

Original Research Article

Knowledge and attitude related to HIV/AIDS among school students: a multicentric study

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ABSTRACT

Background: There seem to be relatively few studies in our country which have assessed the aspect of knowledge, attitude and practices related to HIV/AIDS among school students.

Methods: The present study was a population based, analytical epidemiological design in the settings of an urban population in various schools located in different stations. Data was collected by the authors themselves after personal visits to the schools.

Results: The study revealed that about 83% of the respondents had heard of HIV/AIDS and also identified it as a major public health problem in this country. Relatively fewer students i.e. about 57% knew correctly about the etiology of AIDS, or the difference between HIV and AIDS. Similarly a high proportion i.e. about 87% had correct knowledge about the modes of transmission of the disease. Based on the findings of the study certain recommendations on AIDS education in the reference population have been submitted.

Conclusions: This baseline assessment brings forth the lacunae that are existent in the status of knowledge regarding HIV/AIDS among adolescents who are likely to start their sexual life after just a few years. In particular, a large proportion are unaware about its causation by a microorganism.

Keywords: Adolescents, AIDS, HIV, Knowledge and attitudes

INTRODUCTION

Although acquired immune deficiency syndrome (AIDS) is rare among adolescents, this should not be a ground for neglecting preventive health education in schools. Epidemiologic data on the use of drugs and the spread of other sexually transmitted diseases (STDs) among this population suggest that the rate of disease transmission may far exceed its reported rate. Knowledge about high risk behaviours associated with HIV infection could help prevent the spread of this disease in this population.¹

About 30% of the world's population is in the age group 10 to 24 years. More than one fifth of the cases of HIV

infection reported to Centre for Disease Control (CDC), USA are in the age group of 20 to 29 years. Considering the latent period, it is quite possible that most of these cases would have acquired the infection during their teens. Adolescence is the period when the young individual undergoes profound physical and psychological changes, with a desire to challenge authority and experiment with sex and drugs, thus making them extremely vulnerable to HIV infection. Besides, it is easier to influence their sexual behaviour which has just started forming. Moreover the school settings provide an excellent opportunity to educate this group. School students have therefore been identified as one of the groups in special need of HIV/AIDS health education.²

There seem to be relatively few studies in our country which have assessed the aspect of knowledge, attitude and practices related to HIV/AIDS among school students. It was keeping the above in mind and the public health importance of HIV/AIDS in our country with special reference to this population that the present study was carried out.

METHODS

General settings and research design

The present study was a population based, analytical epidemiological design in the settings of an urban population in various schools located in different stations. Data was collected from July 2000 to July 2001.

Inclusion criteria

Children who were studying in class IX to XII in Army schools and Kendriya Vidyalayas in various stations which were chosen as study centres were included in the study.

Exclusion criteria

Children who were in classes other than IX to XII in Army schools and Kendriya Vidyalayas in various stations which were chosen as study centres were excluded from the study.

Sample size and sampling technique

Children belonging to Army schools and Kendriya Vidyalayas in the study area who were studying in classes IX to XII formed the study population. Minimum sample size, keeping the expected parameter (proportion of children with satisfactory knowledge) at 0.5 and with an acceptable deviation of 0.1 on each side at a two tailed alpha error of 0.05 (i.e. acceptable 95% confidence limit 0.4 to 0.6) the minimum sample size was calculated to be 250. In fact, a much larger sample size of 707 students was studied, thereby increasing the power of the study. This included 406 boys and 301 girls. All the available children who fulfilled the above defined inclusion criteria were studied. The method of sampling was that of the total population, consecutive sample, studying all children who belonged to the defined study area, and fulfilled the inclusion criteria.

Instruments and techniques

A questionnaire was developed, based on an available research study done by one of the coworkers, viz. Lt. Col. Sanjeev Sharma (now late) and advice of experts in the field. The questionnaire was pretested and suitably modified through a pilot study.

The data was collected by personal visits to the schools, distributing and explaining the questionnaire to the

students. The students answered the questionnaire in a reasonable period of time after which it was collected back. The questionnaire was administered after establishing rapport with the students, informing them of the scope of the study and assuring them of confidentiality.

Statistical methods

All the data collected was transferred onto a master chart; compiled, calculated and analyzed statistically using appropriate tests keeping in view aims and objectives of the study. Statistical procedures were used as per guidelines given in Standard text books of Biostatistics.^{3,4}

RESULTS

Socio-demographic profile of study population

A large proportion of the students (47.81%) belonged to the age group 15-17 years, followed by 42.57% in the age group 13-15 years while 9.62% belonged to the 17 years and above age group. A large proportion of the students (81.44 %) were Hindus, followed by Sikhs (16.01%). Muslims and Christians together accounted for only 2.55% of the study population. Out of the total 707 students, 406 (57.43%) were boys and 301 (42.57%) girls. Out of the total 706 students, a large proportion (35.08%) were studying in class IX, while 19.09%, 29.98% and 15.85% were studying in classes X, XI and XII respectively.

General awareness about HIV infection/AIDS

The findings revealed that 335 out of the 406 boys (82.51%) and 252 out of the 301 girls (83.72%) had at least heard of HIV/AIDS. Similarly, 80.74% of the boys and 81.39% of the girls identified it as a major public health problem in this country. However, a lacuna was observed in the general awareness, in that only 56.79% of the boys and 57.47% of the girls knew correctly about the etiology of AIDS, or the difference between HIV and AIDS.

Knowledge about modes of transmission

Similarly, a high proportion i.e. about 87% had correct knowledge about the modes of transmission of the disease. It was observed that a large majority of children had correct knowledge about the modes of transmission of the HIV virus and also a large majority could differentiate between the correct and the incorrect modes of transmission. By and large, the level of knowledge was much higher for XI and XII standard students as compared to students of IX and X standards.

It was also observed that for certain aspects of modes of transmission a higher proportion of girl students had the correct knowledge as compared to their male counterparts. These findings are tabulated in Table 1.

Table 1: Analysis of knowledge of students as regards modes of transmission of HIV, according to class in which the student is presently studying and sex of the student.

Knowledge about mode of transmission	Boys			Girls			χ^2 test (Yates corrected) (difference between boys and girls) (p value) ^a
	IX and X Standards correct N (%)	XI and XII Standards correct N (%)	χ^2 test (Yates corrected) (p value)	IX and X standards correct N (%)	XI and XII standards correct N (%)	χ^2 test (Yates corrected) (p value)	
Mosquitoes/ other insects	155 (70.45)	125 (67.20)	0.36 (0.5500)	125 (76.68)	120 (86.95)	4.55 (0.0329)	13.33 (0.0002)
Sexual intercourse	183 (83.18)	173 (93.01)	8.13 (0.0043)	139 (85.27)	131 (94.92)	6.53 (0.0106)	0.51 (0.4759)
Sharing clothes with HIV infected person	176 (80.00)	174 (93.54)	14.44 (0.0001)	143 (87.11)	133 (96.37)	6.25 (0.0124)	4.60 (0.0318)
Transfusion of blood having HIV virus	156 (70.90)	147 (79.03)	3.10 (0.0784)	131 (80.36)	132 (95.65)	14.47 (0.001)	16.80 (0.0000)
Improperly sterilized needles/syringes	178 (80.90)	160 (86.02)	1.54 (0.2145)	132 (80.98)	125 (90.57)	4.77 (0.0288)	0.44 (0.5072)
Social contact with infected person	150 (68.18)	168 (90.32)	27.81 (0.0000)	144 (88.34)	127 (92.02)	0.76 (0.3840)	16.21 (0.0000)

^aBoys of all classes were clubbed together in one group and girls of all classes were clubbed together in the other group for the purpose of this analysis.

Table 2: Analysis of knowledge of students as regards high risk groups for HIV infection/AIDS.

Knowledge about high risk groups	Boys			Girls			χ^2 test (Yates corrected) (difference between boys and girls) (p value) ^a
	IX and X standards correct N (%)	XI and XII standards correct N (%)	χ^2 test (Yates corrected) (p value)	IX and X standards correct N (%)	XI and XII standards correct N (%)	χ^2 test (Yates corrected) (p value)	
Faithful couples	190 (86.36)	170 (91.39)	2.07 (0.1506)	155 (95.09)	129 (93.47)	0.13 (0.7235)	6.19 (0.0128)
Truck drivers	176 (80.00)	173 (93.01)	13.08 (0.0002)	147 (90.18)	117 (84.78)	1.55 (0.4759)	59.09 (0.0000)
CSWs	176 (80.00)	177 (95.16)	19.10 (0.0000)	149 (91.41)	135 (97.82)	4.63 (0.0314)	9.81 (0.0017)
Professional blood donors	186 (84.54)	174 (93.54)	7.26 (0.0070)	131 (80.36)	132 (95.65)	14.47 (0.0001)	0.17 (0.6829)
IVDUs	173 (78.63)	165 (88.70)	6.63 (0.0100)	144 (88.34)	126 (91.30)	0.42 (0.5145)	5.45 (0.0195)
Defence personnel	88 (40.00)	92 (49.46)	3.28 (0.0699)	70 (42.94)	90 (65.21)	14.01 (0.0001)	5.04 (0.0247)
Healthcare workers	93 (42.27)	118 (63.44)	17.25 (0.0000)	73 (44.78)	95 (68.84)	16.57 (0.0000)	0.88 (0.3487)

^aBoys of all classes were clubbed together in one group and girls of all classes were clubbed together in the other group for the purpose of this analysis.

Knowledge about high risk group for HIV infection

Gaps in knowledge existed especially as regards knowledge about high risk groups such as intravenous drug users (IVDUs), truck drivers, professional blood

donors, defense personnel and health care workers (HCWs). As regards the last two risk groups the level of knowledge was particularly low amongst the students. As regards these high risk groups the level of knowledge was higher in case of girls as compared to boys.

Attitudes about high risk sexual behaviour and about obtaining HIV/AIDS education

A large majority i.e. about 92% of both sexes and all classes had a healthy attitude about sex and were desirous of obtaining AIDS education as part of their school curriculum. However, a sizeable proportion of the students were of the opinion that school/college students are at a high risk of acquiring HIV infection. This could be possibly related to the appreciation of students as regards the perceived level of sexual activity and promiscuity which they think that people of their age group could possibly be indulging in. The findings are tabulated in Table 2.

However, the point to be noted is that a considerable proportion of students do perceive that they or their colleagues are a high risk group for HIV infection and this attitudinal platform could be used successfully for instituting HIV/AIDS education in this age group.

Last, but not the least, a very large majority (95%) of the students of both sexes and all classes felt that HIV/AIDS education must be incorporated in the school curriculum. As regards the major sources of existing knowledge, 67.42% of the students quoted radio and TV as the sources. A large number of students quoted more than one source of information such as friends and relatives, radio and TV, newspapers and magazines and health and paramedical staff.

DISCUSSION

This baseline assessment brings forth the lacunae that are existent in the status of knowledge regarding HIV/AIDS among adolescents who are likely to start their sexual life after just a few years. In particular, a large proportion are unaware about its causation by a microorganism. Gaps in knowledge also existed especially as regards knowledge about high risk groups such as intravenous drug users (IVDUs), truck drivers, professional blood donors, defense personnel and health care workers (HCWs). As regards the last two risk groups the level of knowledge was particularly low amongst the students.

Diclement et al in their study conducted on 1326 students in 1986 concluded that only about 60% of the students were aware of the fact that AIDS is caused by a virus and about 84% had correct knowledge about the modes of transmission of the disease.¹ Alhawasi et al in their study on 346 students observed that knowledgeable regarding the nature and mode of transmission of HIV/AIDS.⁵ These findings are comparative with those of the present study.

Bhalwar et al in their study conducted on 313 students in 2000 observed that in general, the level of knowledge increased with the class in which the student was presently studying and also that for certain aspects, a higher proportion of girl students had correct knowledge

as compared to their male counterparts.⁶ These findings are also comparative with those of the present study.

Cai et al in their study on 2432 students observed that HIV/AIDS related knowledge was not high enough.⁷ Bhalwar et al in their study conducted on 313 students in 2000 observed that gaps in knowledge existed especially as regards knowledge about high risk groups such as truck drivers, CSWs, professional blood donors and intravenous drug users (IVDUs) as high risk groups.⁶ These findings differ from those of the present study in that the level of knowledge among the students was particularly low as regards defense personnel and health care workers (HCWs) belonging to high risk groups.

Various studies carried out by earlier workers showed that a high proportion (87% to 97%) of adolescent students had a healthy attitude about HIV/AIDS, in that they were of the opinion that education about HIV/AIDS must be provided as part of their school curriculum.^{1,6,7} These findings are also comparative with those of the present study.

As regards the major sources of existing knowledge, Bhalwar et al observed that 68% to 76% of the students quoted informal discussions as the major source of their information as compared to 67.42% of the students quoting radio and TV as the major sources of their information in the present study.⁶

CONCLUSION

The findings of the present study, when viewed against the other studies mentioned above, thus bring out the following aspects such as the level of knowledge regarding modes of transmission of the HIV virus among school students is fairly good. Some lacunae do exist as regards knowledge about the aetiology of AIDS, or the difference between HIV and AIDS and about high-risk groups. School children are positively inclined to accept formal education about HIV/AIDS as part of their school curriculum.

Recommendations

Based on the findings of the study it is submitted that concerted efforts as regards education about HIV/AIDS be initiated, on a war footing, as a part of the school/college curriculum. This will reap rich dividends by positively orienting a group (school/college students) who are soon going to be sexually active.

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