

A Cross-Sectional Study on Adolescents' Awareness on HIV/AIDS among Secondary School Students.

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ABSTRACT

Background: Awareness on human immuno-deficiency virus (HIV)/acquired immuno-deficiency syndrome (AIDS) can help reduce the risk of contracting this public health important disease and associated burdens. However, today's adolescent grows up surrounded by mixed messages about HIV/AIDS. **Objectives:** To assess awareness on HIV/AIDS among adolescent students. **Methods:** A cross-sectional study was conducted among adolescent students of a selected secondary Public school of Delhi. Sample comprised 100 students (Class IX) selected through random sampling from the study school. Data were collected using a pre-designed, pilot-tested, semi-structured questionnaire focusing on awareness on HIV/AIDS. **Results:** Awareness of sample respondents (67 boys and 33 girls, aged 14-18 years) on various aspects of HIV/AIDS was as follows: immune-deficiency nature of disease (49.5%), asymptomatic in initial stage (55.9%), transmission routes (73.2%), relationship between HIV and sexually-transmitted infections (28.0%), risk from having multiple partners (68.0%), risk from sharing unsterilized needles (48.9%), no transmission through mosquitoes (49.0%), no risk from merely living together (45.7%), no risk from sharing clothes (55.2%), no risk from handling food (43.5%), no risk from studying together (74.5%), no vaccine available (41.4%), and some preventive/safety measures (blood testing, 60.0%, condom usage, 67.7%). **Conclusion:** Adolescent students have a mixed pattern of awareness on HIV/AIDS. A significant proportion of them does not know about its risk factors, risk practices and preventive/safety measures, which may pose an increased risk of this disease to them. It calls for suitable measures (like appropriate HIV/AIDS education programmes) to increase their awareness on HIV/AIDS and reduce risk of this disease.

Keywords: Adolescence, AIDS, awareness, HIV, secondary schools, students.

INTRODUCTION

The World Health Organization (WHO) defined health in its broader sense as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity".^[1] It is important to address all components of health – preventive, promotive, curative and rehabilitative – to attain such a well-being. Various social determinants of health, particularly the health-promoting factors found in our living and working conditions, influence health at individual and community levels.^[2]

Adolescence is the life stage that bridges childhood and adulthood. During this transitional stage of physical, psychological and social development, adolescents establish patterns of behaviour and make lifestyle choices that affect both their current and future health. Although adolescence is considered a

healthy phase, more than 33% of the disease burden and almost 60% of premature deaths among adults can be associated with behaviours or conditions that begin or occur during adolescence – for example, tobacco and alcohol use, poor eating habits, sexual abuse, and risky sex.^[3] It is essential to help adolescents develop appropriate life skills to handle a wide variety of choices, changes, and stressors. Schools play a crucial role in promoting health of adolescents and helping them establish lifelong healthy behaviours.

Human immuno-deficiency virus (HIV) and acquired immuno-deficiency syndrome (AIDS) form an important public health problem worldwide. The Joint United Nations Programme on HIV/AIDS (UNAIDS) has estimated that while antiretroviral therapy has resulted in a decline in AIDS-related deaths, adolescents are the only age group in which AIDS-related deaths rose between 2001 and 2012.^[4] Adolescents' understanding of HIV/AIDS and their behaviour in this regard are guided predominantly by myths and misconceptions. Since the topics of sex and sexuality are culturally quite sensitive, adolescents are deprived of opportunities to get the appropriate

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information on sexual and reproductive health, including HIV/AIDS. Various reports suggest that adolescent schoolchildren are exposed to a high risk of HIV/AIDS.^[5,6]

Awareness on HIV/AIDS can help reduce the risk of contracting this disease and associated burdens. However, today's adolescent grows up surrounded by mixed messages about HIV/AIDS from parents, teachers and peer groups. In the present study, we assessed awareness among adolescent students on HIV/AIDS in a selected secondary Public school.

MATERIALS AND METHODS

This cross-sectional study was conducted among adolescent students of a selected secondary Public school of Delhi. It was descriptive in nature and gathered data to describe and interpret regarding awareness of schoolchildren in the adolescent age group with respect to HIV/AIDS. To facilitate this, a pre-designed, pilot-tested semi-structured questionnaire was used and data gathered by employing the single-time, small-scale, survey method. It was a school survey as the study focused on secondary schools.

The universe or the population for this study comprised of adolescents whose awareness on HIV/AIDS needed to be studied. The target population was all the adolescents of India and the experimentally accessible population was all the secondary schools of Delhi. The sample unit was secondary schools' setting (which was definite, clear, unambiguous, standardized and suitable for the problem under study) and included one Public school (namely, New Creations Public School, Dilshad Colony, District North-East, Delhi). The sample frame for this study was Class IX, which was a true representative of the population of adolescents studying in secondary schools of Delhi. A sample size of 100 students was taken keeping in mind the study objectives and the available resources for this study. The Class IX students from multiple sections were selected through random sampling from the study school.

As the study tool for collection of data from the study subjects, a semi-structured questionnaire focusing on awareness on HIV/AIDS was designed and pilot tested. This self-administered questionnaire contained three sections to (a) get demographic data on the respondents, (b) test their awareness on HIV/AIDS (multiple-choice questions with highly structured response alternatives), and (c) seek their opinions and detailed account regarding sources of their information.

After obtaining permission from the concerned school authorities, the researchers visited the school, gave a brief introduction to the prospective study subjects (Class IX students present there), explained the purpose of the survey, and gathered data by way of filling-up of the questionnaires by the consenting subjects. The respondents were asked to read the

instructions carefully and not to discuss among their friends while filling-up their respective questionnaires.

Statistics

The collected data were screened, cleaned and analysed by using the Statistical Package for Social Science (SPSS) version 19.0. Appropriate statistical techniques were employed (including frequency and percentage analyses) to generate summary tables and interpret results.

Ethics

The study was conducted after obtaining permission from the concerned school authorities. The researchers briefed the study subjects about the purpose of the study and gathered data from the consenting subjects only. As part of the ethical considerations, names and other identification details of the study subjects were kept confidential.

RESULTS

Demographic profile of the study subjects is given in [Table 1]. They comprised Class IX students aged between 14 and 18 years. About two-third of them were males. Two-third of them belonged to the urban areas of Delhi. More than half of them lived in nuclear families and they were mostly Hindus.

The status of awareness of the sample respondents on various aspects of HIV/AIDS is summarized in [Table 2]. Although all the questions given in the questionnaire were responded to by these students, it was observed that there remained a few non-responders for each question. The awareness of these students was found to be variable on different aspects of HIV and AIDS. Largely, only about half of the students were aware of the fact that HIV/AIDS is an immuno-deficiency disease that remains asymptomatic in its initial stage. Most of them were well aware of the routes of its transmission (viz. through sexual intercourse, through blood & body fluids, and vertical transmission from mother to child) and certain high-risk practices (viz. having multiple partners and sharing unsterilized needles). Nearly half of them also knew the facts that this disease is not transmitted through mosquitoes and that there is no risk from doing such common routines as merely living together, sharing clothes, handling food, or studying together. However, only about one-fourth of them were aware of the relationship between HIV and other sexually transmitted infections (STIs). Less than half of them responded affirmatively in recognizing the fact that there is no vaccine available to protect against HIV/AIDS so far. Only about two-third of those students were aware of key preventive or safety measures against this disease such as testing of blood for HIV and use of condom.

Significantly, it was observed that many of those adolescent students had no or partial awareness on

HIV/AIDS including its risk factors, risk practices and preventive/safety measures.

Table 1: Demographic profile of the study subjects.

Parameter	Value	Remarks
No. of study subjects (n)	100	-
Age (years)	15 ± 1	-
Gender distribution (male : female)	67 : 33	-
Residential setting (urban : rural)	54 : 36	9 subjects did not respond
Type of family (nuclear : joint)	56 : 38	8 subjects did not respond
Religion (Hindu : others)	89 : 7	8 subjects did not respond, Muslim-3, Sikh-4

Table 2: Awareness of the study subjects on HIV/AIDS (n=100).

Parameters	Correct responses	
	Percentages	Absolute numbers
Immune-deficiency nature of disease	49.5%	48 out of 97 respondents
Asymptomatic in initial stage	55.9%	52 out of 93 respondents
Routes of transmission	73.2%	71 out of 97 respondents
Relationship between HIV and STIs	28.0%	26 out of 93 respondents
Risk from having multiple partners	68.0%	66 out of 97 respondents
Risk from sharing unsterilized needles	48.9%	46 out of 94 respondents
No transmission through mosquitoes	49.0%	47 out of 96 respondents
No risk from merely living together	45.7%	43 out of 94 respondents
No risk from sharing clothes	55.2%	53 out of 96 respondents
No risk from handling food	43.5%	40 out of 92 respondents
No risk from studying together	74.5%	70 out of 94 respondents
No vaccine available	41.4%	41 out of 99 respondents
Some preventive/safety measures:		
Testing of blood for HIV	60.0%	57 out of 95 respondents
Use of condom	67.7%	65 out of 96 respondents

AIDS, Acquired Immuno-Deficiency Syndrome; HIV, Human Immuno-deficiency Virus; STIs, Sexually Transmitted Infections

DISCUSSION

The present study, conducted among adolescent students in a secondary school of Delhi, has shown a mixed pattern of their awareness on various aspects of HIV/AIDS. Although many of them were quite aware of this disease, a significant proportion of those adolescents did not know about its risk factors, risk practices and preventive/safety measures. This lack of awareness was observed in spite of the fact that most of the study subjects belonged to the urban areas of Delhi; it is likely

that the awareness may even be lesser among those belonging to the rural areas.

HIV/AIDS is an important public health problem worldwide and it becomes all the more significant due to the fact that it is generally not acutely fatal and has a chronic progressive course with an initial asymptomatic but infectious stage followed by gradually diminishing immunity and complications. Ultimately, the patient dies of such complications as secondary and opportunistic infections, malignancies and other complications.^[7] An HIV-infected person can transmit the infection through sexual intercourse, blood & body fluids, and through vertical transmission (from mother to child). Inadequate knowledge about these routes of transmission, such relevant high-risk practices as having multiple sexual partners and sharing unsterilized needles, and various misconceptions about HIV/AIDS may pose an increased risk to the adolescent students and youth.^[8] On the other hand, adequate knowledge about this disease among the adolescent students can not only help them protect themselves but would also reduce the HIV-associated apprehensions, fears and social stigma.^[9,10]

There is a strong relationship between HIV/AIDS and other STIs such as Hepatitis B, Syphilis, Gonorrhoea, chlamydial infections, genital herpes etc (Mhalu, 1990; WHO, 2003).^[11,12] Through awareness on HIV/AIDS, the adolescent students will benefit further due to reduced risk of such other STIs also. In its strategic approach to reproductive, maternal, neonatal, child and adolescent health (RMNCH+A), the Ministry of Health and Family Welfare (MoHFW), Government of India has also envisaged to augment HIV/AIDS education among school and college students and build their capacity to protect themselves from this disease and other STIs that are strongly related to HIV/AIDS.^[13]

Many studies have reported various confusions and a lack of proper information about HIV vaccines among different population sub-sets.^[14] Currently, there is no effective HIV vaccine but many research projects managing clinical trials seek to create one.^[15] This particular piece of information was not adequately known to the vulnerable adolescents in the secondary school in the present study, which calls for a need to impart tailored HIV vaccine education to such students.

In the present study, nearly one-third of the students were unaware of such key preventive and safety measures against HIV/AIDS as testing of blood for HIV and use of condom. Limited awareness about sexual and reproductive health matters, including HIV/AIDS and other STIs, among adolescents and youth is a matter of concern as it may deter them from taking appropriate precautions and thus pose an increased risk of the pertinent health problems. In a study conducted

jointly by the International Institute for Population Sciences and the Population Council, only 15% of young men and women (15-24 years) reported receiving any family life or sex education.^[16] In another cross-sectional study conducted among urban adolescent schoolgirls in South Delhi, India, more than one-third of the students were found to have limited or no accurate understanding about HIV/AIDS and other STIs, safe sex options, and contraceptives; the study called for an immense need to implement gender-based sex education in schools in India.^[17] With low condom use by adolescents, there is a high risk of contracting HIV and other STIs, which in turn contributes to further complications, morbidity and mortality.^[13] Various reports suggest that adolescent schoolchildren are exposed to a high risk of HIV/AIDS and that adolescent and young people form quite a significant proportion of those attending STI clinics and those infected with HIV/AIDS.^[5,6,18]

The observations of this study indicating limited awareness of the adolescent schoolchildren on HIV/AIDS call for a need to increase awareness among them. Since the secondary school students constitute the largest portion of such target population, the secondary schools may be one of the best platforms for this purpose. A cross-sectional study conducted among adolescent students in the intermediate schools of Lucknow, India concluded that the schools should come forward to design awareness campaigns on HIV/AIDS for the benefit of the students.^[6] Another study from Haryana has suggested that the HIV/AIDS education should concentrate on clarifying areas of misconceptions.^[19] It has been further suggested that while the teacher plays a pivotal role in imparting such education, the use of multi-pronged methods such as films, group discussions, dramas, puppet shows and role-plays must be incorporated for school education on HIV/AIDS.^[20]

To conclude, adolescent students' awareness on HIV/AIDS is sub-optimal. This situation calls for suitable measures (such as appropriate HIV/AIDS education programmes) to be taken to increase their awareness on HIV/AIDS and thereby reduce risk and burden of this disease.

CONCLUSION

Adolescent students have a mixed pattern of awareness on HIV/AIDS. A significant proportion of them does not know about its risk factors, risk practices and preventive/safety measures, which may pose an increased risk of this disease to them. It calls for suitable measures (like appropriate HIV/AIDS education programmes) to increase their awareness on HIV/AIDS and reduce risk of this disease.

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