Comparative study on sexual and reproductive health of adolescents with and without AIDS: is there a difference in knowledge between the two groups?

Estudo comparativo sobre a saúde sexual e reprodutiva dos adolescentes com e sem AIDS: há diferença de conhecimento entre os dois grupos?

Júlia Valéria Ferreira Cordellini[1], Cristina de Oliveira Rodrigues[2], Lidia Natalia Dobrianskyj Weber[3], Tony Tannous Tahan[4], Beatriz Elizabeth Bagatin Veleda Bermudez[5], Clea Elisa Lopes Ribeiro[6], Andrea Maciel de Oliveira Rossoni[7]

ABSTRACT

Introduction: Currently we are facing the challenge to deal with the first generation of adolescents HIV+, infected by vertical transmission. This is new, and creates the need to improve attention to self-care and knowledge on sexual and reproductive health. Issues like the exercise of sexuality, contraception, pregnancy, sexually transmitted diseases (STD), are not enough debated among professionals, families and adolescents, despite their importance, concerning the affective and sexual discoveries typical of that age. **Objective:** To assess and compare the knowledge among adolescents HIV+ and HIV-, the guidance received on sexual and reproductive health and their sexual behavior, in order to better assist an integral health attention. **Methods:** A prospective, quali-quantitative, observational, analytical and cross-sectional study that took place during one year at the public hospital of an university in Curitiba, interviewing 61 adolescents HIV+ and 61 adolescents HIV- after their outpatient attendance. A questionnaire with objective multi-choice questions, as well as open-ended questions thought to stimulate free narratives was the base of data acquisition. Statistical analysis have considered the adolescents HIV+ and HIV- matched by age, gender and education. To evaluate differences on continuous variables, Student's *t*-test for normal distribution and Mann-Whitney test for asymmetric distribution were the tools. For categorical variables: Fisher exact tests and chi-square of Pearson. The analysis of answers for the open-ended questions was based on categorization of semantic equivalence. Significance level of 5% for all tests. Main variables of study in the amount enough to allow comparisons have driven the sample estimation, with less than 5% of significance level and minimum test power of 95%. **Results:** The study showed that adolescents don't have good enough knowledge about reproductive health in both groups (p=0.01). They have initiated sexual activity at about 15 years old, they report using condoms, but not the habit of picking them up. The group of HIV + have expressed more opinions about the sexual and reproductive rights, they have received less guidance on emergency contraception (p<0.001); they "hook-up" and dated less than HIV- group. **Conclusion:** The lack of knowledge of adolescents on reproductive health is greater than about sexual health and both groups reported the habit of not getting condoms. The HIV+ group had more opinions about sexual and reproductive rights, received less guidance on emergency contraception, "hooked-up" and dated less than the HIV- group. The knowledge about sexual rights and sexuality, and the guidance provided to both groups of teenagers, didn't seem to be adequate to make protective sexual attitudes preventing STD.

Keywords: acquired immune deficiency syndrome; adolescent; sexual health; reproductive health; sexual and reproductive rights.

RESUMO

Introdução: A sociedade está enfrentando o desafio de lidar com a primeira geração de adolescentes HIV+, infectados por transmissão vertical. Isso cria a necessidade de melhorar a atenção ao autocuidado e o conhecimento sobre saúde sexual e reprodutiva. Questões como sexualidade, contracepção, gravidez e doenças sexualmente transmissíveis (DST) são pouco debatidas entre profissionais, famílias e adolescentes, apesar de sua importância diante das descobertas afetivas e sexuais típicas dessa idade. **Objetivo:** Avaliar e comparar o conhecimento de adolescentes HIV+ e HIV- e as orientações recebidas sobre saúde sexual e reprodutiva, seus comportamentos sexuais, visando auxiliar na Atenção Integral à Saúde. **Métodos:** Estudo prospectivo, quali-quantitativo, observacional, analítico e transversal, realizado por um ano em hospital público de uma universidade de Curitiba, entrevistando 61 adolescentes HIV+ e 61 adolescentes HIV-, após seu atendimento ambulatorial. Foi elaborado questionário com perguntas objetivas de múltipla escolha e perguntas abertas, para estimular a livre narrativa sobre as temáticas. Foram pareados por idade, gênero e escolaridade. Para avaliar as diferenças em variáveis contínuas, foram utilizados os testes *t* de Student, para distribuição normal, e de Mann-Whitney, para distribuição assimétrica; para variáveis categóricas, os testes exato de Fisher e do χ^2 de Pearson. A análise das respostas para as perguntas abertas baseou-se na categorização de equivalência semântica. Para os testes, foi considerado um nível mínimo de significância de 5%. A amostra foi estimada considerando as principais variáveis do estudo, sendo suficiente para as comparações um nível de significância inferior a 5%, com poder de teste mínimo 95%. **Resultados:** O estudo mostrou que ambos os grupos de adolescentes não têm conhecimento suficiente sobre saúde reprodutiva (p=0,01), iniciaram atividade sexual com cerca de 15 anos, relataram uso de preservativos, mas não o hábito de buscá-los. O grupo HIV+ expressou mais opiniões sobre os direitos sexuais e reprodutivos, recebeu menos orientações sobre contracepção de emergência (p<0,001), "ficou" e namorou menos que o grupo HIV-. **Conclusão:** O desconhecimento dos adolescentes sobre a saúde reprodutiva é maior do que sobre a saúde sexual e ambos os grupos disseram não ter o hábito de adquirir preservativos. O grupo HIV+ expressou mais opiniões sobre os direitos sexuais e reprodutivos, recebeu menos orientações sobre contracepção de emergência, "ficou" e namorou menos que o grupo HIV-. O conhecimento sobre direitos sexuais e sexualidade e as orientações fornecidas, para ambos os grupos de adolescentes, não pareceram ser suficientes para atitudes sexuais protetivas diante das DST.

Palavras-chave: síndrome da imunodeficiência adquirida; adolescente; saúde sexual; saúde reprodutiva; direitos sexuais e reprodutivos.

INTRODUCTION

The acquired immune deficiency syndrome (AIDS) has affected young individuals since the beginning of the epidemic. In Brazil, about 3,500 new cases among adolescents and young people aged 12–24 years are notified every year[1]. Mainly because of the availability of antiretroviral therapy, a large proportion of children with the human immunodeficiency virus (HIV) acquired during perinatal period survived and reached adolescence[2-5], representing a challenge for self-care and exercise of sexuality. It is necessary to clarify all the changes in personal and relational life caused by the disease in addition to explaining the diagnosis. A person affected should reach adolescence aware of the disease, of their responsibilities, and of their rights[6].

One of the risks and vulnerabilities of this phase is related to sexual and reproductive health because an open channel for teenagers to communicate and acquire knowledge about these issues is not always available. It is known that one of the main AIDS risk behavior is sexual intercourse without condoms[7,8]; therefore, the approaches that aim at reducing the vulnerable conditions, the adoption of safer sex practices such as the use of condom in all sexual intercourses, the promotion of human rights, and the reduction of stigma remain as central strategies of the Brazilian policy to prevent sexually transmitted diseases (STDs) and HIV[9]. The context of teenagers growing up affected by a chronic sexually transmitted infection with the implications and the stigma associated with HIV is still not much known in the professional practice and literature. There are also few references to the knowledge of adolescents infected with HIV by means of vertical transmission on sexual and reproductive rights and sexual behaviors. These information could support policies and services directed to this population[10].

OBJECTIVE

To evaluate and compare the knowledge and guidance regarding sexual and reproductive health and the rights of the HIV-positive and HIV-negative adolescents as well as the patterns of sexual behavior to contribute to the integral health attention of this population.

METHODS

This is an observational, analytical, and cross-sectional study, with prospective data collected by means of a quantitative- and qualitative-type questionnaire, conducted in the Infectious Diseases and Adolescents Services of the Clinical Hospital of the Universidade Federal do Parana (UFPR), from June 2010 to August 2011. The research project was approved by the Ethics Committee on Human Research of the institution, under No. 2163.058/2010-03.

The population of this study consisted of 61 patients infected with HIV (HIV-positive group) and 61 uninfected (HIV-negative group), in a total of 122 adolescents. Patients of the HIV-positive group were selected among the 110 patients infected with HIV, aged 12–19 years, who were monitored in the hospital at the time of the survey, and who were eligible for the study. The sampling technique used was the convenience sampling, according to the inclusion criteria. The individuals were selected in order of attendance at medical appointments at the hospital. Adolescents responded to the questionnaire without the interference of parents or guardians.

Inclusion criteria for HIV-positive group were adolescents of both genders infected with HIV by means of vertical transmission, aged 12–19 years, who knew their HIV status, without neurological, visual, or intellectual impairment, and who agreed to participate in the study by signing the informed consent form (ICF). In HIV-negative group, the inclusion criteria were the same, except that these adolescents should have been referred to the clinic for clinical conditions different from infection or suspected HIV infection. In case of the adolescents younger than 18 years, parents or caregivers signed the ICF. Questionnaires with incomplete information, inconclusive, or divergent of the criteria for pairing were excluded in both the groups. The pairing criteria of HIV-positive and HIV-negative groups were gender, age, and education, with a margin of 1 year more or less.

Two data collection tools with open-ended and objective questions with multiple choices were prepared. Open-ended questions aimed at encouraging the free narrative around the themes of the study. We considered as the base the Survey of Knowledge, Attitudes and Practices in the Brazilian Population conducted by the Brazilian Ministry of Health in 2004[11].

Questionnaires had four blocks of questions regarding the sociodemographic profile, knowledge about rights and sexual and reproductive health, sexual and social practices, and guidance received by the adolescents. Later, keywords from the open-ended answers were selected taking into consideration their behavior, attitude, and concepts. They were also grouped and analyzed based on the semantic content categorization. The definition of an event in a given category followed the guidelines of Danna and Matos, and should be:

a) objective, clear, and precise;
b) expressed in direct and affirmative modes;
c) include only elements that are relevant; and
d) explicit and complete[12].

The tables found in the "Results" section, related to the open-ended responses contain a qualitative (response categories) and

Work conducted at the Clinical Hospital of the Universidade Federal do Paraná (UFPR) – Curitiba (PR), Brazil.
[1]Head of the Surveillance Division of Communicable Diseases, State Department of Health of Paraná – Curitiba (PR), Brazil.
[2]Professor of the Department of Pediatrics, UFPR; Professor of the post-graduation program on Child and Adolescent Health at the Health Sciences Sector, UFPR; Clinical Hospital, UFPR – Curitiba (PR), Brazil.
[3]Department of Psychology, UFPR – Curitiba (PR), Brazil.
[4]Coordinator of Pediatric Infectious Diseases Services of the Clinical Hospital, UFPR – Curitiba (PR), Brazil.
[5]Doctor Responsible for the Adolescents Clinic, Clinical Hospital, UFPR – Curitiba (PR), Brazil.
[6]Doctor Assistant at the Infectious Diseases Services, Clinical Hospital, UFPR – Curitiba (PR), Brazil.
[7]Doctor at Pediatric Infectious Diseases Services, Clinical Hospital, UFPR – Curitiba (PR), Brazil.

quantitative synthesis, illustrated with sentences written by teenagers, even with Portuguese errors.

Statistical analysis was performed using the statistic software (Stasoft®). The estimation of the difference in continuous variables with normal distribution was performed by the Student's *t*-test; for asymmetric distribution variables, we used the nonparametric Mann–Whitney U test. The estimated difference between categorical variables was performed by Fisher's exact test and Pearson χ^2 test. The sample was estimated based on the main variables of the study, and a significance level lower than 5% was sufficient for the comparisons, with a test power of 95%.

RESULTS

The sociodemographic profiles of both HIV-positive and HIV-negative adolescents studied were similar, except for religion, city where they lived, and who they lived with ($p<0.05$) (**Table 1**). In HIV-positive group, there was a high frequency of individuals who lived in two nongovernmental organizations (31.1%), which served as shelter homes where they could stay up to the age of 18 years. More than half of the institutionalized individuals reported no religion ($p<0.001$). All HIV-positive adolescents met the definition criteria for AIDS according to the Ministry of Health[13].

In the analysis of the responses to the open-ended questions "What is your understanding of sexual health?" and "What is your understanding of reproductive health?" the responses were categorized according to the central idea (focus) on the behavior. Regarding sexual health, responses were grouped into four categories; and regarding reproductive health, they were grouped into three (**Table 2**).

With regard to the responses to the first question, the groups differed in those categorized as "Sex/pleasure" with higher frequency in HIV-positive group, and "Condoms/STD" with higher frequency in HIV-negative group ($p=0.01$). Examples of responses categorized as "Condoms/STD": "Always in sexual encounters you must always use condoms because you can get a disease like AIDS" (12-year-old HIV-negative female) and as "Sex/pleasure": "To know if you want a life with sex, have sex to have children or do not intend to have children, just sex" (12-year-old HIV-positive female). In the analysis of the responses related to reproductive health, it was observed that the frequencies were similar between HIV-positive and HIV-negative adolescents ($p>0.05$). Examples of responses categorized as "Reproduction/Sexual intercourse": "Sexual activity of a couple who reproduces through sex" (15-year-old HIV-positive female) and as "Prevention/Awareness": "If you take care using condoms and contraceptives to avoid become pregnant, or take care not to transmit to the child" (16-year-old HIV-positive female).

Responses "Blank/do not know" from both groups to both questions showed that the frequency of ignorance about the reproductive health was higher than the frequency of ignorance about the sexual health ($p=0.01$) (**Table 2**).

As the sexual and reproductive rights serve as references for the exercise of sexuality, individuals were asked whether they read about those issues, what their sources of information were,

Table 1 – Sociodemographic profile of the HIV-positive and HIV-negative adolescents.

Categories	HIV-positive group (n=61)		HIV-negative group (n=61)		p-value
	n	%	n	%	
Age (in years)	14.6±2.1	–	14.8±1.9	–	0.92*
Gender					
Male	31	50.8	31	50.8	0.85#
Female	30	49.2	30	49.2	
Sexual orientation					
Heterosexual	31	50.8	35	57.4	0.62#&
Homosexual	1	1.6	00	0.0	
Bisexual	00	0.0	00	0.0	
Did not disclose	2	3.3	3	4.9	
Did not understand	27	44.3	23	37.7	
Color of skin					
White	29	47.5	42	68.9	0.08#&
Black	3	4.9	1	1.6	
Yellow	2	3.3	00	0.0	
Brown	25	41.0	17	27.9	
Indigenous	2	3.3	1	1.6	
Marital status					
Single	59	96.7	61	100.0	0.47#
Married	02	3.3	00	0.0	
Religion					
Evangelical	21	34.4	20	33.0	0.01#&
Catholic	19	31.1	32	52.0	
Spiritist	2	3.3	1	2.0	
Buddhist	00	0.0	00	0.0	
No religion	17	27.9	6	9.8	
Other	2	3.3	1	1.6	
Did not answer	00	0.0	1	1.6	
Birth place					
Curitiba	39	63.9	40	65.6	1.00#&
Metropolitan region	9	14.8	5	8.2	
Country region	8	13.1	9	14.7	
Other states	3	4.9	5	8.2	
Did not answer	2	3.3	2	3.3	
Living place					
Curitiba	41	67.2	58	95.1	<0.001#&
Metropolitan region	15	24.6	2	3.3	
Country region	5	8.2	1	1.6	
Living with					
Parents	27	44.3	55	90.2	<0.001$
Institutions	19	31.1	1	1.6	
Others	15	24.6	5	8.2	
Schooling					
Incomplete elementary school	41	67.2	33	54.1	0.37$
Complete elementary school	6	9.8	7	11.5	
Incomplete high school	9	14.8	16	26.2	
Complete high school	5	8.2	5	8.2	
Occupation					
Student	58	95.1	59	96.7	1.00#
Other	3	4.9	2	3.3	
Total	61	100.0	61	100.0	

*Student's *t*-test; #Fisher's exact test; &among the two categories with higher frequencies; $Pearson χ^2 test.

whether they had received guidance, and what their opinion on the subject was.

When asked whether they had read about sexual and reproductive rights, 34.4% of HIV-positive and 42.6% of HIV-negative adolescents responded yes (p=0.45). In HIV-positive group, the source of information most widely used was the Internet (p=0.08), and in HIV-negative group, the source was the materials from the Ministry of Health (p=0.05).

In relation to the guidance received about these rights, 63.9% of HIV-positive and 59.0% of HIV-negative group said yes (p=0.70). Most of the individuals did not express their opinions about those rights when asked, and this frequency was higher in the HIV-negative group (73.8 versus 54.1%; p=0.07). The following questions were asked to both groups: "Should adolescents infected with HIV relate to their 'date'/boyfriend or girlfriend in the same manner that the adolescents who are not infected with HIV?" and "Why?"

In HIV-positive group, most of the adolescents responded yes (61.0%) and justified their responses similarly. In the group HIV-negative, the majority of the adolescent did not express an opinion (43.0%) or responded no (39.0%), justifying their opinion with prejudiced and discriminatory statements (**Table 3**). Examples of "yes" categorized responses as "Juvenile omnipotence/Magical thinking": "Because we forget that we have AIDS" (13-year-old HIV-positive female) and as "Care/Magical thinking": "Because if you love you cannot infect the other, be more careful" (12-year-old HIV-positive female). In these two categories of responses, "Magical thinking" in the HIV-positive group was a frequent finding, on the other hand, it was not possible to classify any of the responses of the HIV-negative group.

Responses equivalent to "no", categorized as "Care/Prejudice": "Because the others care and have responsibility and those infected with HIV do not" (16-year-old HIV-negative female) and categorized as "Transmission/Prejudice": "Because the infected teenagers do not use prevention" (18-year-old HIV-negative female). It was not possible to classify any responses of the HIV-positive group in these two categories.

In adolescence, sexual games such as "hook up," "play the field," "casual relationship," and "steady relationship" are part of the discovery and experience of sexuality and have different names and meanings according to the period in time and culture. In relation to "hook up"/"steady relationship," we observed a higher frequency in the HIV-negative group as compared with HIV-positive group ("hook up": 74.6 versus 60.7%; p=0.15) ("steady relationship": 50.8 versus 35.0%; p=0.11). The frequency of adolescents who reported having had sex was similar in both groups (p=1.00) (**Graph 1**).

Table 2 – Distribution of the responses of HIV-positive and HIV-negative adolescents to the questions: "What is your understanding of sexual health?" and "What is your understanding of reproductive health?"

Question: "What is your understanding of sexual health?"

Response categories*	HIV-positive group (n=61)		HIV-negative group (n=61)	
	n	%	n	%
Blank/do not know	30	49.2	22	36.1
Condoms/STDs	7	11.5	21	34.4
Sex/pleasure	11	18.0	5	08.2
Care/knowledge	13	21.3	13	21.3
Total	61	100.0	61	100.0

Question: "What is your understanding of reproductive health?"

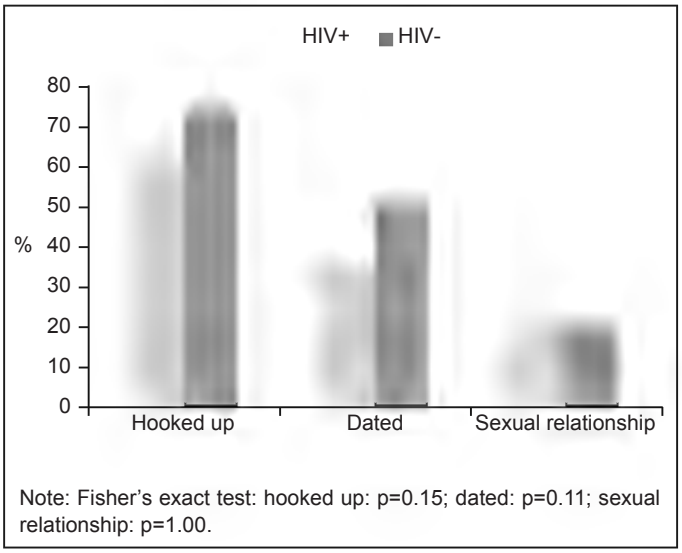
Response categories#	HIV-positive group (n=61)		HIV-negative group (n=61)	
	n	%	n	%
Blank/do not know	43	71.0	36	59.0
Reproduction/sexual intercourse	10	16.0	17	28.0
Prevention/awareness	8	13.0	8	13.0
Total	61	100.0	61	100.0

*Pearson χ^2 test: p=0.01.
#Pearson χ^2 test: p=0.48.

Table 3 – Distribution of the responses of HIV-positive and HIV-negative adolescents to the question: "Should adolescents infected with HIV relate to their 'date'/boyfriend or girlfriend in the same manner that adolescents who are not infected with HIV?" and "Why?"

Response categories	HIV-positive group (n=61)		HIV-negative group (n=61)	
	n	%	n	%
"Yes" responses(1)	37	61.0	11	18.0
Do not know	5	14.0	5	45.0
Juvenile omnipotence/Magical thinking	11	30.0	00	00.0
Care/Magical thinking	12	32.0	00	00.0
Transmission/Sex	9	24.0	6	55.0
"No" responses(1)	8	13.0	24	39.0
Do not know	2	25.0	2	8.0
Caution/fear	6	75.0	2	8.0
Caution/prejudice	00	00.0	4	17.0
Transmission/prejudice	00	00.0	16	67.0
"Do not have opinion" responses (1)	16	26.0	26	43.0
Total	61	100.0	61	100.0

Source: Data from the research (2013).
(1)Pearson χ^2 test: p<0.01.



Note: Fisher's exact test: hooked up: p=0.15; dated: p=0.11; sexual relationship: p=1.00.

Graph 1 – Distribution of the frequencies of social and sexual practices reported by HIV-positive and HIV-negative adolescents.

With regard to the onset of sexual activity among those who responded and in both groups, six initiated before the age of 15 years and seven initiated after that age (p=0.95). In both the groups, the sex partner was the "date"/boyfriend or girlfriend and in almost all cases (except one in each group) the use of condoms was reported. The majority of the individuals (84.6% HIV-positive and 61.5% HIV-negative) reported using condoms in all sexual encounters (p=0.21). However, most teenagers said they do not usually pick condoms up (61.7% of the HIV-positive and 63.3% of the HIV-negative groups; p=1.00).

The reproductive health care includes the right to information, access to contraceptive methods and techniques, and services that contribute in preventing and solving reproductive health problems of men and women[14]. For this reason, adolescents were asked if they received guidance on contraception, emergency contraception, pregnancy, abortion, and STDs.

Table 4 shows that most of the adolescents were guided on contraceptive methods, and no difference was observed in relation to the knowledge of the various contraceptive methods. With regard to emergency contraception, it was observed that 21.7% of the HIV-positive group and 52.5% of the HIV-negative group received guidance, and this difference was statistically significant (p<0.001). HIV-positive girls received less guidance on emergency contraception in relation to HIV-negative girls (22.6 versus 54.8%; p=0.01). The same pattern was observed among boys (20.7 versus 50.0%; p=0.02). The groups received similar guidance on preventing pregnancy, abortion, and STDs.

Comparing boys and girls, it was observed that HIV-positive boys received more guidance on STD (89.3 versus 60.0%; p=0.01).

A higher frequency of guidance on STDs received from education professionals was observed for both the groups.

DISCUSSION

Advances in medicine have been decreasing morbidity and mortality rates related to AIDS, and the risk of vertical transmission can be reduced to less than 2%. Children with perinatal HIV infection are reaching adolescence and young adulthood, bringing new challenges to health services, society, and public policies. Attention needs to encompass the aspects of sexuality, reproductive health, and mental health, and also discussion on the educational and professional projects of these adolescents in coordination with governmental and nongovernmental organizations should be carried out.

By analyzing the sociodemographic profile of these groups, it was observed that the majority of the HIV-positive lived with "Others" or in "Institutions," as a consequence of the death or illness of their parents in most cases, evidencing that these adolescents were exposed to orphanhood[3-5].

Both groups showed more lack of knowledge about reproductive health. A multicenter study in Brazil showed that only few professionals discussed the fertility and family planning as options for HIV-positive people. Probably, this happened to avoid stimulating women to consider pregnancy. Those professionals also admitted of being uncomfortable in discussing sexuality issues while counseling on reproductive health, particularly for HIV-positive people[15]. The reports of adolescents in this study confirm the limited access to advice on sexual and reproductive health, a fact that has hindered the knowledge acquisition on these issues and, consequently, the conscious and responsible decisions, including those related to drug interactions between antiretrovirals and contraceptives.

In HIV-positive group, the number of adolescents who responded "Blank/do not know" for questions related to sexual and reproductive health was higher than in the HIV-negative group. The lack of knowledge on these issues of the HIV-positive adolescents brings vulnerabilities to the hetero- and homosexual relationships, being a risk factor for the vertical transmission of HIV and other STDs. Both seroconcordant and serodiscordant couples wishing to have children should undergo an interdisciplinary assessment and receive information on reproductive planning to reduce the risks of transmission and to prevent the worsening of the immunodeficiency[16]. The vulnerability of females to HIV infection among the population aged 15–64 years was identified in all risk practices related to HIV[17]. Given women's vulnerability, the health services need to

Table 4 – Guidance received by HIV-positive and HIV-negative adolescents.

Guidance received	HIV-positive group (n=61)				HIV-negative group (n=61)				p-value
	Yes		No		Yes		No		
	n	%	n	%	n	%	n	%	
Sexual and reproductive rights	39	63.9	22	36.1	36	59.0	25	41.0	0.70
Masturbation	17	27.9	44	72.1	26	42.6	35	57.4	0.12
Menstruation	38	64.4	21	35.6	37	62.7	22	37.3	1.00
First ejaculation	13	21.3	48	78.7	21	34.4	40	65.6	0.15
Contraceptive methods	36	60.0	24	40.0	43	71.7	17	28.3	0.24
Emergency contraception	13	21.7	47	78.3	31	52.5	28	47.5	<0.001
Pregnancy prevention	38	64.4	21	35.6	38	63.3	22	36.7	1.00
Risk of miscarriage	29	47.5	32	52.5	33	54.1	28	45.9	0.58
STD	45	76.3	14	23.7	40	65.6	21	34.4	0.23
Vaccines	30	49.2	31	50.8	36	60.0	24	40.0	0.50
Drug consumption	11	19.0	47	81.0	13	21.3	48	78.7	0.92
Daily life	42	72.4	16	27.6	52	85.2	9	14.8	0.13

Note: Fisher's exact test.
STD: sexually transmitted disease.

carefully analyze the profile of their patients and their social and educational contexts to assess the need of specific care for women. Thus, the debate about gender may equip them to build or rebuild the relationship with their companions, also contributing to the reduction of gender violence in the next generations.

The responses of infected adolescents about sexual health were more related to "Sex/pleasure," with no relation to the prevention actions even after being aware of their HIV serostatus, while HIV-negative adolescents showed greater association between the use of condoms and prevention of STD and pregnancy. These results point to a sexuality exercised with little protection and information, adding another risk factor for both groups of adolescents. However, specifics should be considered in the attention to sexual and reproductive health of people living with HIV and AIDS, to better understand their behavior. The fear of infecting partners or being rejected by their HIV serostatus, the stigma associated with AIDS, their negative effects on self-esteem, and the possible difficulties in using condoms are the various aspects to be considered in the care offered by the health services, both for the teenagers and their caregivers[15-19].

Less than half of the adolescents of both groups responded "yes" to the question whether they had read about sexual and reproductive rights. In HIV-positive group, the most used source of information was the Internet, and in the HIV-negative group, it was the materials from the Ministry of Health. If HIV-positive adolescents have regularly attended both health services and schools, why have the materials of the Ministry of Health hardly constituted as a source of information for them, especially for such a subject? Teenagers from the HIV-positive group read less, but received more guidance than the teenagers in the HIV-negative group. More than half of the adolescents of both groups paradoxically had no opinion or did not know about these issues, when asked about their opinion on these rights.

The results in HIV-positive group related to health and sexual, and reproductive rights showed that despite existing guidelines and materials, the content, approaches, and reflections directed to these groups need to be reviewed and the health professionals need to be trained. Patients infected with HIV have major challenges to overcome during their adolescence such as learning how to deal with their biopsychosocial transformations, with their chronic disease, and with stigmas and prejudices associated with it. In this scenario, the exercise of sexual and reproductive rights is an important tool in relationships and self-care. On the other hand, the responses of HIV-negative adolescents also revealed the need to improve information on these issues and to reduce the prejudice and stigma associated with the health and rights of HIV-positive adolescents.

The opinions of the adolescents related to the following question showed significant differences: "Should adolescents infected with HIV relate to their 'date'/boyfriend or girlfriend in the same manner that adolescents who are not infected with HIV?" and "Why?" Among those who responded that the relationships were similar, thoughts and behavior of the HIV-positive group indicated lack of knowledge of risk and protective factors, of sexual transmission of HIV, and of self-care and care for the partner. Another aspect may be the willingness or necessity of these adolescents to deny their illness and the reality imposed by the disease, so as to simply live and feel like teenagers. We also noticed that the feeling of invulnerability and the "magical thinking" (abstract thought) predominated in both genders, regardless of age and education.

The study by Benincasa et al.[20] showed the importance of psycho-emotional characteristics of the adolescents, a finding that was similar to this study. They identified the predominance of the "magical thinking," the belief that something bad could hardly happen and a feeling of immunity against the risks involved in unprotected sex. They noted that although the majority had knowledge about the means of transmission of STDs and prevention, the information was often incorrect or inconsistent. Many of the findings of that study were similar to those found in the HIV-positive group of this study. Also in HIV-negative group, some opinions pointed to the "strength" of the adolescence, as if it could be stronger than the disease. Studies have found that the lack of opportunity for young people to reflect on the risks to which they are daily exposed prevents them from reviewing their opinions, habits, and in finding possible protective solutions for such risks. Although they have heard about the potential damage caused by unprotected sex, they reported that they never thought about how much their attitude left them exposed[21].

It is necessary to develop professionals to prepare educational programs for a sexual life that includes pleasure, self-care, and care for others. The information should include sexual development, the emotions, the types of sexual practices, the prevention of pregnancy, and the discussions on the STDs, and it should mainly empower adolescents to negotiate the use of condom, by listening to them without judgment, and making them confortable to expose their conflicts, fears, and doubts. It is also important to develop their self-esteem, resilience, body image, and affectivity[8,9,22]. With regard to the 24 HIV-negative adolescents who responded that relationships were not similar, the prejudice and lack of knowledge of these adolescents were evident. Other studies have also found that young people generally think about AIDS by the biomedical aspect and associates HIV infection with the lack of concern with prevention and the irresponsibility of others[22,23].

The frequency of "hook up" and "steady relationship" was a little higher in HIV-negative group, but the groups were similar in age with regard to onset of sexual activity and the use of condoms in all sexual intercourses. A study involving students also showed that girls initiated sexual activity between 15.2 and 16 years of age and boys between 13.9 and 14.5 years of age[24,25].

Abramovay and colleagues found that young people justify the lack of prevention in a steady relationship by the trust in their partner. They reported that condoms should be used only when you do not know "very well" the other person and also mentioned the sensation of decreased pleasure while using them[25]. The reasons for nonuse and negotiation about condoms were related to a number of factors that are still present nowadays, representing a challenge to public health. Despite the information available on AIDS and the free distribution of condoms by the Unified Health System (SUS) since 1994[6], there are a considerable number of young people, infected or not, who do not use condoms regularly. In relation to the responses about the habit of getting condoms, more than half of the adolescents reported they were not used to getting condoms. How do they use condoms in all sexual intercourses but are not accustomed to picking them up? Did they only provide a socially acceptable response while reporting the use of condoms in all sexual intercourses? Therefore, understanding the

challenges related to the formation and maintenance of intimate and romantic relationships can be used to improve the public health efforts to reduce HIV transmission, particularly if this population is able to disclose their status to their partners with less suffering[26].

With regard to the guidance received, HIV-positive adolescents received less guidance on emergency contraception. This finding is alarming, because adolescents and caregivers regularly attended the health services, and such orientation is part of the recommendations of the Brazilian Society of Pediatrics and the Brazilian Federation of Societies of Obstetrics and Gynecology since 2004[27].

The results showed that the physical, cognitive, and emotional characteristics that accompany adolescence and the brain transformation[21], seem to overcome the serious and chronic aspect of a disease like AIDS. Chronic diseases of long evolution impose to patients and caregivers a suffering that surpasses symptoms, restrictions, and treatments. This may interfere in adolescents' feelings, making them more vulnerable to emotional stress. To develop or strengthen skills and knowledge in these adolescents is a protective factor for their quality of life[4,10,28], and the exercise of sexual and reproductive rights is an important means to acquire the skills to take care of their sexual and reproductive health throughout life[10,14,28].

It is necessary to conduct more research on affective and sexual behaviors that allow developing various prevention strategies for the health services that care for adolescents infected with HIV, strengthening their role in the daily coping with the disease. Thus, it is mainly the responsibility of the caregivers and health professionals to increase the awareness about AIDS as a serious disease that impacts romantic and social relationships and self-care, without developing a sense of inferiority in relation to the HIV-negative adolescents.

CONCLUSION

The lack of knowledge of the adolescents on reproductive health is greater than the lack of knowledge on sexual health. HIV-positive adolescents expressed more opinions on the sexual and reproductive rights, received less guidance on emergency contraception, "hooked up" and dated less than HIV-negative adolescents, but started the sexual life in the same age range as the HIV-negative group (approximately 15 years of age). Despite reporting the use of condoms, they were not accustomed to picking them up. The knowledge about sexual rights and sexuality, and the guidance provided for both groups of adolescents, did not seem to be sufficient to stimulate protective sexual attitude for STDs. It is necessary to conduct more research on affective and sexual behavior that allows developing prevention strategies, strengthening the skills to care for sexual and reproductive health.

Conflict of interests

The authors reported no conflict of interests.

REFERENCES

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). A ONU e a resposta à AIDS no Brasil. 2. ed. Brasília: UNAIDS; 2010 [Internet]. [Cited 2013 Feb 11]. Available from: http://www.unaids.org.br/biblioteca/Folder%20A%20ONU%20e%20a%20Resposta%20%E0%20aids%20no%20Brasil%202%AA%20Edi%E7%E3o%20FINAL.pdf
2. Brogly SB, Watts DH, Ylitalo N, Franco EL, Seage GR, Oleske J, *et al.* Reproductive Health of Adolescent Girls Perinatally Infected With HIV. Am J Public Health. 2007;97(6):1047-52.
3. Machado DM, Succi RC, Turato ER. A transição de adolescentes com HIV/AIDS para a clínica de adultos: um novo desafio. J Pediatr. 2010;86(6):465-72.
4. Koenig LJ, Nesheim S, Abramowitz S. Adolescents with perinatally acquired HIV: emerging behavioral and health needs for long-term survivors. Adolesc Pediatr Gynecol. 2011;23(5):321-27.
5. Spinardi JR, Machado JKC, Sant'anna MJC, Passarelli MLB, Coates V. Adolescer com HIV: saber, conhecer e conviver. Adoles Saúde. 2008;5(2):7-14.
6. Brasil. Ministério da Saúde, Secretaria de Vigilância em Saúde, Departamento de DST, AIDS e Hepatites Virais. Portal sobre AIDS, doenças sexualmente transmissíveis e hepatites virais. Brasília: Ministério da Saúde; 2013.
7. Brasil. Ministério da Saúde, Secretaria de Vigilância em Saúde, Programa Nacional de DST e AIDS. Recomendações para terapia antirretroviral em crianças e adolescentes infectados pelo HIV. Brasília: Ministério da Saúde; 2009.
8. Camargo BV, Botelho LJ. AIDS, sexualidade e atitudes de adolescentes sobre proteção contra o HIV. Rev Saúde Pública. 2007;41(1):61-8.
9. Brasil. Ministério da Saúde, Secretaria Especial de Políticas para as Mulheres. II Plano Nacional de Políticas para as Mulheres. Brasília: Ministério da Saúde; 2008 [Internet]. [Cited 2013 Feb 02]. Available from: http://spm.gov.br/pnpm/livro-ii-pnpm-completo09.09.2009.pdf
10. Paiva V, Ayres JRCM, Segurado AC, Lacerda R, Silva NG, Silva MH, *et al.* A sexualidade de adolescentes vivendo com HIV: direitos e desafios para o cuidado. Ciênc Saúde Coletiva. 2011;16(10):4199-410.
11. Brasil. Ministério da Saúde, Secretaria de Vigilância em Saúde. Programa Nacional de DST e AIDS. Pesquisa de conhecimentos, atitudes e práticas na população brasileira de 15 a 64 anos, 2004. Brasília: Ministério da Saúde; 2006.
12. Danna MF, Mattos MA. Ensinando observação: uma introdução. São Paulo: Edicon; 1999.
13. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Programa Nacional de DST e AIDS. Recomendações para terapia antirretroviral em adultos infectados pelo HIV. Brasília: Ministério da Saúde; 2008.
14. Corrêa S, Alves JED, Jannuzzi PM. Direitos e saúde sexual e reprodutiva: marco teórico-conceitual e sistema de indicadores. In: CAVENAGHI. S. Indicadores municipais de saúde sexual e reprodutiva. Rio de Janeiro: ABEP; Brasília: UNFPA; 2006. p. 29-62.
15. United Nations Population Fund (UNFPA). Sexual and Reproductive Health Needs of Women and Adolescent Girls living with HIV. Research Report for Qualitative Findings from Brazil, Ethiopia and the Ukraine; 2006 [Internet]. [Cited 2013 Feb 13]. Available from: http://unfpa.org/upload/lib_pub_file/619_filename_srh-of-hiv-positive-women.pdf
16. Brasil. Ministério da Saúde, Secretaria de Vigilância em Saúde, Programa Nacional de DST e AIDS. Recomendações para profilaxia da transmissão vertical do HIV e terapia antirretroviral em gestantes. Brasília (DF). Ministério da Saúde; 2010.
17. Pascom ARP, Szwarcwald CL. Desigualdades por sexo nas práticas relacionadas à infecção pelo HIV na população brasileira de 15 a 64 anos, 2008. Cad Saúde Pública. 2011;27(1):27-35.
18. Lima MLC, Moreira ACG. AIDS e feminização: os contornos da sexualidade. Rev Mal-estar Subj. 2008;8(1):1-7.
19. Joint United Nations Programme on HIV/AIDS (UNAIDS). Plano global para eliminar novas infecções por HIV/VIH em crianças até 2015 e manter suas mães vivas; 2011 [Internet]. [Cited 2013 Feb 02]. Available from: http://www.unaids.org.br/biblioteca/Plano%20Global%20Eliminar%20novas%20infec%E7%F5es%20em%20crian%E7as%20e%20manter%20m%E3es%20vivas%20at%E9%202015.pdf
20. Benincasa M, Rezende MM, Coniaric J. Sexo desprotegido e adolescência: fatores de risco e de proteção. Psicol Teor Prát. 2008;10(2):121-34.
21. Herculano-Houzel S. O cérebro em transformação. 2. ed. Rio de Janeiro: Objetiva; 2005.
22. Oliveira DC, Pontes APM, Gomes AMT, Ribeiro MCM. Conhecimentos e práticas de adolescentes acerca das DST/HIV/AIDS em duas escolas públicas municipais do Rio de Janeiro. Esc Anna Nery. 2009;13(4):833-41.
23. Camargo BV, Bertoldo RB, Barbará A. Representações sociais da AIDS e alteridade. Estud Pesqui Psicol. 2009;9(3):710-23.

24. Weber LND, Almeida D, Tucunduva C. Ficar e namorar entre adolescentes: que relacionamento eles querem? In: CONGRESSO BRASILEIRO PSICOLOGIA: CIÊNCIA E PROFISSÃO, 2.,2006, São Paulo. Anais... São Paulo, 2006.
25. Abramovay M, Castro MG, Silva LB. Juventudes e sexualidade. Brasília: UNESCO Brasil; 2004.
26. Fair C, Albright J. ‘’Don’t Tell Him You Have HIV Unless He’s The One’’: Romantic Relationships Among Adolescents and Young Adults with Perinatal HIV Infection. AIDS Patient Care STDS. 2012;26(12):746-54.
27. Sociedade Brasileira de Pediatria (SBP), Federação Brasileira das Sociedades de Ginecologia e Obstetrícia. Adolescência(FEBRASGO), anticoncepção e ética: diretrizes. J Pediatr. 2004;80(1):35-40
28. Cruz MLS, Cardoso CA, João EC, Gomes IM, Abreu TF, Oliveira RH, *et al*. Pregnancy in HIV vertically infected adolescents and young women: a new generation of HIV-exposed infants. AIDS. 2010; 24(17):2727-31.

Address for correspondence:
JÚLIA VALÉRIA FERREIRA CORDELLINI
Rua Dr. Alexandre Gutierrez, 863, apto. 131 – Água Verde
Curitiba (PR), Brazil
CEP: 80240-130
E-mail: julia.cordellini@gmail.com

Received on: 13.09.2015
Approved on: 10.02.2016