Original Article

Sexual and reproductive health knowledge: a cross-sectional study with adolescents

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ABSTRACT

The objective was to investigate and compare sexual and reproductive knowledge and sources of information, between public school adolescents from Goiânia-Goiás. A cross-sectional study conducted with 2,449 students. We analyzed data from the self-reported questionnaire using the Statistical Package for Social Sciences, version 13.0. We investigated the differences between proportions using χ^2 tests and a significance level ($p<0.05$). We observed a statistical difference between sex considering the knowledge about Sexually Transmitted Infections and, STI and contraception prevention ($p<0.000$). Additionally, male adolescents presented higher exposure risk to sexual relations without preservative ($p<0.000$). About the acquisition of preventive methods for STIs and contraception, women were more knowledgeable about access to devices, as well as; they searched different sources and content information about sexual and reproductive health. We concluded that male adolescents presented higher social and individual vulnerability profiles.

Descriptors: Sexual and Reproductive Health; Adolescent Health; Health Vulnerability.

INTRODUCTION

Adolescence is a complex period with physical, cognitive, social and psychological transformations resulting from adjustments to historical and social constructions. Within the physical changes, puberty is a major biological phenomenon. It starts with hormonal changes starting a new life cycle and experiences, translated in affection and sexual behaviors[1,2].

Considering the changes which adolescents experience as the menarche, spermarche, sexarche, physical changes, development of secondary sexual characters and, psychological changes, many are not prepared to deal with these changes, putting the adolescent under psychological risk and stress. A recent study points the family, society, and culture as developing predicting functions in sexual behavior during adolescence. In this context, sexual practices are worrying, once adolescents are exposed to the transmission risk of Sexually Transmissible Infections (STI) and, early pregnancy[2].

According to the Brazilian Student's Health Survey (*Pesquisa Nacional de Saúde do Escolar – PeNSE, 2016*) adolescent's sexual initiation occurs at 13 to 15 years of age, especially among males. From those, approximately 60% used condoms at sexarche and this percentage sustains for the use of preservatives in their last sexual event. About the use of contraceptive methods, the same study points that 70% of 16 to 17 years old adolescents used some type of contraceptive method[3].

According to recent data from the Epidemiological Bulletin about HIV/Aids, there was a significant increase in the HIV detection rate among adolescents older than 15 years in Brazil. During a 10-year period, between 2006 to 2015, the detection rate tripled; and in 2015, there were 6.9 cases of individuals who were 15 to 19 years within one hundred thousand inhabitants. The male sex is evident in this pessimistic scenario. It represents an increase of 70% or more of cases among men when compared to women in the age group of 13 to 19 years[4].

Thus, knowledge and unsafe sexual behaviors of adolescents who are pushed by social circumstances have contributed for the fragility of a whole generation of adolescents and youth. Therefore, the sexual health knowledge approach became an important public health theme in debates of needs for intersectoral strategies to cope with this issue[5].

Still, considering the theme relevance, few population-based studies assessed the relationship of the knowledge in sexual and reproductive health, including the STIs and factors related to sexual behavior by gender in adolescent groups.

For that matter, educational interventions can be the focus of investments at the level that researchers, health professionals, and especially parents, comprehend sexuality expressions during adolescence; and approach them in their living contexts. Thus, such perceptions will contribute to the planning of actions and policies' implementation that will propitiate a healthy physical and social adolescent development[2].

Therefore, our study aimed to investigate and compare the sexual and reproductive health knowledge and, information sources of public school adolescents.

METHODS

An analytical cross-sectional study conducted during August of 2012 until September of 2013 with young students from Goiânia. The city is in the central region of Brazil, and it is the capital of Goiás state. Adolescent students composed the eligible population for the study; they were 12 to 18 years of age, and

they attended the seven Public Institutions of Basic Education (*Instituições Públicas de Ensino Básico – IPEB).* These institutions were in the coverage area of the Family Health Center, which surrounds the East Region Sanitary District of the capital. We highlight that these schools had students of the appropriate age group for our study.

From all enrolled students, 2,875 were eligible, and 2,449 participated in the study. We excluded those who although wished to join; they did not return the Free and Informed Consent Term (FICT) signed by their legal responsible. Thus we reached 85% of the targeted population. Therefore, our study was able to represent the municipal chosen region. Figure 1 presents the institutions' selection process, the subjects' recruiting and selection.

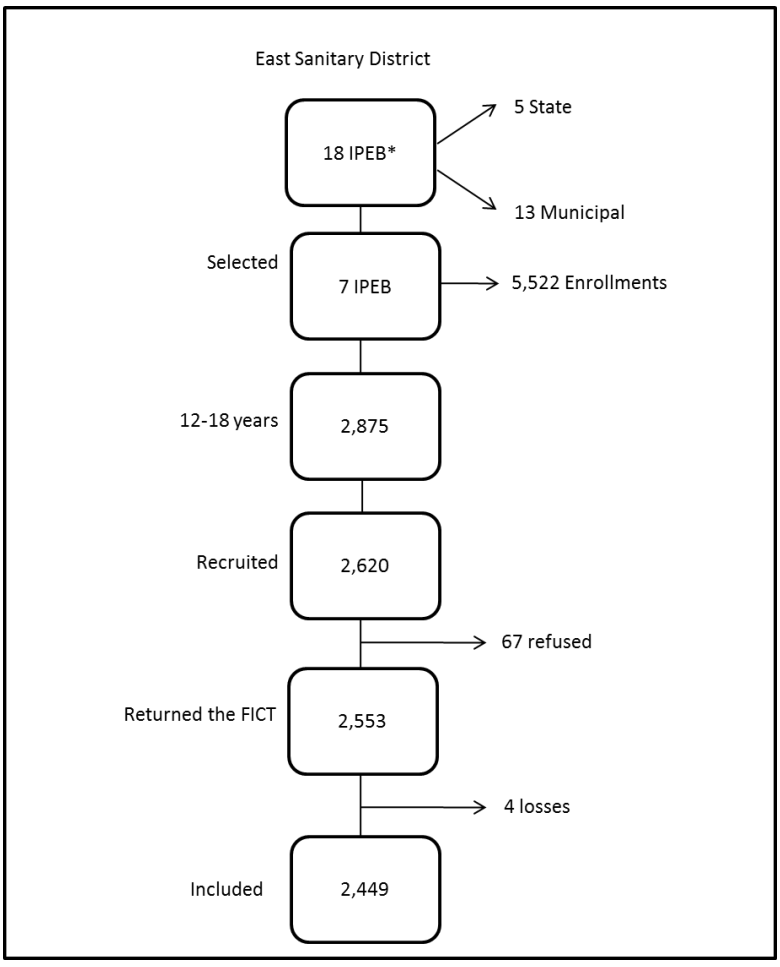

Figure 1: Selection and recruiting of students. Goiânia, GO, Brazil, 2012.

We collected data using an anonymous instrument, self-reported, with multiple choices, with questions about knowledge and information sources, previously validated by three expert researchers in the theme. To minimize biases in answers, we trained research assistants for data collection. To guarantee comfort and privacy, participants responded to the questionnaire in individual desks setup in large rooms.

Seven socio-demographic questions (age, sex, self-reported color, educational institution, working activities, who they lived with, and family income), plus questions about general information on knowledge

and perceptions about STIs (known STIs, known contraceptive methods, STI's prevention and situations when the adolescent assumed unsafe sexual encounter), composed the questionnaire. Other questions investigated ways to acquire contraceptive methods and, how to access information about STI prevention and contraception.

For data analysis, we used the software Statistical Package for Social Sciences (SPSS), version 13. We analyzed the difference in proportions using χ^2 tests, accepting the significance level (p<0.05).

The study met the requirements of the Resolution 196/96, current legislation at the time of the research. It was approved under the Protocol of the Committee for Human Medical and Animal Research of the Clinical Hospital of Universidade Federal de Goiás UFG – CEP 058/2009.

RESULTS

From the total of investigated adolescents (n=2,449), 52.7% were female and 47.3% males. The mean age was 14.7 years (SD: 1.74) (data not presented in the table). The dominant self-reported color was brown (59.4%). About their family structure, 55% reported living with their parents, followed by 33% who lived only with their mothers and, 9.6% who lived in families composed of other family arrangements, as grandparents and uncles/aunts. Half of the adolescents referred to a household income lower than a minimum wage.

Table 1 shows the knowledge and risk behaviors of the investigated adolescents about sexually transmissible infections, according to sex. We found a statistical difference between sexes about STIs, and females were evidently more knowledgeable.

Table 1: Sexual and reproductive health knowledge of adolescent students, according to gender. Goiânia, Central Brazil, 2012

Variables	Female		Male		Total	%	*p*
	(n=1,291)	%	(n=1,158)	%	(n=2,449)		
Known STIs							
Hepatitis B	824	63.8	612	52.8	1436	58.6	0.001
AIDS**	1217	94.3	1045	90.2	2262	92.4	0.001
Syphilis	612	47.4	434	37.5	1046	42.7	0.000
Herpes	607	47	435	37.6	1042	42.6	0.000
HPV***	445	34.5	297	25.6	742	30.3	0.000
Chancroid	213	16.5	192	16.6	405	16.5	0.800
Donovanosis	73	50.7	73	60.3	146	60	0.400
None	28	20.2	42	30.6	70	30	0.030
NI: 59							
How to prevent STI**							
To use preservativein all sexual encounters	1146	88.8	1022	88.3	2168	88.5	0.900
To avoid same gender partners	103	80	143	12.4	246	10	0.001
To have only one partner	495	38.4	235	20.3	730	29.8	0.001
NI: 67							
Situation in which would assume sexual relationship without condom							
Fixed partner	300	23.2	363	31.4	663	27.1	0.000
Known partner	27	2.1	105	9.1	132	5.4	0.000
Without condom at the time	40	3.1	154	13.3	194	7.9	0.000
Never	833	64.5	469	40.5	1302	53.2	0.000
NI: 235							
Known contraceptive methods							
Hormonal contraceptive	1100	85.2	718	62.0	1818	74.2	0.000
Male contraceptive	1093	84.7	955	82.5	2048	83.6	0.090
Natural methods	468	36.2	250	21.6	718	29.3	0.000
NI: 254							

NI: No information; *STI: Sexually Transmissible Infection; **AIDS: Acquired Immunodeficiency Syndrome; ***HPV: Human Papilloma Virus.

Regarding the prevention forms, the use of a preservative in all sexual encounters did not show a significant difference between sexes. About avoiding partners from the same sex and, having only one partner, there was significance with the higher proportion of males and females, respectively.

All investigated variables when facing a potential sexual relationship situation without protection demonstrated significance between sexes, and it was most prevalent among girls. Half of the students answered not to assume a sexual encounter without the preservative, being 64.5% for females and 40.5% for males.

The analyses that were significant demonstrated that girls were more knowledgeable about hormonal and natural contraceptive methods. The male preservative did not present statistical significance, once both sexes already knew about it (p=0.09). We presented the findings in Table 1.

Still, there was a difference observed in the ways to acquire contraceptive methods, being the pharmacy, Basic Health Unit and sexual partner, the most cited ones for both sexes.The results also showed that adolescents searched for information in health and teaching institutions, with the boyfriend/girlfriend, friends or parents. However, searching for information was more evident among girls for all variables (p<0.001). Table 2 presents our findings of the ways to acquire contraceptives and information sources about sexual and reproductive health.

Table 2: Ways to acquire preservatives and information sources about sexuality among adolescent students, according to sex. Goiânia, Brazil Central, 2012

Variables	Female		Male		Total	%	*p*
	(n=1,291)	%	(n=1,158)	%	(n=2,449)		
Ways to acquire contraceptive methods							
Pharmacy	1014	78.6	836	72.2	1850	75.6	0.000
Basic Health Unit	772	59.8	567	49.0	1339	54.7	0.000
Sexual Partnership	138	10.7	57	4.9	195	80.0	0.000
Friends	88	6.8	85	7.3	173	70.1	0.400
Parents	150	11.6	106	9.2	256	10.5	0.080
NI: 304							
Information sources and sexuality communication							
Health and teaching institutions	1030	79.8	723	62.4	1753	71.6	0.000
Media/TV/Magazine/Internet	877	67.9	754	65.1	1631	66.6	0.700
Friends	745	57.7	590	51.0	1335	54.5	0.001
Parents	567	43.9	357	30.8	924	37.7	0.000
Boyfriend/girlfriend	313	24.2	211	18.2	524	21.4	0.001
SI: 119							

NI: No information

DISCUSSION

Sexual and reproductive health themes should be approached routinely by health and education professionals with adolescents. Regardless of being considered a common and simple theme, youth's knowledge about it is stull incipient, as demonstrated by the studied group, which can contribute to poor, unsafe behaviors and risky sexual practices.

It is known that knowledge is an important STI prevention instrument[6]. Although a significant number of students from our study reported some level of STI knowledge, only AIDS and Hepatitis B were reported by more than half of them; and females demonstrated higher STI knowledge, and the difference between sexes was statistically significant referring to Hepatitis B, AIDS, Siphilis, Herpes, and HPV. However, it concerns us the percentage of answers reflecting the lack of knowledge for both sexes about other infections that also have important sexual and reproductive complications in young populations, as Siphilis, Herpes and, HPV. Such finding rectifies that adolescent's knowledge deficit can lead them to adopt unsafe sexual behaviors resulting in many vulnerabilities with future adverse consequences as early sexual initiation, STI acquisition, pregnancy and social issues, as evasion and school abandonment[7,8].

Male responders were possibly wrong about the question on STI prevention when they signed "to avoid same-sex partners" as a prevention method, independently of the preservative adherence, data that resulted on statistical significance. Thus, there was a possible answer bias, showing us an interpretation of the sexist culture, still very present in people's imaginary, especially in this population. Still, girls considered to "have a unique partner" as an STI prevention method, a phenomenon similar to other studies[7,9–11].

It is noteworthy that we observed a significant parcel of adolescents that recognized preservative use in all sexual encounters as the primary form to prevent unwanted pregnancy and STI; and still, there was the most known method for both sexes, which apparently demonstrates the acceptance of this practice by this

population. However, these data does not alleviate concerns when pointing unsafe sexual practices when in sexual encounters with fixed partners, known people and at last, if not using preservative during the sexual relationship.

We still observed in the study that girls were more knowledgeable about contraceptive methods, and the difference was statistically significant. This finding was present in other studies[5,12]. However, although female adolescents presented better knowledge about STIs and prevention/contraception methods, they are in a very vulnerable situation due to their unsafe sexual behavior, confining their trust in their sexual partnerships[13].

Thus, we inferred that independently of adolescent's knowledge about STI and prevention/contraception methods, the knowledge alone is not decisive for safe sex. Our results highlight the relevance to reformulate action and policies molded to the actual adolescent profile, that is different from the ones who were from the first STI/Aids public prevention initiatives, which pointed fixed partnerships as prevention measures. Such efforts should address homophobia and fix sexual partner questions, contributing with healthier social and affective relationships[10].

The differences found between sexes, showing females as being more knowledgeable can be explained by the Occidental and Brazilian culture that gives the responsibility for the family's health and wellbeing to the female figure. They also make women respond for the consequences of the sexuality experience, like the risks of sexually transmitted infections and possible pregnancy[10,12,13]; which are findings similar to the ones from other countries[7,14,15].

About the ways to acquire contraceptives and information sources, equally to the differences between sexes, females were evident. Within the ways pointed to obtain contraceptive methods, pharmacy, Health Unit and partners were identified. We emphasize that the acquisition of preventive practices, especially barriers in commercial establishments, as in pharmacies where there is no guarantee to obtain a safe product due to the large number of attractive products as the variety of colors, flavors and sometimes expired products. Also, there is no guarantee that when buying a product, adolescents will receive information about its use, therefore potentializing a fragile utilization and adherence to methods, with consequent abandonment. Therefore, this population can have better access to these products in health units where they are delivered by health professionals and with safer potential for information. With the implantation and implementation of governmental projects, the Health Project and Prevention at Schools (*"Projeto Saúde e Prevenção nas Escolas" – SPE*) is considered an important strategy to guarantee information and products' offer in teaching institutions; especially the male preservative, with the anatomical adaptation already available for sexually active population, particularly adolescents. Therefore, this discussion should be better addressed by health and education professionals, managers and, parents[16].

Information vehicles influenced all analyzed variables, as well as, information quality that adolescents access or have contact. Again, the female sex was noted in the statistical difference about the search for sexual and reproductive health information[9]. The girls in this study accessed more information sources,

especially in health and teaching institutions, media and, friends. These data are different from other studies that showed family and friends[17], and family and teacher[18] as primary information sources.

According to PeNSE data (2015), 70% of adolescents who are between 13 and 15 years and, 76% between 16 and 17 years, received orientations about prevention for unwanted pregnancy. However, about STIs, the percentage of information access increases to approximately 80% of adolescents who are 13 to 15 years old and, 84% of students from the age group 16 to 17 years. In the referred study, the information about preservative acquisition did not obtain similar success, and approximately 60% (13-15 years) and 75% (16-17)[4].

We highlight that data about information sources are still indispensable educational strategies, as they promote socialization between adolescents like group discussions, talk groups, shared experiences, strengthening of a support network within the family, health, school, and community in a way to share knowledge, doubts and taboos, that are still so common among this population[17,19,20]. We should give special attention to the younger group[5] strengthening their protagonism in the promotion of educational actions in sexual and reproductive health[21].

Thus, it becomes imperative to elaborate and promote routine discussion strategies about the questions related to vulnerabilities, gender, and sexuality in the school environment. For this matter, public health investments of all government spheres, in addition to health and education professionals, should be directed to impact adolescents' routines; so that STI information will be effectively transformed in knowledge and safe practices, with a conscience for more assertive decision making[22].

In our study, the differences observed among sexes ratified females as the ones with better knowledge levels and risk perception, a result that is consonant with the national research of knowledge, attitudes and, practices of the Brazilian population[23]. Therefore, data from this investigation concerns at the measure that these adolescents are from institutions of primary teaching networks which have Family Health Centers close to the educational institution, and the Health at School Program already implemented. Therefore, a careful look should be directed to educators, considering that besides the relevant and difficult theme of the question for the integral and healthy adolescent development, many teachers still hold difficulties to address the issue[24].

Thus, when addressing knowledge and behavioral perceptions about sexual and reproductive health of adolescents, it was possible to observe potential determinants of individual vulnerability to STIs[25]; as the probable unprotected sex due to having a fixed partner, or with a known person and, low knowledge levels of contraceptive methods and STIs, especially by males[16]. From our results, it is necessary to articulate adolescence public health policies with men health attention policies to minimize ideas of female subalternity and, to empower male adolescents about the observed vulnerabilities.

Our study has few limitations. Regardless of all care taken when applying the questionnaire, there were possible biases from the cross-sectional study conception that can occur as, lack of care in answers as responsibility/seriousness when answering it, memory bias, hurry to finish answering, self-censorship and

fear that school authorities and/or parents could access the responses. On the other hand, the self-reported questionnaire allowed participants to answer with more autonomy.

CONCLUSIONS

Regardless of all technological resources, information globalization and, public health policies aimed at school adolescents, the wrong or insufficient knowledge about many aspects of sexual and reproductive health still is an emergent problem; especially among male adolescents. Such factors show the hegemonic male culture that limits the sexual and reproductive health responsibility to boys.

Results from this study allowed us to know that female adolescent presented better knowledge about contraceptive methods and STI in comparison to males.This data can signal that male adolescents have higher individual vulnerability profile as compared to females; showing the need to consolidate educational and health policies,as well as, of the adolescent and the man, as focus in gender representations, aiming at constructs to subsidize these adolescents to assume safer attitudes and sexual practices free of preconceived ideas in relation to the uneven gender.

To think of intervention strategies or qualitative investigations to be worked on the future with the same population is to salute, as answers obtained in quantitative studies may not answer the emergent subjectivity of the study theme. This study presented advantages as, it was possible to give adolescents the opportunity to participate in theme discussions of their interest, breaking barriers as timidity and taboos, which are proper from this phase of life. It was also a study with populational representation; it reached out to different age groups of both genders and, it assessed risk behaviors with similar questions to both sexes. Such characteristics were little explored in other studies, and they could be analyzed.

We highlight the need to implement and accompany preventive health actions in schools with the involvement of adolescent's parents; to train professors and health professionals, especially nurses; and to act in Superior Teaching Institutions in the school context, with extension projects and studies in the field of sexual and reproductive health, in order to minimize diverse vulnerabilities to which adolescents are exposed.

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