

# Sexual behavior of school-aged adolescents in the city of Goiânia, Goiás

*Comportamento sexual de adolescentes escolares da cidade de Goiânia, Goiás*

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**ABSTRACT:** *Objective:* To investigate the characteristics of sexual behavior in school-aged adolescents and possible differences regarding sex and type of school. *Methods:* Cross-sectional study using data from the National Adolescent School-based Health Survey (PeNSE) 2009, carried out by the Brazilian Ministry of Health, in partnership with the Brazilian Institute of Geography and Statistics (IBGE). The sample consisted of 3,099 9<sup>th</sup> graders living in Goiânia, State of Goiás, Brazil, mostly aged between 13 to 15 years old, who answered a self-applicable questionnaire on risk and protective health factors. The Rao-Scott test was used in the statistical analysis, considering the complex sample design. *Results:* The prevalence of sexual intercourse was of 26.5% (95%CI 23.8 – 29.4) at least once in life and of 18.5% (95%CI 16.5 – 20.8) in the last year. Both behaviors were more frequent among male students and among those attending public schools. Most of the respondents had their first intercourse at the age of 13 or younger, with up to 3 partners. They had also used a pregnancy prevention method in the last intercourse, and received guidance on prevention at school. The age of the first intercourse was earlier and the number of partners was higher among male students. More females and those attending public schools reported having received information on pregnancy prevention. Guidance on STD/AIDS was also more frequent in public schools. *Conclusion:* Results showed a need for health education measures involving education and health professionals, as well as parents, to reduce the discrepancies found regarding sex and type of school.

**Keywords:** Sex. Sexual and reproductive health. Adolescent. School health. Sexual behavior. Sexual partners.

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**RESUMO:** *Objetivo:* Investigar as características do comportamento sexual de adolescentes escolares e verificar se há diferenças em relação ao sexo dos estudantes e ao tipo de escola. *Métodos:* Estudo transversal utilizando dados da Pesquisa Nacional de Saúde do Escolar (PeNSE) 2009, realizada pelo Ministério da Saúde em parceria com o IBGE. A amostra foi composta por 3.099 escolares do 9º ano residentes em Goiânia (GO), com predomínio das idades de 13 a 15 anos, que responderam um questionário sobre fatores de risco e proteção à saúde. Na análise estatística, foi utilizado o teste de Rao-Scott, considerando o efeito do desenho amostral para amostras complexas. *Resultados:* A prevalência de relação sexual alguma vez na vida foi de 26,5% (IC95% 23,8 – 29,4), e, no último ano, foi de 18,5% (IC95% 16,5 – 20,8), sendo mais frequentes entre os meninos e estudantes de escolas públicas. A maioria teve a primeira relação com 13 anos ou menos, com até 3 parceiros, utilizou algum método contraceptivo na última relação e recebeu orientação sobre prevenção na escola. A idade da primeira relação foi mais precoce e o número de parceiros foi mais elevado entre os meninos. O relato de orientações recebidas sobre prevenção de gravidez foi mais frequente entre meninas e nas instituições privadas. Nestas, foi também mais elevado o relato de orientações sobre DST / AIDS. *Conclusão:* Os resultados mostraram a necessidade de ações educativas, buscando reduzir as discrepâncias encontradas em relação ao sexo e o tipo de escola, com envolvimento de profissionais das áreas da educação e saúde e dos pais.

*Palavras-chave:* Sexo. Saúde sexual e reprodutiva. Adolescente. Saúde escolar. Comportamento sexual. Parceiros sexuais.

## INTRODUCTION

Adolescence constitutes a transition period between childhood and adulthood, with major transformations in social, cognitive emotional and body aspects. In this period, the opportunities to work on health are great and future patterns of health behavior in adulthood are established<sup>1</sup>.

Among the changes, those regarding the aspects of affective relationships stand out, especially the phenomenon of sexuality<sup>2,3</sup>. The beginning of sexual activities is an important mark in the lives of people, and it stands out in adolescence due to the characteristics of that phase, since young people search for affirming their own identity and are looking forward to new experiences<sup>4</sup>. Generally, because adolescents feel young, healthy and curious to new situations, they can adopt sexual behaviors without protection, thus making them vulnerable to conditions and infections, especially Sexually Transmitted Diseases (STDs) and early pregnancy<sup>5,6</sup>.

The sexual behavior of adolescents should be studied by considering social inequities, sexual culture, sex and schooling, which are important determining factors for risk behaviors and can result in morbidities in this population. Therefore, it is important

to know the reality of this population group in the different scenarios in which they are inserted. Most Brazilian young people attend educational institutions, and this environment is not only recognized as a social learning space, but also as a place of socialization and discussions concerning sexual education<sup>7</sup>.

The sexual behavior of boys was little studied up until recently, and analyses were mostly focused on girls<sup>8,9</sup>. Studies on this subject are also mostly conducted in public schools, since researchers can access these institutions more easily, therefore, there are few studies comparing both types of schools (public and private ones)<sup>10-13</sup>. The results showed different risk behaviors and levels of information concerning sex and type of school<sup>10-13</sup>.

The National Adolescent School-based Health Survey (PeNSE), conducted in 2009 by the Ministry of Health, together with the Brazilian Institute of Geography and Statistics, was pioneer in the national scenario, with the objective of knowing the risk and protective factors among Brazilian adolescents<sup>14</sup>. The study showed that 30.5% of the Brazilian adolescents living in the capitals have already had sexual intercourse, mostly boys (43.7%) in comparison to girls (18.7%), and among students attending public schools (33.1%). Out of those who have had intercourse, 40.1% reported having a single partner in life<sup>4</sup>.

Previous studies with data from PeNSE 2009 presented important results about the national sample, and also some data describing each analyzed capital<sup>4,15,16</sup>. However, it is also relevant to do further analyses on the situations of capitals separately, in order to establish comparisons with the national scenario. Based on local reality, more adequate strategies can be implemented in order to benefit the involved parties. Studies on the sexual behavior of adolescents in the city of Goiânia are scarce and refer to the knowledge about modes of STD transmission and the use of contraceptive methods<sup>17-19</sup>. Therefore, the objective of this study was to describe the characteristics regarding the sexual behavior of students in the city of Goiânia (GO) and to verify if there are any differences concerning the sex of students and the type of school.

## METHODS

A cross-sectional study using the data base of a probability sample of 9<sup>th</sup> graders in elementary school of public and private schools in the city of Goiânia, Goiás, Brazil, who participated in PeNSE 2009<sup>14</sup>. The study used a two-stage cluster sampling, in which the primary sampling units were schools and the secondary units were 9<sup>th</sup> grade classrooms of the selected schools. The sample of students was formed by all of the students in the selected classrooms who were present at the time of data collection and who accepted to participate. Exclusion criteria were students attending the night time period, non-habitual students, and those who refused answering the questionnaire. Data collection was conducted by State

teams of IBGE from March to June, 2009. In Goiânia, 73 schools and 112 classrooms were sampled, with a total of 3,727 enrolled students.

This study included adolescents who answered the questions about sex (female/male) and about sexual behavior, accounting for 3,099 participants aged between 11 and 17 years old, but most were aged between 13 and 15 years old. The following variables concerning sexual behavior were analyzed: occurrence of sexual intercourse, characteristics of sexual behavior and recommendations on prevention received at school. These variables were analyzed according to the sex of the student and the administration of the school (public or private).

The sexual behavior of the adolescent was obtained from the question “Have you ever had sexual intercourse?”, with the response categories “Yes” and “No”. The sexual intercourse variables in the past 12 months were also investigated, such as age of the first sexual intercourse, number of sexual partners, use of contraceptive methods in the last intercourse, recommendations at school about preventing pregnancy, AIDS or other STDs, or about how to obtain condoms.

At first, the frequencies of the variables were calculated (percentage and respective 95% confidence intervals). For the analysis of associations between each of the variables related to sexual behavior and to the variables sex and type of school, the Rao-Scott corrections to the  $\chi^2$  test were used. Since this is a cluster sample, all of the analyses considered the sampling design effect for complex samples, by using sample weights calculated with the Complex Sample module of the statistical software SPSS, version 17.0. The sampling weight represents the probability of each student to participate in the sample, according to the school he or she attends<sup>20</sup>.

The PeNSE project was approved by the National Research Ethics Commission – CONEP, report n. 005, June 10<sup>th</sup>, 2009, registered with n. 11,537.

## RESULTS

Out of the 3,099 respondents, approximately half of them were female participants (51.6%). As to skin color/self-reported ethnicity, less than half of them were mulattos (41.1%), 39.0% were white, 10% were black, 5.3% were Asian and 3.9% were indigenous. Almost half of the participants were 14 years old (49.8%), while 29.7% were 13 years old or younger, and 20.4% were 15 years old or older. More than half of the students (66.1%) attended public schools.

The prevalence of ever having sexual intercourse was of 26.5% and, in the past 12 months, of 18.5% (Table 1). More than half of the adolescents who have already had sexual intercourse initiated their sexual activities at the age of 13 or younger (63.2%). The number of partners ranged from 1 to 6, and a single partner was the most frequent category (41.9%). Most adolescents claimed to have used some method to avoid pregnancy in the last intercourse (71.9%) and to have used a condom in the

last intercourse (75.9%). Most of them also claimed to have been advised about sexual health at school concerning the prevention of pregnancy (82.1%), AIDS and other STDs (89.6%), and about how to obtain condoms (70.1%).

The prevalence of ever having sexual intercourse and in the past twelve months was higher among male students in comparison to female ones, and among those attending public schools in relation to the ones who studied in private schools ( $p < 0.001$ ). Among male students, the age at the first intercourse was younger and the number of partners was higher in comparison to females ( $p < 0.001$ ), and there was no statistical difference between the type of school and sex when compared to the use of any preventive method in the past relationship (Tables 2 and 3).

The report of recommendations received at school about preventing pregnancy was more common among female adolescents and in public schools ( $p < 0.05$ ). Information about preventing pregnancy and about AIDS and other STDs was more frequent in private schools ( $p < 0.05$ ). There were no differences between groups as to the recommendation about how to obtain a condom (Table 4).

Table 1. Frequency distribution of the variables analyzed in the study. Adolescents in the city of Goiânia. National Adolescent School-based Health Survey (PeNSE), Brazil, 2009.

Variables	Category	n	% (95%CI)*
Sexual behavior			
Ever had sexual intercourse (n = 3099)	Yes	823	26.5 (23.8 – 29.4)
	No	2276	73.5 (70.6 – 76.2)
Sexual intercourse in the past 12 months (n = 3048)	Yes	563	18.5 (16.5 – 20.8)
	No	2485	81.5 (79.2 – 83.5)
Age of the first sexual intercourse (n = 808)	< 13 years old	500	63.2 (58.8 – 67.4)
	14 years old	188	22.0 (18.8 – 25.7)
	> 15 years old	120	14.8 (12.0 – 18.1)
Number of partners (n = 811)	1	346	41.9 (38.2 – 45.6)
	2 to 3	220	27.4 (24.3 – 30.7)
	4 to 6	168	21.0 (18.0 – 24.2)
	Does not remember	77	9.8 (8.2 – 11.7)
Use of contraceptive methods in the last intercourse (n = 819)	Yes	594	71.9 (67.9 – 75.6)
	No	176	22.4 (18.8 – 26.2)
	Does not know	49	5.8 (4.2 – 8.0)

Table 1. Continuation.

Variables	Category	n	% (95%CI)*
Use of condom in the last intercourse (n = 817)	Yes	625	75.9 (73.2 – 78.5)
	No	171	21.7 (19.0 – 24.7)
	Does not know	21	2.3 (1.5 – 3.7)
Orientations about sexual health at school			
Preventing pregnancy (n = 3041)	Yes	2475	82.1 (79.2 – 84.6)
	No	387	12.4 (10.5 – 14.5)
	Does not know	179	5.6 (4.5 – 6.8)
Prevention of AIDS and other STDs (n = 3055)	Yes	2733	89.6 (88.0 – 91.0)
	No	233	7.5 (6.4 – 8.8)
	Does not know	89	2.9 (2.2 – 3.6)
How to obtain a condom (n = 3055)	Yes	2132	70.1 (67.0 – 73.1)
	No	661	21.5 (19.1 – 24.0)
	Does not know	262	8.4 (7.2 – 9.7)

\*Corrected for sample design.

Table 2. Sexual behavior of school-aged adolescents in the city of Goiania according to sex. National Adolescent School-based Health Survey (PeNSE), Brazil, 2009.

Variables	Male n (%)*	Female n (%)*	p-value**
Ever had sexual intercourse (n = 823)	584 (38.3)	239 (15.2)	< 0.001
Intercourse in the past 12 months (n = 563)	379 (25.4)	184 (12.0)	< 0.001
Age of first sexual intercourse (n = 808)			
< 13 years old	383 (68.8)	117 (49.8)	< 0.001
14 years old	120 (19.2)	68 (28.6)	
> 15 years old	70 (11.9)	50 (21.6)	
Number of partners (n = 734)			
1	208 (35.0)	138 (58.5)	< 0.001
2 to 3	170 (29.6)	50 (21.9)	
4 to 6	138 (24.2)	30 (13.2)	
Use of contraceptive method in the last intercourse (n = 594)	410 (70.6)	184 (75.0)	0.048
Use of condom in the last intercourse (n = 625)	447 (77.0)	178 (73.3)	0.292

\*Corrected for sample design; \*\*Rao-Scott test.

Table 3. Sexual behavior of school-aged adolescents in the city of Goiania according to type of school. National Adolescent School-based Health Survey (PeNSE), Brazil, 2009.

Variables	Public school n (%)*	Private school n (%)*	p-value**
Ever had sexual intercourse (n = 823)	627 (30.4)	196 (18.8)	< 0.001
Intercourse in the past 12 months (n = 563)	418 (20.9)	145 (14.0)	< 0.001
Age of first sexual intercourse (n = 808)			
< 13 years old	389 (64.1)	111 (60.4)	0.512
14 years old	135 (20.8)	53 (25.8)	
> 15 years old	92 (15.1)	28 (13.7)	
Number of partners (n = 734)			
1	255 (41.8)	91 (44.2)	0.535
2 to 3	172 (28.1)	48 (25.2)	
4 to 6	125 (20.1)	43 (23.7)	
Use of contraceptive method in the last intercourse (n = 594)	451 (71.7)	143 (72.5)	0.501
Use of condom in the last intercourse (n = 625)	477 (76.6)	148 (73.9)	0.376

\*Corrected for sample design; \*\*Rao-Scott test.

Table 4. Counseling on sexual health at school among school-aged adolescents in the city of Goiânia according to sex and type of school. National Adolescent School-based Health Survey (PeNSE), Brazil, 2009.

Variables	Male n (%)*	Female n (%)*	p-value**	Public school n (%)*	Private school n (%)*	p-value**
Counseling on pregnancy prevention (n = 2475)	1158 (80.1)	1317 (83.9)	0.037	1650 (85.3)	825 (89.9)	0.020
Counseling about AIDS and other STDs (n = 2733)	1297 (88.1)	1436 (91.0)	0.097	1840 (91.4)	893 (93.9)	0.024
Orientation about how to obtain a condom (n = 2132)	1036 (70.4)	1096 (69.9)	0.345	1439 (75.8)	693 (78.0)	0.437

\*Corrected for sample design; \*\*Rao-Scott test.

## DISCUSSION

This study was the first one to assess the prevalence of sexual intercourses and its association with the sex of the students and the type of school in the city of Goiânia. Among

its relevant aspects, the use of a national data base with a well-established methodology and representative sample of the Brazilian capitals stands out<sup>14</sup>.

The characteristics of the sample are also important, since they contemplate both the female and the male sex in their real proportions, since even in the Cairo Conference<sup>21</sup> boys did not get the necessary attention from the point of view of the research, evaluation and actions.

The prevalence of ever having sexual intercourse among students in Goiânia (26.5%) was lower to that observed in the national sample of PeNSE (30.5%)<sup>4</sup>. Studies conducted with adolescents in schools or in households of other cities in Brazil showed higher prevalence, but the samples included older individuals<sup>10-12,22-24</sup>.

As to the distribution by sex, it was higher among boys, which is in accordance with national data from PeNSE 2009<sup>4</sup> and with studies conducted in other locations<sup>10-13,22-24</sup>. In the United States, the Youth Risk Behavior Surveillance System assessed students that would correspond from 9<sup>th</sup> graders of elementary school to those attending the 3<sup>rd</sup> year of high school in Brazil, in 2009, and did not find differences between boys and girls as to the report of sexual intercourse<sup>25</sup>. The different results may have been caused by cultural factors and age, since the sample of the American study included older individuals.

The results concerning the type of school showed that the prevalence of ever having sexual intercourse was higher in public institutions in comparison to private institutions. A previous study conducted with students aged 15 to 18 years old in the metropolitan region of São Paulo confirms this finding<sup>11</sup>. Likewise, the national sample of PeNSE demonstrated that students attending public schools had more sexual intercourses (30.4%) than those in private schools (18.8%)<sup>4</sup>. Malta et al.<sup>4</sup> considered that the higher prevalence in public schools can be explained by differences in the age group, since in such institutions 9<sup>th</sup> graders are older than the ones in private schools, and older students present higher prevalence of sexual initiation.

The percentage of adolescents who had from four to six partners (21%) was the same one found in the national data of PeNSE<sup>4</sup>. The high number of partners is a reason of concern in the health field, since it can increase the chances of transmitting HIV and other STD. Therefore, educational actions are necessary to reduce the vulnerability of teenagers, thus respecting their choices. The creation of the School Health Program (PSE) by the Federal Government in 2007<sup>26</sup> is an example of an initiative that includes the sexual and reproductive health approach in the context of schools in the country, which may have a positive impact on this matter.

Age is an important factor to be considered, because in case the probability of initiating in sexual life at this stage is known, educational and preventive actions can be employed before the first sexual intercourse. Vieira et al.<sup>17</sup> analyzed sexually active female students aged between 15 and 19 years old, living in a sanitary district of Goiânia, and found that more than half of them had their first sexual intercourse at the age of 15 or younger. According to a study conducted by the Ministry of Health, the frequency of



women who initiated their sexual activities before the age of 14 was superior to 13.6% and 32.3% in 1984 and 1998, so it more than doubled<sup>27</sup>. In our study, we observed that most adolescents had their first sexual intercourse at the age of 13 or younger (63.2%), and this percentage is higher than the one found nationally (47.1%)<sup>4</sup>. Sexual initiation at younger ages has been reported in other studies<sup>10,12,24,28</sup>. Most of the time, boys begin their sexual activities earlier than girls<sup>10,12,24,29</sup>.

In this study, the high prevalence of reports concerning the use of male condoms and being advised about matters related to sexual health deserves attention. This result is in accordance with that observed in the national sample of PeNSE<sup>4</sup>. However, in another investigation conducted by the Ministry of Health in 2009, the Survey of knowledge, attitudes and practices in the Brazilian population, only 33.6% of female participants and 57.4% of male participants aged between 15 and 24 years old used condoms in all intercourses<sup>30</sup>. In a previous study conducted in the city of Goiânia, the inconsistent use of condoms (sometimes, rarely and never) accounted for 79.5% of the cases among female adolescents<sup>17</sup>. Besides, in a city of the Southeast region<sup>31</sup>, there was a gap between the knowledge and the use of contraceptive methods, since adolescents knew about them, but did not use them.

With regard to recommendations about preventing pregnancy and STD/AIDS, the fact that these were less frequent in public institutions stands out, since it is a known fact that such institutions usually receive students coming from poorer socioeconomic strata, who are, therefore, more prone to health risk factors. Similar results were observed in the national sample of PeNSE concerning STD/AIDS, while the recommendation about obtaining a condom was more common in public schools<sup>15</sup>. In these institutions, there are usually public health programs, especially those addressed to preventing STDs, which can contribute with higher levels of information among students, therefore resulting in safer practices, even though they do not necessarily reduce the frequency of sexual intercourses. However, these measures seem to have not been sufficient to overcome the existing inequalities.

Some considerations should be made concerning the sample, since it is limited to students who frequently attend school, therefore excluding the adolescents who are not part of the regular educational system and those who live in the streets. However, this situation is usually observed in individuals aged 15 to 17 years old, who had lower representativeness in the sample of PeNSE. Besides, the coverage of the educational system, when considering younger adolescents (from 10 to 14 years old) was high in 2007<sup>32</sup>, which served as a base for the sampling calculation of this research. This sample does not contemplate students in night time periods. These can be different from those in the day time periods, since these students usually live in poorer economic situations, have different objectives and are inserted in the work market. Among them, school evasion rates are higher, and usually the quality of education is worse<sup>33</sup>.

## CONCLUSION

It is possible to conclude that the sexual behavior of students in Goiânia, in 2009, was associated with sex and type of schools they attended, and the prevalence was the more frequent intercours among boys from public schools. These results can contribute with the planning and the evaluation of actions in the sexual health field addressed to this population group. By analyzing the sexual behavior and its associated factors, parents, educators and health professionals can be provided with information to identify which students have more chances of initiating or having initiated sexual life in order to promote sexual health actions, so that, in this stage of life changes, the risks of such a behavior can be minimized. When being early instituted, sexual orientation has the potential of minimizing the interurrences that might compromise the sexual and reproductive health of the adolescent. Male adolescents deserve special attention, since their sexual initiation is more frequent, earlier and includes more partners. Public schools should expand and strengthen their health education actions, focusing on sexual behavior. Generally, sexual orientation in schools has the potential of contributing with the well-being of adolescents while experiencing their current and future sexuality.

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