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Research Article

KNOWLEDGE OF HIV INFECTION AMONG URBAN SCHOOL GOING ADOLESCENTS: A CROSS SECTIONAL STUDY

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Abstract :

Background: Twenty five percent of the country's population between 15-29 years accounts for 31% of AIDS burden. Proper knowledge about AIDS is essential for adolescents to survive in this ever changing world. Objectives : To estimate the knowledge of adolescents regarding HIV infection and attitude towards HIV infected patients. Methods: This was a cross sectional study conducted among urban school going adolescents, in the age group 15-19 yrs, from 8 co-educational schools of Shimla. The schools were selected by simple random sampling.Data was collected through a predesigned, pretested, semi structured, self administered, anonymous questionnaire with 29 questions on various aspects of HIV .Data was analyzed using Epi InfoTM 3.5.1 and p value <0.01 was considered significant. Results: The response rate was 100%. A total of 1281 students participated out of which there were 720 boys and 561 girls. 94.7% respondents had heard of AIDS &70% were willing to share food with a patient. Lesser number of females compared to males were aware of testing facility for HIV(p=0.001) & use of condoms for preventing HIV (p=0.001). More girls (83.76 %) were willing to attend awareness programs compared to boys (77.1%) (p=0.004). Majority (65.8%) didn't have sex education classes at school and TV was the most popular source of information (60%) on AIDS. Conclusions: Overall attitude of adolescents towards people living with AIDS is positive and should be encouraged. Considering the lack of universal sex education at schools other sources of mass media should be used optimally for spreading awareness.

Key words: AIDS, adolescents, immunodeficiency

INTRODUCTION

There are an estimated 23.9 lakh people currently living with HIV/AIDS in India with an adult prevalence of 0.31 percent in 2009^1 . People in the age group of 15-29 years comprise almost 25 percent of the country's population accounting for 31% of AIDS burden.²

Adolescents are particularly vulnerable to HIV and other sexually transmitted illnesses (STIs) due to the peculiar psychological stage of development during puberty. They are more curious about human sexuality and are likely to experiment under pressure from their peers. They are often ignorant of the health risks of their sexual behavior, and they may have poor access to healthcare services.



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However, adolescents do not get scientific information about adolescence, human sexuality, STI and HIV infection in their formative years from authentic sources. Discussion on sexuality is considered taboo by parents and teachers, making them search for information from their peers and pornographic literature.

At the same time, adolescents can be a positive asset in helping prevent HIV. As they are still developing their behavior and experimenting in sexual matters, they can adopt safer practices from the outset- or switch to them- more easily as adults. Since they have had less time to develop prejudices, young people can also learn to adopt non-discriminatory behavior and attitudes towards people with HIV/AIDS far more easily than adults can. Most of the adolescents do attend school at some point, and school is an entry point where the above issues- often difficult to discuss elsewhere- can be addressed.

As we know that there is a huge knowledge gap in the adolescent population(10-19yrs) with regards to HIV infection. Our attempt is to know regarding the baseline knowledge of school going adolescents regarding various issues pertaining to HIV infection. This would help plug gaps in knowledge by strengthening of health education facilities at schools and thus equip them with the necessary set of knowledge and skills to lead a healthy and fruitful life.

MATERIAL & METHODS

This was a cross sectional study conducted among school going adolescents (15-19yrs) of both sexes studying in $X^{th} - XII^{th}$ classes in various Government and private senior secondary co-educational schools of Shimla city. The schools to be included in the study from each sector were selected by simple random sampling. Prior permission was obtained from school authorities and parents for conducting this study.

The data was collected through a *predesigned, pretested semi structured, self* administered anonymous questionnaire with 29 questions on various aspects of HIV infection. The questionnaire were an adaptation of the ones used in National Behavioral Surveillance survey 2006³ and Format of adolescent preventive Services (FAPS questionnaire: developed by Adolescent health clinic, Calcutta Medical College with technical support from WHO)⁴. It was pretested in one public and one government school which were not included in the study sample.

The students were explained the nature of the research and assured of the anonymity and confidentiality of their responses. The questions were in the form of multiple choices and 30min were given for completion. The inclusion criteria was: Adolescents between 15-19 years, who study fulltime in the selected school in classes X- XII & are willing to participate in the study. The exclusion criteria was students not in 15-19 years age group but reading in X-XII class and those absent on the day of the visit.

Ethical clearance was obtained from the College's Ethics Committee. Analysis was done using descriptive statistics. Epi InfoTM 3.5.1 was used for calculation of percentages,

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application of Chi Square test and calculation of p values. A p value of < 0.01 has been taken as significant for this study.

RESULTS

A total of 1281 students participated, out of which 720 (56.2%) were males. Reponses were obtained from all the children. Four hundred ninety one students were from Class X, 260 students from Class XI and 530 from Class XII. Majority of respondents were Hindus(1242),followed in numbers by Sikhs (30), Muslims(3), Christians(3), Buddhists(2) and Jains(1). The monthly house hold income of 39.3% families among those surveyed was > Rs 15000/- per month and 0.4% families had income < Rs 1500/- per month, while 16.5% respondents didn't disclose their family incomes.

Awareness regarding HIV

Majority (94.7%) of respondents had heard of HIV/AIDS and 78.3% of them believed that

HIV/AIDS could be prevented. In the study, 511 (73%) males and 358 (66.67%) females believed that anyone could be infected by HIV. In the questions related to the modes of spread of disease, majority of respondents had a fairly good idea regarding the correct answers.**Table I**

More number of males(49.7% vs 37.6% females, p=0.001) were aware regarding testing facilities (hospital) for HIV. Majority of students {42.9% males and 48.5% females} surveyed didn't know what tests were done to detect HIV. Three hundred and sixty five(50.7%) boys and 259(46.2%) girls were aware of the unavailability of vaccine to prevent HIV/AIDS.

Having one uninfected faithful sex partner and the fact that a person suffering from a sexually transmitted illness has a high chance of HIV exposure was known adequately by students of both sexes. More number of boys (82.1% vs 73.4% girls, p value=0.001) believed that one can protect oneself from AIDS by proper usage of condom every time having sex and this difference in knowledge among the two sexes was statistically significant.(p value **0.001***)

Most of the respondents had a positive attitude towards those suffering Most of the respondents had a positive attitude towards those suffering from AIDS. There was a statistically significant difference of opinion among members of both the sexes. In this study, more number of females compared to males (55.2 vs 46% males ,p=0.001) were in favor of treatment of HIV infected patients along with general patients.(**Table II**)



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Table I : Modes of spread of HIV/AIDS { M-Male,F- Female ;Sample Size :1281 students }

Can a person get		Yes(%)	No(%)	Don't	No	Total	Р
HIV/AIDS by:				know(%)	response(%)	(%)	values
Sharing meal with	Μ	53(7.4)	638(88.6)	0	29(4)	720	
someone who is							0.17
infected	F	30(5.3)	499(88.9)	0	32(5.7)	561	
Mosquito bite if	Μ	417(57.9)	226(31.4)	64(8.9)	13(1.8)	720	o - 1
mosquito has drawn	F	303(54)	167(29.8)	69(12.3)	22(3.9)	561	0.71
blood from HIV							
Infected	NÆ	(01(04))	20(2.9)	12(1.7)	7(10)	720	
Getting injections with	IVI	681(94.6)	20(2.8)	12(1.7)	/(10)	720	0.04
a needle that has	Б	522(02)	167(20.8)	60(12.2)	22(2.0)	561	0.94
someone who is	Г	322(93)	107(29.8)	09(12.3)	22(3.9)	301	
infected							
Getting tattoos/Body	М	477(66-3)	119(16.5)	99(13.8)	25(3.5)	720	
parts pierced with a	F	384(68.4)	64(11.4)	89(15.9)	23(3.3) 24(4.3)	561	
needle that has been	T	50+(00.+)	0+(11.+)	0)(15.5)	2-1(-1.3)	501	0.27
already used by							
someone else							
Infected blood	М	650(90.3)	16(2.2)	35(4.9)	19(2.6)	720	
transfusion	F	489(87.2)	11(2.0)	44(7.8)	17(3.0)	561	0.07
Can pregnant woman	Μ	606(84.2)	38(5.3)	60(8.3)	16(2.2)	720	
infected with HIV	_						
transmit the virus to	F	451(80.4)	36(6.4)	56(10)	18(3.2)	561	0.14
her unborn child		200/11 =>	100(25)	201/25 0	20(5.1)		
Can a woman with	Μ	300(41.7)	180(25)	201(27.9)	39(5.4)	720	
HIV transmit virus to	Б	20(2(7))	140(25)	102(24.2)	22(4,1)	5(1	0.04
through broost fooding	Г	206(36.7)	140(25)	192(34.2)	23(4.1)	501	0.04
Con healthy looking	м	555(77-1)	75(10.4)	66(0,2)	24(2,2)	720	
call liealury looking	IVI E	333(77.1)	13(10.4) 12(7.7)	00(9.2)	24(3.3) 22(4.1)	720 561	0.34
also transmit	Г	424(73.0)	43(7.7)	/1(12.7)	23(4.1)	301	0.54
HIV/AIDS							
Sexual contact	М	652(90.6)	29(4.0)	21(2,9)	18(2.5)	720	
	111	002(000)				, _0	
	F	512(91.3)	9(1.6)	27(4.8)	13(2.3)	561	0.70

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Table II :Attitude towards those suffering from AIDS(Sample size=1281 students)

		Yes(%)	No(%)	Don't know(%)	No Response(%)	Total	P value	
Do you think your community will allow AIDS pt to stay in the village	М	411(57.1)	118(16.4)	147(20.4)	44(6.1)	720	0.06	
	F	294(52.4)	112(20)	123(21.9)	32(5.7)	561		
Would you share food with an AIDS/HIV patient	М	500(69.4)	118(16.4)	52(7.2)	50(6.9)	720		
	F	409(72.9)	86(15.3)	39(7)	27(4.8)	561	0.43	
Would a family member suffering from AIDS be accepted in the family		Accepted	Segregated	Don't know	No response	Total	0.55	
	М	492(68.3)	42(5.8)	125(17.3)	61(8.4)	720		
	F	405(72.1)	29(5.1)	98(17.4)	29(5.1)	561		
Measures that can be taken to treat AIDS Patient		Treated along with general patients	Kept in isolation treated separately	Don't know	No response	Total	0.001*	
	М	331(45.9)	177(24.5)	148(20.5)	64(8.8)	720		
	F	310(55.2)	139(24.7)	74(13.1)	38(6.7)	561		

Most of the students {843 (65.8%)} didn't have classes on sex education at school, while 66.3% students had never attended any awareness program on AIDS. More number of the girls compared to boys were willing to attend such awareness programs (83.76 vs 77.1, p=0.004).

The most common source for attaining information regarding HIV /AIDS is the television {(59.3% males 52.8% females)} followed by doctors {(14.7% males & 19.1% females)},friends (8%), magazines(5.9%), newspaper(5.3%) and parents (2.5%).

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DISCUSSION

In our study 95.7% males and 93.4% females had heard of HIV/AIDS. Majority of respondents in the various other studies had heard of HIV/AIDS with percentages varying from >80% -100% in various studies:Lal P et al ⁵ (100%), Lal SS et al⁶ (100%), YA Jaffer et al⁷ (99% boys and 98.3% girls), Agrawal S et al ⁸ (89%) and Kamalam J K et al ⁹(>80%).

Most of the respondents in our study had fairly good idea regarding different modes of transmission of HIV/AIDS. There were several other studies ^(3,7,8,10-13) with similar outcomes in terms of knowledge regarding modes of spread. This implies that adolescents have a fair knowledge regarding modes of spread of the infection.

In the study by Sobhan K et al ¹⁴ in Bangalore, 48% stated that a blood test was necessary to detect HIV/AIDS while in the study by Kore SJ et al¹⁵ in Mumbai, approximately 40% students knew regarding the availability of a blood test to detect HIV. In the present study 49.7% males and 37.6% females were aware of testing facilities(Hospital/ICTC centre-Integrated counseling and testing centers) while 37.9% males and 33% females were aware regarding the availability of blood test for detection of HIV. Tavoosi A et al¹⁶ in a study conducted in Tehran found that 9% students believed that there is a cure for AIDS while 11% believed in the availability of a vaccine for its prevention. The findings of this study concur with those found in our study. More thrust needs to be given in these areas in the school curriculum , so that the various gaps in knowledge are plugged and misgivings dissipated.

In the nationwide study by NACO³, 61% (M>F) of the respondents reported that they were willing to share food with PLHA (People Living with HIV/AIDS). These numbers are similar to those seen in our study. Among all respondents aware of HIV/AIDS, 68 percent reported that PLHA should be allowed to stay in the community/village. The proportion was significantly higher for males (72%) than females (64%). In a study in Delhi⁵, majority (77.8%) of students had a favorable attitude towards people living with HIV/AIDS (PLHA). Seventy three percent males and 62.5% females were aware of the fact that a person suffering from a STI (sexually transmitted illness) was at a higher risk of HIV/AIDS while in another study ⁶ it was shown that 47% knew of STIs increased association with AIDS.

Data on sex education at school/college level in India is sparse as shown in the study by Kore SJ et al^{15} , only 32.25% students had prior exposure to some sort of sex education. In the same study approximately 70% of respondents showed willingness to attend awareness programs on AIDS awareness if given the chance. Adolescents in our country feel shy to take up such issues with their parents or teachers unlike their counterparts in the west.Universal sex education at school is the norm in the west unlike India where it is the exception.There is also an urban and rural divide in our country with sex education being almost unheard of in rural schools.The standards of sex education schools are variable and in a study by Marianne E L et al^{17} in Sweden, two-thirds of the students who had received sex education found the information insufficient. A model programme for universal sex education needs to be built and teachers across the country should be trained on its to implementation.

In our study television (56.4%) was the most common source for obtaining information regarding HIV/AIDS followed by doctors (16.6%).Similar findings have been seen in various other studies $^{(3,5,14-16,18-20)}$ with figures ranging between 48-94%.In another study²¹ talks/lectures were the most important source of information for both boys (56.6%) and girls (61.8%).



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The vast array of data acquired from among school going adolescents could help design future health education programs. It would also serve as a template for designing talks at schools.

The limitations of this study are that it could not be converted into a cohort studies due to constraints of time, space and manpower. Follow up of students initially evaluated needs to be considered in all future studies for more meaningful data. More number of schools need to be included in any such future study for comparative estimation between urban and rural areas and to avoid any inadvertent socioeconomic bias.

CONCLUSION:

The overall attitude of adolescents in this study towards people living with HIV/AIDS is positive. This behavior needs to be encouraged so that they carry on with such values even later on in life and stand as role models for future generation of adolescents to look up to.Sex education needs to be strengthened at school level and awareness programs on AIDS needs to be made more widespread. As television has emerged as the most popular mode of dissemination of information on HIV/AIDS ;the government should ensure accuracy and reliability of content across different television channels.

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