abortion, drunkenness episodes and use of illicit drugs was higher for those who initiated sexual life in the assessed age groups. Literature has pointed out that behaviors that are considered to be a risk to public health tend to occur together<sup>3,22</sup>. Among those who had their first sexual intercourse until the age of 14, the score of two or more risk behaviors was of 50.5% (95%CI 45.6 – 55.3) among boys and 60.6% (95%CI 55.5 – 65.7) among girls. For those who had not initiated their sexual activities, the score was of 15.8% (95%CI 14.0 – 17.7) and 19.2% (95%CI 17.4 – 21.1) for boys and girls, respectively (data not shown). The occurrence of one or more of these behaviors can expose adolescents to other experimentations, which make them curious and vulnerable.

The findings of the variables related to sexual initiation up to the age of 14 should be carefully interpreted, considering they were a result of the exploratory analysis (bivariate). It is recommended that these associations be confirmed by a multivariable analysis, controlling confounding factors.

It is also important to consider that the relationships found between risk behaviors can be involved in reverse causality, since this design does not allow us to know which risk behavior occurred first. However, this does not damage the relevance of the results in this study, since such behaviors can be worrisome for current and future health, regardless of the order of events. One possible limitation of the study lies on the interpretation of what they may have considered as sexual intercourse. It is possible that some of them

did not consider oral sex in their responses, and such fact may have underestimated the frequencies. The use of a more specific definition of sexual intercourse will enable this limitation to be prevented in new studies. The same probably did not happen for drunkenness and fighting, since questions had examples and involved terms such as “drunk” for drunkenness; for fights, the question included “that someone got hurt”, assuming physical aggression.

The positive methodological aspects of the study include the fact that the analyzed information about the adolescents’ behavior is a result of the self-applied and confidential questionnaire, which enabled participants to answer with less inhibition. There was also high rate of responses for the confidential questionnaire, and methodological rigor that an epidemiological survey requires at all stages. Besides these, describing data about sexuality and other behaviors regarding an age group that is very little described in literature emphasizes that sexual health education should begin in early adolescence, or even during childhood<sup>33</sup>. Therefore, it is important to pay attention and to increment sociocultural and educational strategies for the prevention of sexually transmitted diseases, especially for the group presenting risk behaviors related to sexual initiation until the age of 14. Policies addressed to health education for students — even though reaching out to most adolescents — may not get to a group of boys and girl with a discontinuous school history. Using leisure spaces and community places to promote health, considering the local culture, can cause interest and changes for these adolescents.

## **CONCLUSION**

The results found in this study suggest a relationship between sexual initiation until the age of 14 and the occurrence of risk behaviors, such as trying alcohol and smoking, drunkenness episodes, involvement in fights and use of illicit drugs by the adolescent or his/her friends. Therefore, education strategies should be implemented, especially in early adolescence, aiming at the prevention of sexually transmitted diseases, especially in groups presenting the aforementioned risk behaviors.

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**Sexual initiation among adolescents (10 to 14 years old) and health behaviors**

*Início da vida sexual entre adolescentes (10 a 14 anos) e comportamentos em saúde*

Where it read:

- Lenise Menezes Seering

Now it reads:

- Lenise Menezes Seerig