

KNOWLEDGE, EXPERIENCES AND BELIEFS IN THE SEXUAL FIELD: A STUDY OF 1ST AND 2ND YEAR HIGH SCHOOL STUDENTS FROM DIFFERENT SOCIOECONOMIC BACKGROUNDS

CONHECIMENTOS, VIVÊNCIAS E CRENÇAS NO CAMPO SEXUAL: UM ESTUDO COM ALUNOS DO ENSINO MÉDIO COM PERFIS SOCIOECONÔMICOS DIFERENCIADOS

CONOCIMIENTO, EXPERIENCIAS Y CREENCIAS EN LA ESFERA SEXUAL: UN ESTUDIO DE ESTUDIANTES DE 1º Y 2º AÑO DE LA ESCUELA SECUNDARIA, CON DIFERENTES PERFILES SOCIOECONÓMICOS

Vânia de Souza¹
Adriano Marçal Pimenta²
Laise Conceição Caetano³
Joice Silva Rodrigues Cardoso⁴
Mark Anthony Beinler⁵
Lenice de Castro Mendes Villela⁶

¹ RN. PhD in Health Science. Associate Professor. Federal University of Minas Gerais – UFMG, School of Nursing-EE, Department of Maternal-Infant and Public Health – EMI. Belo Horizonte, MG – Brazil.

² RN. PhD in Health and Nursing. Adjunct Professor IV. UFMG, EE, EMI. Belo Horizonte, MG – Brazil.

³ RN. PhD in Nursing and Public Health. Adjunct Professor. UFMG, EE, EMI. Belo Horizonte, MG – Brazil.

⁴ RN. MS in Nursing. Professor. School of Applied Social Sciences of Belo Horizonte (FACISABH) – Belo Horizonte-MG, Brazil.

⁵ RN. PhD in Health Sciences. Associate Professor. UFMG, EE, EMI. Belo Horizonte, MG – Brazil.

⁶ RN. PhD in Public Health Nursing. Associate Professor. UFMG, EE, EMI. Belo Horizonte, MG – Brazil.

Corresponding author: Vânia de Souza. E-mail: vaniaxsouza@yahoo.com.br

Submitted on: 2016/02/15

Approved on: 2017/02/06

ABSTRACT

The objective of this study was to analyze knowledge, experiences and beliefs in the sexual reproductive field of prevention of Sexually Transmitted Diseases (STDs) in students enrolled in the 1st and 2nd years of high school from different socioeconomic backgrounds. This was a descriptive and analytical cross-sectional investigation of a convenience sample of 258 students in Belo Horizonte - MG, in schools classified as A, B2 and C1, according to economic status criterion. Results showed that socioeconomic position was relevant to differences between students enrolled at the three schools as to initiation of sexual intercourse and knowledge. This difference was not significant as to parent-adolescent sexual orientation. Students enrolled at school A demonstrated greater mastery of contents, although some unknowns that are essential to a practice less vulnerable have also proved to be independent of parental socioeconomic and educational level. The limitations of knowledge associated to beliefs and life experiences of sexuality contributed to a greater vulnerability of STI, teenage pregnancy and the consequences related to gender and sexual violence. The results indicate the urgency for seeking investigative and interventional alternatives that give breadth to sexuality discussions with teenagers including approaches such as gender, generation, violence in intimate relationships, sexual and reproductive rights and access to health care so that teenagers see themselves as protagonists in their way of being and self-expression of sexuality.

Keywords: Adolescent; Sexuality; Sexually Transmitted Diseases; Social Economic Factors; Health Education.

RESUMO

O objetivo neste estudo foi analisar conhecimentos, vivências e crenças no campo sexual de estudantes do 1º e 2º anos do ensino médio, com perfis socioeconômicos diferenciados. Trata-se de uma investigação transversal, descritiva e analítica, com amostragem por conveniência. Aplicou-se questionário estruturado a 258 alunos de Belo Horizonte-MG, de escolas classificadas em A, B2 e C1, segundo critério de classificação econômica. Os resultados mostraram que o nível socioeconômico foi relevante na diferenciação entre os alunos das três escolas, no que se refere à iniciação sexual e a diversos conhecimentos. Essa diferença não foi, no entanto, significativa quanto à orientação sexual dada pela mãe e pai. Os alunos da escola A demonstraram mais domínio dos conteúdos, embora certos desconhecimentos essenciais a uma prática menos vulnerável tenham também se revelado independentes das condições socioeconômicas e do nível de escolaridade do responsável pela família. As limitações do conhecimento associadas aos mitos e crenças, identificadas nas três escolas, sinalizaram como uma contribuição para mais vulnerabilidade às ISTs, à gravidez na adolescência e às consequências relacionadas a sexo e violência sexual. Os resultados revelam a premência pela busca de alternativas investigativas e interventivas que deem amplitude às discussões sobre sexualidade com os adolescentes, incluindo abordagens como sexo, geração, violência nas relações de intimidade, direitos sexuais e reprodutivos e acessibilidade aos serviços de saúde, de forma que os adolescentes se vejam como protagonista em sua forma de ser e viver sua sexualidade.

Palavras-chave: Adolescente; Sexualidade; Doenças Sexualmente Transmissíveis; Fatores Socioeconômicos; Educação em Saúde.

How to cite this article:

Souza V, Pimenta AM, Caetano LC, Cardoso JSR, Beinler MA, Villela LCM. Knowledge, experiences and beliefs in the sexual field: a study of 1st and 2nd year high school students from different socioeconomic backgrounds. REME – Rev Min Enferm. 2017[cited _____. _____. ____];21:e-991. Available from: _____

DOI: 10.5935/1415-2762.20170001

RESUMEN

El objetivo de este estudio fue analizar los conocimientos, las experiencias y creencias en la esfera sexual de alumnos con diferentes perfiles socioeconómicos de 1º y 2º año del secundario. Investigación transversal, descriptiva y analítica con muestreo por conveniencia. Se aplicó un cuestionario estructurado a 258 alumnos de Belo Horizonte – MG, de escuelas clasificadas como A, B2 y C1, según el criterio de clasificación económica. Los resultados mostraron que, en relación a la iniciación sexual y otros conocimientos, el nivel socioeconómico era relevante en la diferencia entre los alumnos de las tres escuelas. Esta diferencia no era significativa en términos de orientación sexual dada por los padres. Los alumnos de la escuela A demostraron mayor dominio de contenidos aunque también quedó evidente el desconocimiento de ciertos temas esenciales para una práctica menos vulnerable, independientemente de las condiciones socioeconómicas y nivel de educación del responsable de la familia. Las limitaciones en los conocimientos asociados a los mitos y creencias identificados en las tres escuelas influyen en la vulnerabilidad para las enfermedades de transmisión sexual, el embarazo en la adolescencia y en las consecuencias relacionadas con el género y la violencia sexual. Los resultados indican que es imprescindible buscar alternativas de investigación y de intervención que permitan ampliar las discusiones sobre la sexualidad con los adolescentes. Estas discusiones deben incluir distintos enfoques tales como género, generación, violencia en las relaciones íntimas, derechos sexuales y reproductivos y acceso a los servicios de salud para que los adolescentes se vean como protagonistas en su forma de ser y de vivir su sexualidad.

Palabras clave: Adolescente; Sexualidad; Enfermedades de Transmisión Sexual; Factores Socioeconómicos; Educación en Salud.

INTRODUCTION

A sexual relationship, ways of being and the art of self-expressing sexuality have been explored earlier in adolescence as well as in childhood. On the other hand, this situation usually lacks proper adult orientation that can aid these groups to acquire a leading role in affective-sexual and reproductive knowledge.¹

Sexuality, a condition of having sex and feeling sexual, is part of human nature, is present in all phases of life, inserting itself in the search for affection, for contact, for intimacy and is expressed in the form of feelings, by touching and being touched.² It suffers influences from the environment and the historical moment in which people insert themselves and are inserted, implied and implied, considering, for example, the relations of gender, self-identity, fantasies, beliefs, values and attitudes.^{3,4}

To contemplate the orientation of sexuality in a contextualized way in the life of an adolescent has been a challenge for health services, family and educational institutions. Education in a family atmosphere, especially, a formal one, has for some time been indicated as a priority for monitoring and guidance of children, adolescents and young people.⁵⁻⁷

Starting in 1996, the Guidelines on National Education Law determined that educational institutions have the responsibility of approaching sexual orientation as a transversal theme included in the Parameters of National Curricular (NCP) of elementary and secondary education schools. It is a pedagogical intervention process aimed at disseminating information and problematizing issues related to sexuality from a sociological, psychological and physiological perspective.⁸ It is also worth mentioning that the Program for School Health, instituted in 2008, which provides for partnerships between health and education professionals, has as one of its objectives, sex education with a focus on prevention and health promotion.⁹

In practice, however, these educational and interventional processes have proved difficult to implement because of the difficulty of being disentangled from strategies based on the dis-

semination of information, in terms of a biological approach, with reference to anatomy and physiology, from the perspective of a hygiene and medicine paradigm.⁶⁻⁷ This results in content being frequently explored vertically, thus distant from the specifics of this audience, in addition to suppressing the possibility of a dialogic discussion in which adolescents are considered subject to freely exercise their sexuality and reproduction rights.¹⁰

It is important that public policies aimed at adolescent sexual and reproductive education serve as guidelines for the planning of actions and strategies, which should be tailored and approximate to the characteristics and context of the life of the individual, groups and society. It is considered necessary to increase research that addresses the peculiarities of the adolescent public, identifying social, economic, historical and contextual differences that may have repercussions in the field of sexuality in less directive and standardized ways.

In a country possessing large, socioeconomic and cultural differences, as is the case in Brazil, treating aspects that involve sexuality and teenage pregnancy, as a homogenic nature, means disregarding the way "that social contexts define the universe of possibilities and different meanings between young people from different social backgrounds."¹¹ Authors observe a significant association, for example, with sexual initiation and pregnancy before the age of 20 between social groups possessing lower socioeconomic and poor educational backgrounds. The authors also revealed a greater difficulty to access and use of contraceptive methods by adolescents from this social group.^{11,12}

As for the cultural aspects, and particularly the myths and beliefs in the field of sexuality, which are still not well studied in the literature, it is believed that socioeconomic profiles distinct between adolescents may reveal important variations in the way they deal with their sexuality. In this study the objective was to analyze knowledge, experiences and beliefs in the sexual field of high school students from both public and private schools that could have repercussions on the social vulnerability in this age group.

METHODS

This was a cross-sectional, descriptive and analytical investigation from part of the study entitled "Adolescents on stage: an educational proposal for the prevention of sexually transmitted diseases (STDs)", developed in three stages. This article examines the results of the 2013 findings regarding the application of a structured questionnaire, composed of 49 questions that, in addition to a socioeconomic profile, included topics such as body knowledge, relationships, social life, family dialogue, sexual initiation, pregnancy and STD. The self-reported questionnaire was applied to adolescents after a pre-test.

Three schools, possessing students from different socioeconomic backgrounds in the city of Belo Horizonte, were selected by convenience sampling. Two schools, private and public, are located in the south-center of the city. The third school, also public, is located on the outskirts of the city, in the north-east region. The schools were, respectively, classified as A, B2 and C1 according to the Brazilian economic classification criterion of the Brazilian Association of Research Companies.¹³ In using this instrument, urban people and families are classified by a system of points in which the purchasing power and education level of the household is measured. The sum of points allows the division according to economic class and average family incomes, ordered in A, B1, B2, C1, C2, D and E. The classifications A, B2 and C1, identified in this study, correspond, respectively, to a family income of R\$11,037.00, R\$3,188.00 and R\$ 1,865.00.

The study population consisted of 258 students between 14 to 19 years of age enrolled in the first and second years of high school. The choice of this age group was based on prior studies by several authors who presented results corresponding to the main transformations in the formation of concepts, definitions of practices and orientations in the field of sexuality.^{10,14}

The selection of class rooms was done randomly at each of the three high schools. If the selected class room happened to be on a field trip or was unable to take the time to respond to the questionnaire, it was decided to randomly select another class room of students. According to the number of high school students and their attendance at each school, the percentage of students that participated was as follows: 17.8% of a total of 510 students in their first and second years (freshmen and sophomore years) in School A; 5.1% of a total of 1,598 high school students who had afternoon classes at School B2; and 53.5% of a total of 159 high school students who had morning classes at School C1. The selected sample guaranteed a statistical power of 80% and 95% confidence level.

STATISTICAL ANALYSIS

Data were recorded and analyzed using the Statistical Package for Social Science, version 15.0. The sample was characterized using absolute and relative frequencies, averages and

standard deviations of the variables of interest. Statistical differences of the proportions and averages of the student characteristics at the three schools were evaluated, respectively, with the Pearson chi-square test and analysis of variance (ANOVA).

Non-conditional logistic regression models were constructed to test the association between school type (A, B2 and C1), knowledge, experiences, and beliefs about sexuality. The strength of association was estimated by calculating the Odds Ratio (OR) and its 95% confidence intervals (95% CI), using C1 as a reference.

Potential confounders included in the multivariate model were: age (continuous), sex (male/female), sexual orientation received by parents (no/yes), sexual orientation received by a specialist (no/yes) and sexually active (no/yes).

For all analyzes, the level of statistical significance was set at 5%.

ETHICAL ASPECTS

This study was approved by the Research Ethics Committee of the Federal University of Minas Gerais (Protocol No. 0576.0.20.000-07) and initiated after explaining the research objectives and informed consent was granted by each parent or legal guardian and adolescent volunteer.

RESULTS

Table 1 presents demographic and social-economic results of the participating adolescents from the three schools. There was a predominance of female adolescents and students from schools' B2 and C1 were, on average, older than those enrolled at school A. It was also observed that more than 60% of the students from each of the three schools responded that they received sexual orientation from their mother or father.

The number of students who had already engaged in sexual intercourse was greater in schools B2 and C1 than in school A ($p < 0.001$). The mean age of the first sexual encounter was greater between male students at schools A and C1 compared to adolescent girls ($p < 0.05$). In general, sexual intercourse occurred, respectively, at the mean ages of 16.3, 16.5 and 15.9 years for students enrolled at schools A, B2 and C1 (data not shown).

In Table 2, the chance of the students correctly identifying each part and function of the male and female external genital organs was significantly greater at school A, in relation to the other schools. The male genital parts most frequently identified by greater than 60% of the students were the pubis and testicles. As for the female genital organs, students' knowledge was greater in relation to identifying the pubis and clitoris. The inner lips, the labia majora (larger lips) and the vaginal canal were, respectively, the external female genital parts that were more difficult to identify by students at the three schools.

Table 1 - Demographic and socioeconomic characteristics of initiation and sexual orientation by the mother/father in a the study population according to school – Belo Horizonte, 2008

Variables	School						p-value
	A		B2		C1		
	n	%	n	%	n	%	
Gender							
Boy	29	35.4	28	30.8	30	35.3	0.760*
Girl	53	64.6	63	69.2	55	64.7	
Age (mean)	15.90	0.75	16.22	1.08	15.78	1.05	0.009†
Schooling, head of household							
Illiterate/until the 3 rd grade	0	0.0	1	1.1	4	4.7	< 0.001*
Until 4 th grade	0	0.0	11	12.1	17	20.0	
Elementar school completed	4	4.9	14	15.4	23	27.1	
Middle school completed	6	7.3	40	44.0	30	35.3	
High school completed	72	87.8	22	24.2	9	10.6	
Unsure	0	0.0	3	3.3	2	2.4	
Initiation of sexual activity‡							
Yes	16	20.5	44	49.4	33	40.2	< 0.001*
No	62	79.5	45	50.6	49	59.8	
Sexual orientation by parents							
Yes	61	74.4	58	63.7	61	71.8	0.278*
No	21	25.6	33	36.3	24	28.2	

Nota: *Pearson's chi-square; †Analysis of variance (ANOVA); ‡Four students from school A, two students from school B2 and three students from school C1 did not answer this question.

Table 2 - Knowledge of structure and physiology of the female and male external genital organs by the study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Female reproduction organ			
Pubis			
%	97.6	80.2	70.6
OR	16.81	1.78	1.00 (reference)
IC 95%	3.76 – 75.20	0.84 – 3.77	–
p-value	< 0.001	0.131	–
Clitoris			
%	86.6	67.0	56.5
OR	6.76	1.49	1.00 (reference)
IC 95%	2.89 – 15.81	0.78 – 2.89	–
p-value	< 0.001	0.227	–
Large lips			
%	80.5	47.3	45.9
OR	5.25	1.24	1.00 (reference)
IC 95%	2.52 – 10.92	0.66 – 2.33	–
p-value	< 0.001	0.509	–

Continue...

... continued

Table 2 - Knowledge of structure and physiology of the female and male external genital organs by the study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Female reproduction organ			
Small lips			
%	75.6	34.1	38.8
OR	6.16	0.83	1.00 (reference)
IC 95%	2.99 – 12.69	0.43 – 1.61	–
p-value	< 0.001	0.587	–
Vaginal canal			
%	79.3	57.1	45.9
OR	5.96	1.81	1.00 (reference)
IC 95%	2.85 – 12.46	0.96 – 3.42	–
p-value	< 0.001	0.067	–
Male reproductive organ			
Pubis			
%	98.8	93.4	84.7
OR	#	3.19	1.00 (reference)

Continue...

... continued

Table 2 - Knowledge of structure and physiology of the female and male external genital organs by the study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Male reproductive organ			
Pubis			
IC 95%	#	1.10 – 9.28	–
p-value	#	0.033	–
Penis			
%	90.2	37.4	44.7
OR	13.84	0.94	1.00 (reference)
IC 95%	5.58 – 34.32	0.50 – 1.78	–
p-value	< 0.001	0.857	–
Foreskin			
%	78.0	30.8	36.5
OR	6.71	0.94	1.00 (reference)
IC 95%	3.25 – 13.86	0.49 – 1.82	–
p-value	< 0.001	0.853	–
Gland			
%	80.5	63.7	55.3
OR	4.08	1.62	1.00 (reference)
IC 95%	1.95 – 8.56	0.85 – 3.09	–
p-value	< 0.001	0.141	–
Testicules			
%	97.6	82.4	76.5
OR	26.33	1.56	1.00 (reference)
IC 95%	3.40 – 203.90	0.71 – 3.45	–
p-value	0.002	0.272	–

Note: OR = Odds Ratio; IC 95% = Confidence Interval of 95%; OR adjusted by sex, age, sexual orientation received from parents, sexual orientation from specialist, initiation of sexual activity. #Not possible to calculate.

Results from Table 3 show that the male condom was more frequently identified as the best contraceptive method known to the adolescents from the three schools, followed by the contraceptive pill and intrauterine device (IUD). IUD, symptothermal (chart), withdrawal (coitus interruptus) and diaphragm contraceptive methods were better known to the students from school A in comparison to students from the other two schools. On the other hand, students at school A were less aware of injectable contraceptives ($p < 0.05$). With regard to the diaphragm, there was greater knowledge observed between students at school B2 (OR = 2.81, 95% CI = 1.44 - 5.49) and school A (OR = 17.88, 95% CI = 7.67 - 41.69) in contrast to those at school C1.

Table 3 - Knowledge about contraceptive methods by study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
IUD			
%	93.9	67.8	78.6
OR	4.79	0.474	1.00 (reference)
IC 95%	1.49 – 15.37	0.22 – 1.00	–
p-value	0.008	0.05	–
Injectable contraceptive			
%	24.4	58.9	38.1
OR	0.19	0.69	1.00 (reference)
IC 95%	0.09 – 0.40	0.35 – 1.37	–
p-value	< 0.001	0.288	–
Female condom			
%	92.7	85.6	82.1
OR	2.48	1.39	1.00 (reference)
IC 95%	0.81 – 7.63	0.56 – 3.45	–
p-value	0.113	0.473	–
Birth control pill			
%	98.8	94.4	88.1
OR	#	2.02	1.00 (reference)
IC 95%	#	0.59 – 6.93	–
p-value	#	0.264	–
Diaphragm			
%	84.1	52.2	27.4
OR	17.88	2.81	1.00 (reference)
IC 95%	7.67 – 41.69	1.44 – 5.49	–
p-value	< 0.001	0.003	–
Male condom			
%	100.0	98.9	94.0
OR	#	6.71	1.00 (reference)
IC 95%	#	0.73 – 62.14	–
p-value	#	0.094	–
Calender (sintho thermal method)			
%	92.7	67.8	69.0
OR	6.13	0.94	1.00 (reference)
IC 95%	2.14 – 17.54	0.47 – 1.89	–
p-value	0.001	0.858	–
Withdrawal (coitus interruptus)			
%	85.4	31.1	32.1
OR	15.23	1.07	1.00 (reference)
IC 95%	6.60 – 35.14	0.54 – 2.10	–
p-value	< 0.001	0.857	–

Note: OR = Odds Ratio; IC 95% = Confidence Interval of 95%; OR adjusted by sex, age, sexual orientation received from parents, sexual orientation from specialist, initiation of sexual activity. #Not possible to calculate.

As for the principal STD infections likely to be acquired through sexual contact, acquired immunodeficiency syndrome (AIDS) (> 90%), genital herpes (> 60%), syphilis (> 60%) and gonorrhoea (> 55%) were identified by the students as most prevalent. In this regard, the knowledge content of STDs was also greater between students at school A. In all schools, student identification was below 51% for the following infections: urethritis, trichomoniasis, hepatitis B, candidiasis, and human papillomavirus (HPV). In the examples of urethritis and trichomoniasis, the recognition of these two diseases by the students from all three schools was, respectively, less than 13.5% and 22% (data not shown in the table).

In responses regarding the principal forms of transmission of STDs, subject knowledge was expressive for students enrolled at the three schools, although subjects at school A possessed greater knowledge. In looking at how STD transmission occurs such as sexual intercourse, blood transfusions and sharing needles and syringes, kissing was the only practice identified, in greater proportion of responses, as a form of STD transmission by the students at school C1 (24.1%) and B2 (12.2%) compared to students at school A (8.5%) (p<0.05). More than 90% of the students acknowledged that a swimming pool, bus and toilet seats, hugging, drinking from a cup and eating from a spoon are not applicable regarding STD transmission (data not shown).

Table 4 presents results corresponding to possible signs and symptoms related to certain STDs. We observed that, with the exception of pain or a burning sensation during sexual intercourse and rashes, warts or mouth sores, all other sexual diseases were better identified by students from school A (p < 0.05). It is interesting to point out that a lower percentage (less than 35.0%) of students considered pain or burning during sexual intercourse and rashes, warts or mouth sores as possible signs and symptoms of STDs. Other characteristics, such as bad smell, warts, genital itching, pain or burning during urination and cloudy vaginal discharges, were identified by less than 60% of the students from schools C1 and B2. The genital warts and sores were the most easily identified signs by the students from all three schools, roughly 69% of the respondents.

Finally, Table 5 presents the results of sexual, reproductive and preventive beliefs and practices against STDs which presented frequencies greater than 15.0% in at least one of the schools evaluated. Students at school A were least likely to believe the following statements: "A woman has to achieve orgasm to become pregnant"; "To choose a contraceptive method, just go to a pharmacy"; "Vasectomy results in impotence"; and "The first sexual encounter always results in pain and bleeding in a girl". The students from school B2 believed less in the fact that "A man with a large penis satisfied a woman more" (p <0.05). The beliefs that "Virgin girls do not get pregnant"; "Interrupted intercourse always prevents pregnan-

cy"; "A man has more sexual desire than a woman"; and "A condom reduces sexual pleasure" were similar by students from the three schools.

Table 4 - Knowledge about possible signs and symptoms related to certain STDs by the study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Strong smell or genital itching			
%	67.9	40.9	34.5
OR	4.14	1.23	1.00 (reference)
IC 95%	2.04 – 8.39	0.63 – 2.43	–
p-value	< 0.001	0.547	–
Genital sores or warts			
%	91.4	70.5	69.0
OR	4.27	1.04	1.00 (reference)
IC 95%	1.68 – 10.82	0.12 – 2.08	–
p-value	0.002	0.922	–
Pain or burning during sex			
%	33.3	30.7	34.5
OR	0.97	0.87	1.00 (reference)
IC 95%	0.49 – 1.94	0.44 – 1.74	–
p-value	0.933	0.699	–
Pain or burning when urinating			
%	69.1	44.3	39.3
OR	3.84	1.36	1.00 (reference)
IC 95%	1.94 – 7.60	0.71 – 2.58	–
p-value	< 0.001	0.354	–
Strong genital smell			
%	53.1	43.2	36.9
OR	2.08	1.34	1.00 (reference)
IC 95%	1.07 – 4.05	0.70 – 2.58	–
p-value	0.030	0.383	–
Cloudy-white discharge			
%	59.3	50.0	40.5
OR	2.36	1.46	1.00 (reference)
IC 95%	1.20 – 4.63	0.76 – 2.81	–
p-value	0.013	0.259	–
Mouth sores			
%	29.6	27.3	25.0
OR	1.43	1.02	1.00 (reference)
IC 95%	0.69 – 2.98	0.49 – 2.14	–
p-value	0.338	0.954	–

Continue...

... continued

Table 4 - Knowledge about possible signs and symptoms related to certain STDs by the study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Genital warts			
%	80.2	47.7	51.2
OR	3.60	0.76	1.00 (reference)
IC 95%	1.72 – 7.55	0.40 – 1.45	–
p-value	0.001	0.402	–

Note: OR = Odds Ratio; IC 95% = Confidence Interval of 95%; OR adjusted by sex, age, sexual orientation received from parents, sexual orientation from specialist, initiation of sexual activity.

Table 5 - Beliefs on sexual and reproductive education by a study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
Virgin girls don't get pregnant			
%	19.0	24.7	34.6
OR	0.46	0.57	1.00 (reference)
IC 95%	0.21 – 1.01	0.28 – 1.17	–
p-value	0.052	0.126	–
A woman must reach orgasm to become pregnant			
%	4.5	4.4	16.7
OR	0.21	0.24	1.00 (reference)
IC 95%	0.05 – 0.83	0.06 – 0.96	–
p-value	0.026	0.044	–
Withdrawal (coitus interruptus) always avoids getting pregnant			
%	50.0	51.9	60.5
OR	0.63	0.75	1.00 (reference)
IC 95%	0.32 – 1.25	0.38 – 1.49	–
p-value	0.185	0.417	–
Just go to a pharmacy to choose a contraceptive method			
%	11.7	16.9	33.8
OR	0.21	0.46	1.00 (reference)
IC 95%	0.08 – 0.53	0.20 – 1.05	–
p-value	0.001	0.064	–
Men with a big penis satisfy women more			
%	36.6	28.6	52.6
OR	0.57	0.35	1.00 (reference)
IC 95%	0.23 – 1.40	0.16 – 0.77	–
p-value	0.217	0.010	–
Vasectomy results in impotence			
%	6.8	11.3	21.3
OR	0.30	0.53	1.00 (reference)

Continue...

... continued

Table 5 - Beliefs on sexual and reproductive education by a study population according to school – Belo Horizonte, 2008

Variables	School		
	A	B2	C1
IC 95%	0.10 – 0.94	0.19 – 1.45	–
p-value	0.038	0.213	–
Condoms decrease pleasure during sex			
%	55.0	53.9	63.5
OR	0.63	0.80	1.00 (reference)
IC 95%	0.48 – 1.57	0.43 – 1.54	–
p-value	0.585	0.517	–
The first sexual relation always results in pain and bleeding in girls			
%	43.9	66.2	79.7
OR	0.22	0.48	1.00 (reference)
IC 95%	0.10 – 0.50	0.22 – 1.03	–
p-value	< 0.001	0.06	–
Men have more sexual desire than women			
%	68.3	60.0	75.4
OR	0.73	0.58	1.00 (reference)
IC 95%	0.33 – 1.60	0.28 – 1.22	–
p-value	0.431	0.150	–

Note: OR = Odds Ratio; IC 95% = Confidence Interval of 95%; OR adjusted by sex, age, sexual orientation received from parents, sexual orientation from specialist, initiation of sexual activity.

DISCUSSION

The result of this study revealed that the proportion of students who have had sexual intercourse was less in school A than among students from schools B2 and C1. This result is similar to other national and international studies¹⁵⁻¹⁷ in which it is emphasized that greater educational level and socioeconomic conditions are important determinants in the sense of postponing sexual initiation later in life.

Although research indicates similar results as to the period of sexual initiation observed in this study, between the ages of 15.1 and 16.8 years,^{15,18} other studies report sexual initiation from 10¹⁴ and 12¹⁷ years of age. This variation is related to the socioeconomic, political and cultural practices of each region.¹⁴ There was a correlation for boys and girls between late onset of sexual activity and increased condom use during sexual relations.

Also regarding sexual activity, average age of sexual initiation was greater between male students at schools A and C1 compared to females. Although the socioeconomic level was relevant to age of sexual initiation by students at all schools, this difference was not significant regarding sexual orientation by parents, which was more than 60% for all participants. The highest educational levels of the head of household and socio-

economic conditions were influential for greater knowledge of contraceptive methods and condom use by both sexes. This same result was identified in a study on sexual knowledge and behavior carried out with students from public and private schools in England.¹⁷

In relation to sexual orientation received by the students in the present study, other national and international studies also reported that the mother or father were the principle sources of information, followed by friends.^{4,17} Few studies have reported results of mother and father providing sexuality educational to their children.^{6,19,20} Most of the reasons are due to the lack of openness to dialogue by parents and their teens. There is also fear by parents that their conversation will stimulate their children's sexual practices,⁶ and also that the open dialogue may subsequently result in reprisal by others.²¹ The belief that sex education is the task for the school or health professionals, and not the family's responsibility, is another limiting aspect of this dialogue.²¹

Although in several investigations the mother or father were not referenced to dialogue on sexuality with their children, the result of this study reinforces that this practice was increasingly present, regardless of the educational level and socioeconomic conditions of the head of household. In these cases, the level of depth established in the conversation was not taken into account; if they occurred in a timely manner or limited advice, often restricted to contraception forms and use, especially with girls.⁴

The limitations of dialogue by the family and the expectation that the school is responsible for this task may result in adolescents seeking out information just from their peers or from Internet searches, contributing to the propagation of beliefs and myths that increases STDs vulnerability, unexpected pregnancy, sexual violence, sexual harassment and other types of issues that end up compromising the adolescents' quality of life.

In looking at structure and physiology of male and female external genital organs, students at school A possessed greater content knowledge, thus reinforcing the association of content domain against greater socioeconomic and schooling levels of the mother or father. However, it is noteworthy to report that there was a predominantly greater level of identification of the external male genital organs in relation to the female ones by students from all three schools.

This may be related to cultural values, the ease of visualization of the organ and the stimulation of sexual practice by boys, allowing them to manipulate and recognize more easily the external structures of their genital organ, as well as the pleasure associated with them. Another explanation could be related to the fact that educational approaches on the female genital organs in schools are more centered on the internal structures, with a focus on reproduction and a lack of anatomical and functional valorization of the external structures.^{6,22}

This ease of visualization associated with frequent demonstrations of male condoms, using a prosthesis, may also aid in the recognition of external male structures. Even today, after almost 20 years after the development of the female condom, the guidelines on its use are poorly addressed by Brazilian educational and health institutions and mass media, given that this product is more widespread in other countries, such as China and the United States.²³

Among students in B2 and C1 schools, we observed a lower percentage by students to identify the foreskin, penis, small and large vaginal lips and vaginal canal organs. Therefore, it may be that the design used to identify the genital structures and the fact that they associate them with a brief physiological description, may have generated doubts among the teens, contributing to this poor outcome. However, even when considering this possible limitation, studies have shown that a high level of adolescents lack knowledge regarding genital parts, functions and pubertal growth changes (the onset of menstruation), contraception methods and sexuality in general.^{5,24,25}

Returning to the possible limitations regarding the design used to identify structures of the male and female external genitalia, students from school A demonstrated a greater than 75% correct response rate for all structures. Furthermore, during the application of the pilot test there was no report regarding difficulty of understanding the design and the association with the physiology of each structure.

Regarding contraceptive use, the male condom was the best identified method cited by more than 80% of the students from the three schools, followed by the pill, as similarly mentioned by other authors.¹⁷ In contrast, the injectable contraceptive was the least known method by the teens, followed by withdrawal (coitus interruptus) and the diaphragm, the latter two, were especially less known by students at B2 and C1 schools. These results reveal the need for greater investment in educational practices that include less popular contraceptive methods as an alternative for this age group, as well as a greater emphasis on the characteristics, effectiveness, advantages and disadvantages of each method, providing the basis for their choices.

As for infectious diseases transmitted by sexual contact, we observed that, similar to other studies,¹⁶ the AIDS virus was associated with sexual relations by more than 90% of students. Genital herpes and syphilis were the two most easily recognized diseases. However, there is a lack of knowledge about a variety of infections that can be transmitted by sexual contact, among those, hepatitis B, which increased more than 100% in the number of cases between 1997 and 2007, in populations aged 10 to 19 years.²⁶ This increase is not consistent with the introduction of the hepatitis B vaccine for people under 29 years of age,³ by the Ministry of Health, in 2001, and thus, public health policy directed at STD education warrants further improvement.

This lack of knowledge concerning STDs was also identified in other studies, such as that performed between adolescents enrolled at public and private schools in the city of Riyadh, Saudi Arabia.¹⁹ Results demonstrated that only 33.3, 37.9 and 14.5% of the students were aware that syphilis, gonorrhoea and hepatitis B could be transmitted through sexual contact.

It is important to note that if AIDS has brought great benefits to expanding discussions on sexuality, vulnerability and prevention, attention must also to be focused on education and health institutions, in addition to other neglected STDs that pose health risks, such as in the case of hepatitis B, HPV, syphilis, urethritis and vulvovaginitis.

Considering that the knowledge content by students from all three schools of the principle forms of transmission of STDs, made possible in parte after the discovery of AIDS, the same strategy proves potent for the expansion of approaches for other STDs. Although it is recognized that the informative aspect is not enough for a change of attitude to reduce vulnerability to STDs, knowledge is the first step of an educational approach that should aim at empowerment, and not be limited to a cognitive aspect.

The fact that students from school A were less aware that kissing represents a mode of transmission for some STDs may correlate with the lack of information even from health professionals.¹⁶ In this case, it is plausible that the experience of students from B2 and C1 schools were influenced by a greater response rate, considering that their responses about sexual intercourse was twice those of school A students, the former of which could have gained such learning by practice and in conversations with their peers.

The low percentages of recognition of possible signs and symptoms associated with STDs, such as pain or burning during sexual intercourse, strong vaginal smell and constant discharge, may also be associated with incorrect information from a common sense point of view, resulting in the population to consider them as normal e even expected, especially between women. This may reduce the chances of diagnosis and early clinical care if some of these adolescents have one of these characteristics.

Other limitations as to knowledge of certain aspects that can greatly affect the vulnerability of this age group is not only STDs, but as it also relates to the myths and beliefs observed in the students from all three schools. The belief that a man has more sexual desire than a woman and that interrupted intercourse always prevents pregnancy can result in consequences related to sex and violence in intimate relationships and also contribute to pregnancy in adolescence.

There were also a greater percentage of students who considered true that the first relationship always results in pain and bleeding. The assertions that a man with a big penis satisfies a woman more, that virgin girls do not get pregnant

and that all one needs to do is go to a pharmacy to choose a contraceptive method, reveals that even when 60% of parents counselled their teen about sex from all three schools, the dialogue did not prove adequate enough to rupture the beliefs and myths viewed by teens directly associated with certain negative outcomes of sexuality.

In a study conducted in Botswana, Southern Africa, on a live interactive television show called Talk Back, which discusses a range of issues on HIV/AIDS education and prevention, the results highlighted that a number of myths and beliefs by teachers and students have reflected a limitation to the success of the program.²⁷

The literature emphasizes that both teachers and family members do not feel prepared or able to take on the role as counselors^{7,25} and that the search for investigative alternatives and interventions that amplifies discussions about sexuality with adolescents,²⁵ including approaches such as sex, generation, violence in intimate relations, sexual and reproductive rights, accessibility to health services, and the adolescent as a protagonist for being and self-expression of sexuality.

This study presents some limitations that should be considered for the interpretation and validity of the results: a) the external validity of our findings should be interpreted with caution, because the studied schools may not represent the total Belo Horizonte population of schoolchildren, due to the fact that the sample did not possess a probabilistic characteristic; b) because it was a cross-sectional study, the presented relationships represented models of association, therefore this was intrinsic to the design characteristic itself. Thus, the uncertainty in relation to temporality and causality between the selected variables was diminished.

On the other hand, aspects that favor the validity of this study include: a) the application of a data collection instrument by trained interviewers; b) adjustment of the variables using a multivariate analysis technique appropriate to this type of study design; c) high levels of strength of association.

CONCLUSION

The present study found that the differences regarding sexuality, knowledge of reproductive health and prevention of STDs between students from private and public schools were significant, representing, in general, greater knowledge by students enrolled at a private school. Some exceptions included the predominance of knowledge by students from C1 and B2 schools, which appeared to be related to the characteristics and sexual experiences of each group.

Despite the high level of knowledge detected in students of school A, the lack of knowledge about certain aspects essential for less vulnerable sexual experiences was independent

of the socioeconomic conditions and the educational level of the parents. Many of these aspects stemmed from misguided, taboo concepts from people who also had no access to sexual and reproductive education.

The actions employed in educational and health institutions do not, in most cases, incorporate into their practices a multifactorial-emancipatory approach that includes cultural and regional approaches, dialogues on diversity and inequality, which represent a limited focus on biological aspects and more directed on the practical knowledge of daily life and the understanding of adolescents as an integral and active part of this process.

In order to strengthen discussions on sex education with adolescents, it is necessary that public policies be structured within a broader dimension that involves improving the population's living conditions and access to education, continuing education of professionals in educational institutions and health. It is also imperative that such practices involve families, through workshops, meetings within non-threatening environments, gaming, scientific presentations, and alternative strategies which may contribute to reversing the problem of misinformation that has become a vicious circle, propagating misunderstandings and preconceived truths in the field of sexuality.

REFERENCES

- Macedo SR, Miranda FA, Pessoa Júnior JM, Nóbrega VK. Adolescência e sexualidade: scripts sexuais a partir das representações sociais. *Rev Bras Enferm.* 2013[cited 2016 Jan 29];66(1):103-9. Available from: <http://www.scielo.br/pdf/reben/v66n1/v66n1a16.pdf>
- Ministério da Saúde (BR). Boletim informativo DST/AIDS. Diretoria de epidemiologia e vigilância sanitária; Diretoria executiva de epidemiologia, programa estadual DST/Aids. Brasília: MS; 2000.
- Lima FCA, Jesus FB, Martins CBG, Souza SPS, Matos KF. A experiência e atitudes de adolescentes frente à sexualidade. *Mundo Saúde.* 2013[cited 2016 Jan 29]; 37(4):385-93. Available from: <http://www.revistas.usp.br/jhgd/article/view/102992>
- Vonk AC, Bonan C, Silva KS. Sexualidade, reprodução e saúde: experiências de adolescentes que vivem em município do interior de pequeno porte. *Ciênc Saúde Coletiva.* 2013[cited 2016 Jan 29];18(6):1795-807. Available from: http://www.scielo.br/scielo.php?pid=S1413-81232013000600030&script=sci_abstract&tlng=pt
- Borges AL, Nichiata LY, Schor N. Conversando sobre sexo: a rede sociofamiliar como base de promoção da saúde sexual e reprodutiva de adolescentes. *Rev Latino-Am Enferm.* 2006[cited 2016 Jan 29];14(3):422-7. Available from: <http://www.scielo.br/pdf/rlae/v14n3/v14n3a17.pdf>
- Altmann H. A sexualidade adolescente como foco de investimento político-educacional. *Educ Rev.* 2007[cited 2016 Jan 29];12(46):287-310. Available from: <http://www.scielo.br/pdf/edur/n46/a12n46.pdf>
- Savegnano SDO, Arpini DM. Diálogos sobre sexualidade na família: reflexões a partir do discurso de meninas. *Psicol Argum.* 2014[cited 2016 Jan 29];32(76):57-67. Available from: https://www.researchgate.net/publication/276236929_Dialogos_sobre_sexualidade_na_familia_reflexoes_a_partir_do_discurso_de_meninas
- Ministério da Educação e do Desporto (BR). Secretaria de Educação Fundamental. Parâmetros curriculares nacionais: terceiro e quarto ciclos do ensino fundamental; temas transversais. Brasília: MEC/SEF; 1998.
- Ministério da Saúde (BR). Programa Saúde na Escola (PSE). Brasília: MS; 2010. [cited 2016 Jan 29]. Available from: http://dab.saude.gov.br/programa_saude_na_escola.php
- Nothhaft SCS, Zanatta EA, Brumm MLB, Galli KSB, Erdtmann BK, Buss E, et al. Sexualidade do adolescente no discurso de educadores: possibilidades para práticas. *REME - Rev Min Enferm.* 2014[cited 2016 Jan 29];18(2):284-9. Available from: <http://www.reme.org.br/artigo/detalhes/927>
- Aquino EML, Heilborn ML, Knauth D, Bozon M, Almeida MC, Araújo J, et al. Adolescência e reprodução no Brasil: a heterogeneidade dos perfis sociais. *Cad Saúde Pública.* 2003[cited 2016 Jan 29];19(2):S377-S388. Available from: http://www.scielo.org/scielo.php?script=sci_arttext&pid=S0102-311X2003000800019&lng=en&nrm=iso.
- Berquo E, Garcia S, Lima L. Reprodução na juventude: perfis sociodemográficos, comportamentais e reprodutivos na PNDS 2006. *Rev Saúde Pública.* 2012[cited 2016 Jan 29];46(4):685-93. Available from: http://www.scielo.org/scielo.php?script=sci_arttext&pid=S0034-89102012000400013&lng=pt&nrm=iso
- Associação Brasileira de Empresas de Pesquisa. Critério de classificação econômica Brasil. [cited 2016 Jan 29]. Available from: www.abep.org/Servicos/Download.aspx?id=07
- Castro MG, Abramovay M, Silva LB. Juventudes e sexualidade. Brasília: UNESCO; 2004.
- Martins LB, Costa-Paiva L, Osis MJ, Sousa MH, Pinto Neto AM, Tadini V. Conhecimento sobre métodos anticoncepcionais por estudantes adolescentes. *Rev Saúde Pública.* 2006[cited 2016 Jan 29];40(1):57-64. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-89102006000100010
- Romero KT, Medeiros EH, Vitale MS, Wehba J. O conhecimento das adolescentes sobre questões relacionadas ao sexo. *Rev Assoc Med Bras.* 2007[cited 2016 Jan 29];53(1):14-9. Available from: http://www.scielo.br/scielo.php?pid=S0104-42302007000100012&script=sci_abstract&tlng=pt
- Reina MF, Ciaravino H, Llovera N, Castelo-Branco C. Contraception knowledge and sexual behaviour in secondary school students. *Gynecol Endocrinol.* 2010[cited 2016 Jan 29];26(7):479-83. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/20236027>
- Cruzeiro AL, Souza LD, Silva RA, Pinheiro RT, Rocha CL, Horta BL. Comportamento sexual de risco: fatores associados ao número de parceiros sexuais e ao uso de preservativo em adolescentes. *Ciênc Saúde Coletiva.* 2010[cited 2016 Jan 29];15(Suppl 1):1149-58. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232010000700023
- Alquaz AM, Almuneef MA, Minhas HR. Knowledge, attitudes, and resources of sex education among female adolescents in public and private schools in Central Saudi Arabia. *Saudi Med J.* 2012[cited 2016 Jan 29];33(9):1001-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/22964813>
- Opara PI, Eke GK, Tabansi PN. Perception of sexuality education amongst secondary school students in Port Harcourt, Nigeria. *West Afr J Med.* 2012[cited 2016 Jan 29];31(2):109-13. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23208480>
- Sousa LB, Fernandes JFP, Barroso MGT. Sexualidade na adolescência: análise da influência de fatores culturais presentes no contexto familiar. *Acta Paul Enferm.* 2006[cited 2016 Jan 29]; 19(4): 408-13. Available from: <http://www.scielo.br/pdf/ape/v19n4/v19n4a07.pdf>
- Altmann H. Educação sexual em uma escola: da reprodução à prevenção. *Cad Pesqui.* 2009[cited 2016 Jan 29];39(136):175-200. Available from: <http://www.scielo.br/pdf/cp/v39n136/a0939136.pdf>
- Núcleo de Estudos de População – NEPO. Associação Brasileira Interdisciplinar de Aids. Fundo de População das Nações Unidas. Preservativo feminino: das políticas globais à realidade brasileira. Brasília: UNFPA; 2011. [cited 2016 Jan 10]. Available from: www.unfpa.org.br/Arquivos/preservativo_feminino.pdf
- Pelloso SM, Carvalho MDB, Higarashi IH. Sexualidade e gênero: um estudo com adolescentes em um município de pequeno porte do Noroeste do

- Paraná. *Acta Sci Health Sci*. 2008[cited 2016 Jan 29];30(2):113-9. Available from: <http://periodicos.uem.br/ojs/index.php/ActaSciHealthSci/article/view/552>
25. Chandra-Mouli V, Svanemyr J, Amin A, Fogstad H, Say L, Girard F, *et al*. Twenty years after International Conference on Population and Development: where are we with adolescent sexual and reproductive health and rights? *J Adolesc Health*. 2015[cited 2016 Jan 29];56(1 Suppl):S1-6. Available from: http://ecommons.aku.edu/cgi/viewcontent.cgi?article=1064&context=eastafrica_fhs_mc_obstet_gynaecol
26. Ministério da Saúde (BR). DATASUS. Indicadores de morbidade e fatores de risco: incidência de hepatite B. Brasília: MS; 2008. [cited 2016 Jan 29]. Available from: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?db2008/d0108.def>
27. Nleya PT, Segale E. How setswana cultural beliefs and practices on sexuality affect teachers' and adolescents' sexual decisions, practices, and experiences as well as HIV/AIDS and STI prevention in select Botswanan Secondary Schools. *J Int Assoc Provid AIDS Care*. 2015[cited 2016 Jan 29]; 14(3):224-33. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23803563>
-