Community Based Study of AIDS Awareness and Attitudes among School and College-going Teenagers from Rural Background

Lt Col Rajvir Bhalwar*, Brig J Jayaram⁺

Abstract

A community based, cross-sectional, analytical study was undertaken among children aged 13 to 19 years, who were currently studying in high school, intermediate or graduate classes, in a rural area of Maharashtra. A sample of 151 girls and 162 boys formed the material for this study. Data was collected by well qualified, centrally trained interviewers, using a pre-tested instrument, administered by personal interview technique. The study indicated that the general awareness about AIDS was very high, with more than 90% of the respondents having heard of AIDS and also identifying it as an important health problem in our country. However, less than 50% knew correctly about the etiology of AIDS, or the difference between HIV and AIDS. Similarly, a very high proportion of the subjects knew about the modes of transmission, though a much lesser proportion had the knowledge about the role of improperly sterilised syringes and needles. Similarly, a general lack of awareness about other sexually transmitted diseases was noticed. Lacunae in knowledge also existed as regards knowledge about high risk groups, like commercial sex workers (CSWs), intravenous drug users (IVDUs), truck drivers and professional blood donors. A very large majority of the subjects had a very positive and healthy attitude about sex, and did not accept pre or extra marital sex, as well as, were desirous of obtaining AIDS education as a part of school / college curriculum. Based on the findings of the study, certain recommendations on AIDS education in the reference population have been submitted.

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Key Words : Adolescents; AIDS; College students; Knowledge and Attitudes; Teenagers; Young adults

Introduction

The catastrophic impact of HIV infection on mankind needs no highlighting. The sheer magnitude of the problem, coupled with the lack of any effective vaccine or chemotherapy, and certainty of painful death following infection, easily make it one of the most devastating health problems that mankind has ever faced [1-3].

Substantial progress has been made in understanding the epidemiological and psycho-social determinants of this disease, during the past two decades. Available evidence indicates that hetero-sexual promiscuity is the major determinant of transmission, accounting for possibly 70% to 80% of the infections in our country. Thus, creating awareness and providing motivation to create an attitude of healthy sexual practices is going to be a major tool in our battle against AIDS, in the next decade or so. The point which needs to be considered, then, is as to, which groups should these educational and motivational efforts be directed. Now, sexual attitudes and practices take a long time to get established in an individual, with the seeds being sown during the early adolescence. Thus, if we could provide correct knowledge and motivation to young adolescents on a population basis, a positive change could be achieved as regards sexual practices in this very important group, which would be initiating their sexual activities very soon

and hence would be at high risk of contracting HIV infection. The gradual increase in the coverage of children, in our country by educational system, the ultimate governmental philosophy being to provide universal education to all children, school and college children would be our best bet today, towards whom educational and motivational efforts need to be directed [4,5]. It is for this reason that AIDS education of school children has also been given priority in the phase II of the action plan of National AIDS Control Programme.

However, for developing a programme for creating AIDS awareness among school/college children and providing them motivation to lead sexually healthy life, one needs to get baseline epidemiological information regarding existing knowledge and attitudes of school / college going children. Surprisingly, there seem to be few studies in our country which have assessed this aspect among school / college children from rural back ground. An earlier study undertaken by Tilak and Bhalwar [6] is available; however, this study was done in the urban settings of a large cantonment in Maharashtra. It was against this back ground that the present study was undertaken among teenaged school and college going children from a rural back ground in Maharashtra to assess their knowledge and attitude regarding AIDS.

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*Officer Commanding, Station Health Organisation, Jabalpur, ⁺Commandant, Military Hospital, Jalandhar Cantt - 144 005.

Material and Methods

The present study was a population based, cross sectional, analytical epidemiological design in the settings of a rural population in Maharashtra, in February 2000. Children belonging to villages of the study area, who were teenaged (i.e. completed 13 years but not completed 20 years of age) and studying in the high school classes of local village school, or going to intermediate or degree classes at the senior school/degree college at the nearby Tehsil Headquarters, formed the study population. A cluster of 5 study villages in the study area formed the defined actual, 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 an alpha error of 0.05 (two-tailed) (i.e. acceptable 95% confidence limit 0.4 to 0.6), the minimum sample size worked out to 100. In fact, a much larger sample size of 313 was studied. This included 151 girls (27, 57 and 67 respectively from High School, Intermediate and Graduate standards), and 162 boys (65, 39, 58 respectively from the three educational levels). All available children who fulfilled the above defined inclusion criteria (i.e. teen-aged, belonging to the study villages and studying in High School, Intermediate or Graduate classes) were studied. The method of sampling was that of total population, consecutive sample, studying all children who belonged to the defined study area, and came in the inclusion criteria.

A questionnaire was developed, based on earlier work by Tilak and Bhalwar done on School / College children [6] and further modified based on advice of experts. The draft questionnaire was pilot tested on a sample of 25 children and was accordingly refined. The subjects of pilot study were not included in the final analysis. The questionnaire was administered by qualified medical officers, who were centrally trained in administration of the questionnaire by a faculty member. The same faculty member also supervised

the entire conduct of the study. Interviewers (medical officers) were assisted by local health workers and teachers during the interview. For interview of girls, lady medical officers acted as the interviewers, and lady teachers were co-opted to assist these interviewers (lady medical officers). Interviews were conducted in a quiet room, in privacy. Respondents were informed of the scope of the study and were assured of full confidentiality. After initial rapport building, the questions were asked by personal face to face method of interview.

Results

(a) General awareness about HIV infection / AIDS :

The findings revealed that 150 out of the 151 girls (99.3%) and 161 out of 162 boys (99.4%) had at least heard of either HIV, or AIDS or both. Similarly, 92.7% of the girls and 91.4% boys said that AIDS is an important problem in our country. However, there was a lacuna observed in the general awareness, in that only 46.9% of the girls and 46.9% of the boys correctly knew that the infection is caused by a virus called Human Immuno Deficiency Virus (HIV) which subsequently leads to the disease, "AIDS". The remaining had either not heard of the name of "HIV", or else thought that "HIV" and "AIDS" were two unrelated entities.

(b) Knowledge about modes of transmission :

The findings are presented in Table 1. It was observed that a large majority of children had correct knowledge about the modes of transmission of AIDS virus and also a large majority could discriminate well between the correct and incorrect modes. In general, the level of knowledge was much higher for intermediate level and graduate students as compared to high school level students and this level was statistically significant for certain facets like sexual contact, sharing of clothes (for male students only), transmission by

Table 1

Analysis of knowledge of subjects as regards modes of transmission, according to educational standard and gender

Knowledge about mode of transmission (**)	Girls			X ² LT test	Boys			X ² LT test
	HS n=27	Inter n=57	Grad n=67		HS n=65	Inter n=39	Grad n=58	
	Corr No (%)	Corr No (%)	Corr No (%)		Corr No (%)	Corr No (%)	Corr No (%)	
Mosquitoes/other insects	23 (85)	47 (82)	52 (78)	p > 0.05	51 (78)	29 (74)	49 (84)	p > 0.05
Sexual intercourse	21 (78)	55 (97)	63 (94)	p < 0.05	53 (82)	38 (97)	55 (95)	p < 0.05
Sharing clothes with HIV infected person	22 (81)	52 (89)	62 (93)	p > 0.05	44 (68)	33 (85)	53 (91)	p < 0.01
Transfusion of blood having AIDS virus	20 (74)	51 (89)	63 (94)	p < 0.01	52 (80)	38 (97)	53 (91)	p > 0.05
Social contact with infected person	21 (78)	49 (86)	61 (91)	p > 0.05	44 (68)	29 (74)	53 (91)	p < 0.01
Improperly sterilised syringes/needles	14 (52)	35 (61)	58 (87)	p < 0.01	48 (74)	33 (85)	47 (81)	p > 0.05

HS = High school classes (IX/X), Inter = Intermediate classes (XI/XII); Grad = Graduate classes (BA/B Com/B Sc); Corr = Correct knowledge; Incor = Incorrect or no knowledge

** Note : Some modes are correct while some are not. Caegorisation into correct / incorrect knowledge has been made accordingly

blood (for girl students only), and social contact (for male students only). It was also noticed that for certain aspects, a higher proportion of girl students had correct knowledge, as compared to their male counterparts. However, one aspect about which correct knowledge was not very common was the potential that improperly sterilised syringes and needles have for transmission.

(c) Knowledge about sexually transmitted diseases (STDs):

The findings are presented in Table 2. It was interestingly observed that while a very large majority of students, boys and girls, had correct knowledge that AIDS virus is transmitted by sexual route, a small minority only could identify syphilis and gonorrhoea to be sexually transmitted. The proportion of children with correct knowledge about these STDs increased linearly from junior to senior educational standards, both for boys and girls.

(d) Knowledge about high risk groups for AIDS :

The findings are presented in Table 3. It was observed that a very large majority of students, from all educational standards, identified that "faithful couples" were not a high risk group. Similarly, a large majority identified that routine office workers were not a high risk group. The level of knowledge was, however, lower in correctly identifying truck drivers, CSWs, professional blood donors and IVDUs as

high risk groups. As regards these last four risk groups, the level of knowledge was particularly lower for the high school students and was also found to be lower in case of girl students.

(e) Attitudes about high risk sexual behaviour and about obtaining AIDS education: (Table 4 refers).

It was observed that a very large majority of students, of both genders and all educational standards, had a positive and healthy attitude, in that they said that pre-marital or extra-marital sexual indulgence was not acceptable to them. However, a sizeable proportion said that school/college students are at a high risk of getting AIDS. Interestingly, the proportion of students who thought so, steadily decreased from high school to graduate classes for girls ($p < 0.001$) while it conversely, increased from high school to graduate level for boys ($p < 0.001$). This could be possibly related to the appreciation of students as regards the perceived level of sexual activity (and promiscuity), which they think people of their age group could be indulging in. However, the point to be noted is that a considerable proportion of school and college children do perceive that they or their contemporaries are a high risk group for this infection and this attitudinal platform could be used successfully for instituting AIDS education in schools / colleges. Finally, to supplement this feeling, a very large majority (87 to 97%) of the students, of both genders and all educational levels, felt that education

Table 2

Analysis of knowledge of subjects as regards sexually transmitted diseases (STDs)

Knowledge about the following being STDs	Girls			X ² LT test	Boys			X ² LT test
	HS Corr No (%)	Inter Corr No (%)	Grad Corr No (%)		HS Corr No (%)	Inter Corr No (%)	Grad Corr No (%)	
Syphilis	1 (4)	4 (7)	4 (6)	$p > 0.05$	2 (3)	7 (18)	10 (17)	$p < 0.05$
Gonorrhoea	1 (4)	1 (2)	1 (2)	$p > 0.05$	3 (5)	6 (15)	10 (17)	$p < 0.05$
AIDS	21 (78)	55 (97)	63 (94)	$p < 0.05$	53 (82)	38 (97)	55 (95)	$p < 0.05$

HS = High school classes (IX/X); Inter = Intermediate classes (XI/XII); Grad = Graduate classes (BA/B Com/B Sc); Corr = Correct knowledge; Incor = Incorrect or no knowledge

Table 3

Analysis of knowledge of subjects as regards high risk groups for HIV infection/AIDS

Knowledge about high risk groups (**)	Girls			X ² LT test	Boys			X ² LT test
	HS Corr No (%)	Inter Corr No (%)	Grad Corr No (%)		HS Corr No (%)	Inter Corr No (%)	Grad Corr No (%)	
Faithful couples	26 (96)	54 (95)	66 (99)	$p > 0.05$	62 (95)	35 (90)	55 (95)	$p > 0.05$
Office workers	22 (81)	46 (81)	61 (91)	$p > 0.05$	58 (89)	35 (90)	55 (95)	$p > 0.05$
Truck drivers	8 (30)	39 (68)	35 (52)	$p > 0.05$	24 (37)	33 (85)	50 (86)	$p < 0.01$
CSWs	15 (56)	49 (86)	60 (90)	$p < 0.01$	49 (75)	18 (46)	28 (48)	$p < 0.05$
Professional blood donors	5 (19)	9 (16)	31 (46)	$p < 0.05$	20 (31)	18 (46)	28 (48)	$p < 0.05$
IVDUs	5 (19)	26 (46)	33 (49)	$p < 0.05$	34 (52)	27 (69)	41 (71)	$p < 0.05$

HS = High school classes (IX/X); Inter = Intermediate classes (XI/XII); Grad = Graduate classes (BA/B Com/B Sc); Corr = Correct knowledge; Incor = Incorrect or no knowledge

** Note : Some groups are correct while others are not. Categorisation into correct / incorrect knowledge has been made accordingly.

Table 4

Analysis of attitudes regarding sex and sex education

Knowledge about high risk groups	Girls							Boys						
	HS		Inter		Grad		X ² LT test	HS		Inter		Grad		X ² LT test
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)		Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	
Is having sex before marriage acceptable?	1 (4)	26 (96)	1 (2)	56 (98)	2 (3)	65 (97)	p > 0.05	4 (6)	61 (94)	4 (10)	35 (90)	2 (4)	56 (96)	p > 0.05
Is having sex with a person other than spouse acceptable?	1 (4)	26 (96)	1 (2)	56 (98)	1 (1)	66 (99)	p > 0.05	3 (5)	62 (95)	2 (5)	37 (95)	1 (2)	57 (98)	p > 0.05
Should education about AIDS be given in school/college?	23 (87)	4 (13)	56 (98)	1 (2)	64 (96)	3 (4)	p > 0.05 p > 0.05	59 (91)	6 (9)	38 (97)	1 (3)	56 (97)	2 (3)	p > 0.05
Are school/college students at high risk of getting AIDS?	14 (52)	13 (48)	27 (47)	30 (53)	11 (20)	56 (80)	p < 0.01	8 (12)	57 (88)	11 (28)	28 (72)	24 (41)	34 (59)	p < 0.01

HS = High school classes (IX/X); Inter = Intermediate classes (XI/XII); Grad = Graduate classes (BA/B Com/B Sc)

about AIDS must be provided as a part of school / college curriculum. As regards the major sources of existing knowledge, 68% to 76% quoted “informal discussions with friends” as the major source of their information, while 22% to 25% quoted TV as the main source.

Discussion

Before critically analysing the findings of the present study, as presented earlier, it may be pertinent to mention that the area of study has been subjected to regular, structured, AIDS educational activities for school and college children, by various social, non governmental as well as semi governmental agencies, during the past 2 to 3 years. Apparently, this could be one of the major reasons for the impressively high levels of awareness about HIV infection, its method of transmission and the positive attitudes among the school / college children in the present study. The point, then, which needs to be highlighted is that, firstly, school and college students do accept AIDS education in the educational institutions, and secondly, if regularly provided, it does make an impression on them, favourably improving awareness as well as attitudes. Of course, some aspects of knowledge were found to be relatively lacking in this study population. These included knowledge about STDs and knowledge about high risk groups. It is felt that these aspects may be included in the AIDS education curriculum.

The above conclusion that proper and regular AIDS education is very likely to have an impact on school and college students as noticed in this study, has a clear support from the study of Tilak and Bhalwar, in which it was demonstrated that a properly conducted school AIDS education programme does significantly improve the knowledge and attitude among school / college children [6]. It may be further mentioned that in the study by Tilak and Bhalwar, which was also conducted

in the same state as the present study but on middle / higher middle income group school and college children in an urban area, the level of awareness for a number of facets was found to be quite good at base line, with 80% or more children having correct knowledge about transmission factors. Thus, in general, the findings of the present study are in agreement with the findings of other studies by Tilak and Bhalwar [6] Seltzer et al [7], Diclemente et al [8], Kaul et al [9] and Walrond et al [10].

The findings of the present study, when viewed against the other studies mentioned above, thus bring out the following aspects :

- The level of knowledge regarding modes of transmission of AIDS virus among school / college children is fairly good.
- Lacunae exist as regards knowledge about other STDs, about high risk groups, and about the etiology and natural history of HIV infection/AIDS.
- School and college children are positively inclined to accept formal AIDS education as a part of class room teaching.
- Regular, structured AIDS education in school and colleges does go a long way in increasing the awareness, as well in positively orienting their attitudes towards avoidance of promiscuous sex and other high risk sexual behaviour.

Against the above findings, it is recommended that concerted effort as regards AIDS education be initiated, as a part of school / college curriculum, at regular intervals. This will reap rich dividends by positively orienting a group (school / college children) who are soon going to be sexually active.

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References

1. National AIDS Control Organisation (NACO), National Scenario 1997-98. Govt of India, Min of Health and Family Welfare, 1988:1-20.
2. Pavri K. Facts and figures about HIV/AIDS. Surveillance is for what and what cost? CARC calling 1992:5-29.
3. Gangakhedkar RR. HIV/AIDS update. IX International conference on AIDS, Berlin, CARC Calling 1993:1-9.
4. Strunin L, Hingson R. Acquired Immuno Deficiency Syndrome and adolescents. Knowledge, beliefs, attitudes and behaviours. Paediatrics 1987;79:825-8.
5. World Health Organization. School education to prevent AIDS and sexually transmitted diseases. AIDS Series No 10. WHO Geneva 1992.
6. Tilak VW, Bhalwar R. Effectiveness of a health educational package for AIDS prevention among adolescent school children. MJAFI 1998;54:305-8.
7. Seltzer VL, Rabin J, Benjamin F. Teenagers' awareness of the acquired immuno deficiency syndrome and the impact on their sexual behaviour. Obstet and Gynae 1989:74:55-9.
8. Diclement RJ, Zorn T, Temoshok L. Adolescents and AIDS; a survey of knowledge, attitudes and beliefs about AIDS in San Francisco. Amer J Pub Health 1986;176:1443-5.
9. Kaul R, Stephens J. AIDS : Knowledge, attitudes and reported sexual behaviour among students in West Glamorgan. Health Education Journal 1991;50:120-30.
10. Walrond E, James F, Hoyos M. An AIDS knowledge, attitudes, belief and practices survey among school children in Barbados. Bull of PAHO 1992;26:208-18.

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