

Preventing HIV transmission in adolescents: an analysis of the Portuguese data from the Health Behaviour School-aged Children study and focus groups

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Background: There is recognition of the need to examine psychosocial and ecological determinants contributing to both risk and protective factors related to adolescents' sexual behaviour and HIV/AIDS. **Methods:** The study utilized mixed quantitative and qualitative methods. Data were collected from the Portuguese sample of the Health Behaviour in School-aged Children (HBSC) 2002. Based on these results, 14 focus group discussions were conducted. **Results:** A substantial minority of young people continue to engage in high-risk practices. Thus, female gender, older age, reporting easy to talk with father, not getting drunk and not getting involved in fights are significantly associated with protected sexual behaviour (using condom during last sexual intercourse). According to these results, being female and a comprehensive grade student are both related to a significantly more positive attitude towards infected people. It was concluded that these adolescents view sexual behaviour, sexual partners and condom use as elements within a complex script that governs heterosexual interactions. Several themes related to condom use emerged. Despite HIV/AIDS knowledge, young people underestimate their own risk of becoming infected with HIV. The majority of adolescents believe that HIV-infected people experience discrimination and social exclusion. Adolescents' opinions of HIV-infected people were mostly positive. Although most participants knew that HIV cannot be transmitted through social contact, undefined fears concerning the infection exist. **Conclusions:** These findings have important implications for the implementation of a comprehensive programme on HIV/AIDS education in secondary schools.

Keywords: adolescents, AIDS prevention, gender differences, psychosocial and ecological determinants, sexual behaviour

Adolescent sexual activity is important in terms of public health concerns. Adolescents are at risk for negative health outcomes associated with unprotected sexual intercourse,¹ but they are preventable through co-ordinated efforts among families, schools, health and education agencies, and community organizations.^{1,2} In order for interventions to be more comprehensive and effectively targeted, the context of adolescent sexuality needs to be understood.³ There is recognition of the need to examine cultural, environmental and development determinants contributing to both risk and protective factors to adolescents' sexual behaviour related to HIV/AIDS. Although many reasons for unsafe sex have been identified in recent years, little is known about adolescents' perceptions of the sexual activities that constitute either risky or safer behaviours.⁴

Social response to HIV-infected people and social response in HIV prevention is limited by AIDS-related stigma. Prevention of HIV/AIDS, as well as prevention of HIV/AIDS-infected social exclusion, is thus a key health issue. The way to highlight this matter requires the study of the 'state of the art' about adolescents' attitudes towards infected individuals, ranging from precaution to social exclusion.⁵ This research examined demographic, personal, family and school variables related to adolescents' sexual behaviour and attitudes towards HIV/AIDS-infected people. This research was also designed to understand the cognitive and emotional bases of the sexual decisions made

by adolescents. Preventive research must explore how young people understand, manage and explore their sexuality, risk and relationships.

Methods

The study utilized mixed quantitative and qualitative methods.

Data were collected through a self-administered questionnaire from the Portuguese sample of the Health Behaviour in School-aged Children (HBSC) 2002, a collaborative WHO study.^{6,7} The study provides national representative data of 3762 Portuguese adolescents, randomly chosen from those attending of 8th and 10th grade of high school. The sample included 52% girls and 48% males, whose mean age was 15.12 years (standard deviation 1.35). The sampling unit used in this survey was the class. The 135 schools in the sample were randomly selected from the official national list of public schools, stratified by region. In each school, classes were randomly selected in order to meet the required number of students for each grade according to the international research protocol.⁶

Based on the results we developed a guide for a series of focus groups discussions (table 1). Fourteen focus groups were conducted, a purposeful sample of 42 girls and 42 boys from seven secondary schools from different geographic areas according to main differences found in quantitative study. Only adolescents in 10th grade were selected, in order to discuss these themes with adolescents that potentially were more involve in romantic or sexual relationships. In each school two focus groups were conducted, one with boys and one with girls. Each group had six participants.

Previous research demonstrates that sensitive topics can be assessed in a focus group discussions, and this research method

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Table 1 Focus groups guide

Sources of information: most frequently used and most important
Talking about sex with friends and parents: how young people talk about sex with their friends and parents (contexts); gender differences
Sexual activity: feelings and reactions about young people's sexual activity; perceptions about parents feelings and reactions about young people's sexual activity; reasons for having sex, how does it affect their self-image?
Pressures to engage in sexual activity: peer pressure, partners' pressure, gender differences
Sexual risk taking: pregnancy; HIV/AIDS; emotional risks
Risk perceptions: perceived susceptibility to HIV/AIDS
Risk prevention: prevention strategies
Condoms: attitudes and beliefs about condoms, perceived barriers, condom attractiveness, interpersonal consequences, previous use and intention to use, condom availability, ease of obtaining condoms, barriers to obtaining condoms, carrying a condom, gender differences
Knowledge and attitudes about HIV/AIDS: attitudes about the disease; attitudes towards HIV-infected people
School sex education: issues dealt with, methods of teaching, appropriateness of lessons, quality of lessons, differences in the teaching of boys or girls

provides insights into not only individual behaviour but also the social, cultural and political factors that influence it.⁸⁻¹⁵ In these settings, participants can express beliefs and attitudes in their own terms and provide contextual information to justify or explain their positions.^{12,16} The focus groups were used in order to gain better understand the contextual and multiple variables that contribute to the salience of various complex and sometimes contradictory meanings of sex to adolescents, risk behaviours related to HIV, differences in gender, the social and cultural context in which adolescents are sexually active, and to seek to negotiate 'safe sex'.

Although focus groups can be used in isolation from other research methods, they are often used in conjunction with other data collection techniques (e.g. surveys).¹⁷⁻²⁰ It is interesting to examine how qualitative or quantitative methodologies are suited to researching the sexuality of youth. The results of the focus groups discussions not only clarify the quantitative research findings and reveal a great depth of understanding about why certain opinions are held, but also provide directions for future research and policy decisions in this area. However, the group discussion format does not permit establishment of community norms, nor does it always provide expression of the full range of behaviours. The group dynamics might inhibit individual revelation of views or experiences that are not consistent with expressed majority views and there is an increased likelihood of eliciting participant responses that may be biased by pressures to socially conform to group norms or to self-present in a socially desirable way.^{9,10}

Data analysis: questionnaire

Sexual behaviours. The χ^2 -test was used to examine sexual behaviours according to gender. A logistic regression analysis was conducted considering the 'use of condom during last sexual intercourse' as a dependent variable and using a set of

demographic, personal, family and school variables as independent variables.

Attitudes towards HIV-infected people. Young people were asked to respond to five statements about attitudes towards HIV-infected people: 'HIV infected people should live apart of the rest of people', 'I wouldn't be a friend of someone if he had AIDS', 'I would visit a friend if he or she had AIDS', 'I wouldn't sit near an infected student in classroom' and 'adolescents with AIDS should be allowed to go to school'. Items were rated on a 5-point rating scale (1 = 'strongly disagree' to 5 = 'strongly agree'). For each student, the responses were summed, with scores ranging from 5 to 25 (items were recoded in order, with high scores reflecting more positive attitudes). These items were shown to have adequately reliability (Cronbach's alpha of 0.76).

A *t*-test was used for comparison between males' and females' attitudes towards HIV-infected people, and between secondary and comprehensive grades. A multiple regression analysis was conducted to examine demographic, psychosocial and knowledge of HIV transmission variables associated with attitudes towards HIV-infected people.

Data analysis: focus groups discussions

The focus groups discussions were audio recorded and transcribed. Thematic decomposition was adopted to structure the analysis and understand the ways in which themes related to ideas and concepts about sexual activity, risk and protective behaviours related to HIV, and attitudes toward infected people. We selected excerpts of conversation from the transcribed text under each category. In this article, we will concentrate on only three thematic areas which emerged in various situations: sexual activity and condom use, perceptions of personal HIV risk and attitudes of adolescents towards HIV infection.

Results

Questionnaire

Sexual behaviours related to HIV/AIDS. A substantial minority of young people continue to engage in high-risk practices. The percentage reporting ever having had sexual intercourse was 23.7%. Boys were more likely than females to report ever having had sexual intercourse (33% versus 15%). From the total sample, 7.1% report that they or their partner did not use a condom last time they had engaged in sexual intercourse.

A logistic regression model (table 2) identified several associations among demographic and psychosocial variables for not using a condom during sexual intercourse. Thus, female gender [odds ratio (OR) 0.49; 95% confidence interval (CI)

Table 2 Associations with 'use of condom during last sexual intercourse': logistic regression analysis

Variable	OR	95% CI	P
Gender	0.49	0.35-0.69	0.000
Age	1.16	1.03-1.30	0.013
Easy to talk with father	1.29	1.13-1.47	0.000
Frequency of getting drunk	1.58	1.39-1.80	0.000
Frequency of getting involved in a fight	1.14	1.01-1.28	0.037
Be satisfied with school	1.20	1.01-1.43	0.036
Be satisfied with life	.95	0.88-1.03	0.240
Frequency of drug use last month	1.13	0.93-1.37	0.224

OR: adjusted odds ratio; CI: confidence interval.

0.35–0.69; $P < 0.000$], older age (OR 1.16; 95% CI 1.03–1.3; $P < 0.02$), reporting easy to talk with father (OR 1.29; 95% CI 1.13–1.47; $P < 0.000$), not getting drunk (OR 1.58; 95% CI 1.39–1.80; $P < 0.000$), not getting involved in fights (OR 1.14; 95% CI 1.01–1.28; $P < 0.05$) and being satisfied with school (OR 1.20; 95% CI 1.01–1.43; $P < 0.05$) are significantly associated with protected sexual behaviour (using condom during last sexual intercourse).

Attitudes towards HIV-infected people. According to our results, female gender ($t = 14.906$; $P < 0.000$) and being a comprehensive grade student ($t = 11.190$; $P < 0.000$) are both related to having a significantly more positive attitude towards HIV-infected people.

A multiple regression analysis (table 3) identifies several associations in attitudes towards HIV-infected people. This model explains 0.29 of the total variance. Girls ($\beta = 0.180$; $P < 0.000$), older adolescents ($\beta = 0.035$; $P < 0.05$), adolescents with a better perception of school achievement ($\beta = 0.034$; $P < 0.05$), adolescents who talk with peers about AIDS ($\beta = 0.157$; $P < 0.000$) and adolescents with a better knowledge about AIDS transmission ($\beta = 0.392$; $P < 0.000$) are more likely to have positive attitudes towards infected people.

Focus group discussions

The results of focus group discussions cannot be generalized beyond this context, rather they are illustrative of the opinions of a select group on the topics discussed.

Sexual activity and condom use. High levels of sexual activity were perceived as normative for both sexes. One difference that did emerge was that sexual activity for young boys was socially accepted, whereas attitudes toward girls' sexual activity were more variable. Although some girls chose to abstain from sexual intercourse and reported that peers respected their choice, others reported a great deal of partners' pressure to become sexually active. These results suggest that peer pressure on boys strongly discouraged abstinence from intercourse.

We concluded that these adolescents view sexual behaviour, sexual partners and condom use as elements within a complex script that governs heterosexual interactions. Adolescents view the condom as an effective prevention measure and believe that it is important to avoid sexually transmitted disease, but very few reported always using condoms: 'We know that we should

use condoms but when we are in the situation we forget it, we stop thinking and we forget everything...'

Several themes related to condom use emerged, including personal sense of powerlessness and male dominance, condom beliefs that may be barriers to use and lack of skills in the use of condoms. One girl said: 'Boys don't like to use condoms, and they try to convince the girlfriend saying: we don't need to use condoms, you are my princess and I'm going to stay with you for all my life... you trust me and I believe in you and only without condoms is a complete relation... and so many girls don't use it'.

Perceptions of personal HIV risk. All the students agreed that AIDS is a dangerous disease. This study has found that young people, despite HIV/AIDS knowledge, underestimate their own risk of becoming infected with HIV. Adolescents use a wide range of invalid strategies to rationalize the perceive low personal risk of becoming infected, such as adhering to romantic notions about the long-term and monogamous nature of serial relationships: 'I only have sex with my boyfriend, I don't have sex with A, B or C...'; beliefs in the stereotype of an AIDS 'victim' and the view that infected people can be detected and avoided, among other things: 'I think that I'm not in risk of being HIV infected because when a person have AIDS we know... the person have an anaemic aspect'.

Adolescents believe that they are less promiscuous than average, and that their partner's sexual behaviour is responsible (knowing the partner, faithful and long relationships). One girl said: 'I know that he has not diseases or that kind of problems, I know because I know him better than everything'.

Although most of adolescents believe that they are immune to risk, some express a sense of fatalism that mitigates against planning for the future. Students who considered that is possible for any person to become HIV infected attribute the principal cause of infection to blood transfusion: 'we never know... we can get AIDS with some needles that are lost in the ground... we live in a neighbourhood that is so bad and with lots of drugs users that we never know...'; 'we can help someone who has an accident with blood and the person can have AIDS and because we don't know, we can be infected'.

They believe that abstinence from casual sex is sufficient to protect against HIV infection, while protected sex with regular partners is safe: 'one way to protect ourselves is not having sex with someone that we don't knew well'.

Table 3 Associations with 'attitudes towards HIV-infected people': multiple regression analysis

Variable	B	SE	β	t	P
Gender	1.381	0.114	0.180	12.107	0.000
Age	0.101	0.042	0.035	2.384	0.017
Perception of schooling	0.110	0.068	0.024	1.626	0.104
Perception of school achievement	0.184	0.083	0.034	2.228	0.026
Talking about AIDS with peers	0.687	0.072	0.157	9.559	0.000
Talking about AIDS with parents/adults	0.098	0.052	0.029	1.866	0.062
Learning about AIDS in books or magazines	0.071	0.062	0.017	1.151	0.250
Don't know anyone HIV infected	0.116	0.157	0.011	0.737	0.461
Knowledge of behaviours associated with HIV transmission ^a	0.758	0.030	0.392	25.299	0.000

a: Young people were asked to respond to statements indicating their knowledge of behaviours associated with HIV transmission: transmission of AIDS by sharing needles, transmission of AIDS by cough and sneeze, transmission of AIDS by unprotected sexual intercourse between a man and a man who has AIDS, transmission of AIDS by an HIV-infected pregnant woman to her baby, transmission of AIDS by hugging someone infected, transmission of AIDS by unprotected sexual intercourse with someone just one time, transmission of AIDS through a glass/fork/spoon, AIDS can be transmitted by blood transfusion, oral contraceptive can protect HIV/AIDS infection, someone who looks healthy can be HIV infected. For each student, the correct responses were summed (items were recoded in order, with high scores reflecting more knowledge). These items were shown to have adequately reliability (Cronbach's alpha 0.69).

B and SE (standard error): unstandardized coefficients; β : standardized coefficients.

Attitudes of adolescents towards HIV infection. The majority of adolescents believe that HIV-infected people experience discrimination and social exclusion. 'There is lots of discrimination towards HIV-infected people. There are people without information that are afraid to contract AIDS by talking with a HIV-infected person.'

Adolescents' opinions of HIV-infected people were mostly positive and tolerant. Girls were more tolerant in their opinions than boys. 'I know that AIDS isn't transmitted like that... So I wouldn't be afraid of being a friend of a HIV infected person.' Half of students stated that they felt compassion towards AIDS patients.

Although the most participants knew that AIDS cannot be transmitted just by social contact with an infected person, undefined fears concerning the infection exist: 'I can say now that I'll not discriminate someone just because I knew that he has AIDS but I don't know how I will react if I have to stay near him'.

Some adolescents admitted to being afraid of AIDS patients. In one group of boys most adolescents reported that they would avoid someone if he got AIDS, and some considered that it would be oppressive if they had to be in same room with an infected person.

Discussion

The adolescents identified as sexually active consisted largely of early initiators, who by definition are seen to be at higher risk in relation to sexual behaviour.¹ We found gender differences in factors associated with sexual behaviour and non-use of condoms. These highlight the importance of design interventions that are culturally sensitive and gender-specific.²¹ The results suggest that the perceptions of societal double standard in sex still exist in teenage culture and may influence behaviour.^{22–24} Sexuality and its expression take place in a larger context of structural gender inequality that characterizes most societies.^{25,26} The social controls of sexuality and gender relations are complex phenomena that require sophisticated and varied methods of study.^{19,20} Employing group discussions has been shown to be a very effective method for understanding young people's perspectives on many issues.^{11,15,16,27}

Perceptions of one's sexual partners' attitude toward condoms seem to be a highly reliable predictor of condom use, especially among women.^{19,28} Girls report little power to negotiate the use of condom with partners. This might be associated with the submission of girls in relation to the attitude of males about the use of condom.²⁷ The use of condom is influenced by factors like confidence and stability in the relationship,^{29,30} which have to do with the perception of low risk of infection and with misperceptions of partner risk.³¹

Most adolescents admitted knowing that is possible for any person having intercourse to get AIDS, but becoming infected seemed like a distant risk as far as they were concerned. It appears that several students may be underestimating their absolute or comparative risk of acquiring AIDS in the sense that their risk perception is not consistent with their reports of involvement in potentially risky behaviours. This could also be due to the fact that it is not of immediate consequence to their own daily lives. This must be an area of consideration for policy makers and providers of any sexual health intervention.

This study provides some evidence for the influence of motivational mechanisms on risk judgements. Because personal coping responses, such as the tendency to deny threat, may interfere with this process, strategies designed to reduce the resulting biases must be developed.³² For example, this might be accomplished by providing students with concrete action plans or by a skills training component aimed at increasing perceived self-efficacy.

In general, adolescents have a good knowledge about the main HIV/AIDS transmission routes and how to protect themselves from becoming infected. However, young people still lack knowledge about many issues. This conclusion reinforces findings from other studies in this area.^{5,33,34} It was noticeable in this study that the existence of misconceptions and gaps in knowledge regarding AIDS transmission has an impact in adolescents' attitudes towards those infected with AIDS. The results show gender difference in the pattern of response related to attitudes toward people infected with HIV/AIDS, with girls having more tolerant attitudes towards HIV-infected persons than boys.^{5,33,34} Although the youths knew that AIDS was not transmitted through social contact, they showed an ambivalent attitude towards possible situations where they might come into contact with a HIV-infected person. The adolescents reported that, in imaginary situations, they feared possibly becoming infected with HIV by staying near an infected person.

The findings suggest that targeting only the behaviour of adolescents is not likely to be sufficient. In order to be successful, it is likely that parents, partners, school and the community at large will have to be involved in the process of reducing risks and creating opportunities for the healthful development of adolescents.³⁵ Schools offer an advantageous setting because they are the only venue where nearly all youths can be reached in a structured environment, and because HIV prevention efforts and attitudes towards HIV infected people can potentially be integrated into the sexual health education and/or family life education programs in most schools.³⁶ An effort has to be made in order to improve the possibility of a sense of affiliation and agency of adolescents in school settings, as a way to increase their perceived positive school 'ethos' and thus their subjective perception of wellbeing, sense of belonging, perception of self-efficacy and worthfulness, and consequently their choices of healthier lifestyles.^{34,37–41} Indeed, recent research provides evidence that communities where the citizens and institutions focus on increasing both competence of youth and external supports at all levels of the ecology are most likely to succeed in building a strong and resourceful young population.

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Key points

- This research examined demographic, personal, family and school variables related to adolescents' sexual behaviour and attitudes towards HIV/AIDS-infected people.
- Preventing HIV: important factors associated with sexual behaviour, non-use of condoms and attitudes toward people infected with HIV/AIDS were found.
- Parents, peers, school and community must be involved in the process of reducing risks and creating opportunities for healthful development.

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