

Awareness about human immunodeficiency virus/acquired immune deficiency syndrome and risk factors among out of school adolescents in an urban city

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Abstract

Background: Adolescence is a complex phase of transition from childhood to adulthood. Present education programs usually overlook the needs of adolescents. Among those who are out of school, lack of appropriate level of education regarding human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) make them more vulnerable. **Objective:** To find the awareness about HIV/AIDS and risk factor among out of school adolescents. **Materials and Methods:** In this cross-sectional observational study, 211 adolescents presently not going to school for ≥ 6 months were interviewed. A simple random sampling was done from different areas such as traffic signals, railway station, and slums. **Results:** Among studied adolescents, 25% had never been to school, while 44.6% had studied $< 5^{\text{th}}$ class. Half of them worked outside while a quarter was involved in household work. About 44% of total adolescents had heard about HIV/AIDS with 16.3% from the age group 10-14 years and 63.2% from 15 to 19 years group. Awareness about sexual relationships was seen in 67% males and 51% females. Among those aware of physical relations, knowledge about condoms was present in 92% males and 82% females. Among sexually active adolescents (67), 74% males and 28% females were involved in physical relations outside marriage, comprising 38 (18%) of all interviewed, putting them at high-risk behavior. Around 25.8% males and none of the females among them had used condoms. 26 (68.4%) of these “at risk” adolescents had a relationship with consent, whereas 24 (63.2%) had multiple sexual partners. **Conclusion:** Being out of school, these adolescents have poor educational status. Their knowledge about HIV/AIDS is very poor. Adolescents with better education status, higher age and male gender were more aware regarding various aspects of HIV. Significant proportions among these indulge in high-risk sexual behavior, does not use condoms and have multiple sex partners. Their specific needs should be addressed by the ongoing campaigns and programs against HIV to spread more awareness.

Key words: *Acquired immune deficiency syndrome, Adolescents, Human immunodeficiency virus, Out of school*

Human immunodeficiency virus (HIV), has taken the form of a global pandemic, since it was first reported, in 1981. India has presently the third largest number of people living with HIV/acquired immune deficiency syndrome (AIDS). An estimated 20.89 lakh people live with HIV/AIDS in our country with HIV prevalence rate of 0.27% [1]. The prevalence of HIV among youth population of 15-24 years is 0.11% and among age group 15-19 years is 0.04% [2]. Adolescence is one of the fascinating and complex phase of life. The World Health Organization defines adolescents as young people aged 10-19 years. The Government of India defines adolescent age group as 13-19 years in its National Youth Policy. In India, there are 239 million adolescents comprising 22.8% of the population [3].

Health and education programs usually target adults and young children, but adolescents have largely been overlooked. Unmet need of age and sex appropriate health information

during this critical period can lead to serious consequences. The term “out of school adolescents” does not refer only to adolescents who are outside of age appropriate level of education (i.e., lower or upper secondary level). Rather, it denotes adolescents who are definitely out of school. They are not enrolled in any level of education - most typically at the primary level [4]. This is a heterogeneous group and is not just limited to street children. They might live with their parents in slum areas, on railway platforms, on the streets or have run away from home and now are living on their own. Reasons such as low socio-economic condition, death of parents, problems at school, religious concerns, cultural issues, non-functional schools, sexual discrimination, and early marriage can also lead to non-enrolment or even dropping out from the school.

The present study is aimed to get the knowledge of awareness about HIV/AIDS and risk factors among out of school adolescents. There is limited data available about out

of school adolescents; hence, this study was done to find the risk factor and unmet needs among them, and will guide us on issues where efforts are required.

MATERIALS AND METHODS

The present study was conducted among “out of school adolescents” in Agra city. Adolescents aged 10-19 years, presently not going to school for ≥ 6 months were interviewed by simple random sampling. In 17-19 age groups, only those who have discontinued their schooling before 12th class were included. A total of 211 adolescents were interviewed from bus stands, traffic signals, railway stations, and slums. They were briefed about the objectives of the study and after their informed consent were interviewed with a pretested questionnaire by a single interviewer. Privacy and confidentiality were strictly maintained. The information collected was transferred from the questionnaire into a format in Epi info software (3.4.3). The analysis was performed from the same and statistical tests (Chi-square) were applied.

RESULTS

The demographic profile of 211 adolescents included in the study has been shown in Table 1. The majority (59.2%) belonged to 15-19 years age group and 53.6% and 46.4% were males and females, respectively. Around 16.6% adolescents were married. Among those interviewed, 25% had never been to school, while 44.6% had studied <5th class. The majority (50%, comprising 77% males) were working outside followed by 24.2% who did household work, in which all were females. Most common reason for not going school was a denial by guardians (28%). Of 53 adolescents who never attended school, father of 31 (58.5%) and mother of 37 (69.8%) had also never been to school. Among adolescents who had studied 5-10th class or more, education among their parents was also better.

It was observed that 93 (53 males and 40 females) of total adolescents had heard about HIV/AIDS. Knowledge of etiology was seen in 50 (94.4%) males and 34 (85%) females. About 14 (16.3%) from the age group 10-14 years had heard about HIV/AIDS as compared to 79 (63.2%) from 15 to 19 years. Their knowledge regarding various aspects of HIV/AIDS in relation to education has been shown in Table 2. Among those who had never been to school, 11/53 (20.7%) had heard about HIV/AIDS. This was 32/93 (34%) for those who had studied <5th class, 44/58 (75.9%) for those who studied 5-10th class and 6/6 (100%) for those >10th class. More educated ones had better comprehensive knowledge regarding various aspects of HIV but were reluctant to get their own HIV test done.

Among males, most common source of knowledge about HIV/AIDS was television 28/53 (52.8%), followed by friends 22/53 (41.5%), and newspaper 2/53 (3.8%). Among females, television 30/40 (75%) was quoted as the most common source

Table 1: Socio-demographic distribution of studied out of school adolescents

| Variables | Total n=211(%) |
|-----------------------------|----------------|
| Age (years) | |
| 10-14 | 86 (40.8) |
| 15-19 | 125 (59.2) |
| Sex | |
| Male | 113 (53.6) |
| Female | 98 (46.54) |
| Marital status | |
| Married | 35 (16.6) |
| Unmarried | 176 (83.4) |
| Religion | |
| Hindu | 161 (76.3) |
| Muslim | 48 (22.7) |
| Sikh | 1 (0.5) |
| Christian | 1 (0.5) |
| Education | |
| Nil | 53 (25.1) |
| <5 th class | 94 (44.6) |
| 5-10 th class | 58 (27.5) |
| >10 th class | 6 (2.8) |
| Occupation | |
| Nothing | 36 (17.1) |
| Household work | 51 (24.2) |
| Work at home | 18 (8.5) |
| Work outside | 106 (50.2) |
| Reason for not going school | |
| Guardian's denial | 59 (28.0) |
| Outer work | 53 (25.1) |
| Household work | 28 (13.3) |
| Don't know | 10 (4.7) |
| Other reasons | 61 (28.9) |

of knowledge, followed by radio 11/40 (27.5%) and poster/banners 3/40 (7.5%). Knowledge about modes of transmission (multiple responses) about HIV is shown in Fig. 1. Out of 93 adolescents, 52 (56%) knew that unsafe sexual contact is a cause, followed by infected blood 34 (36.6%), infected syringes and needles 26 (28%), and transmission during pregnancy 15 (16.1%). 20 (50%) females and 19 (35.8%) males were not aware of any mode of transmission. Adolescents believed that HIV cannot spread through air 43 (46.2%), water 40 (43%), shaking hands/embracing 40 (43%), sharing food 37 (39.8%), kissing 30 (32.5%), sharing clothes 38 (40.9%), or sharing blades 22 (23.7%) while 30 (32.3%) knew that mosquito bite cannot cause transmission.

Relationship of gender and educational status with sexual behavior and contraceptive knowledge has been shown in Tables 3 and 4, respectively. Knowledge about sexual relationships was present in 76 (67.3%) males and 50 (51%)

females, the difference being significant. Around 67(31.7%) adolescents were sexually active. Overall 38 (18%) adolescents were involved in high-risk sex behavior. Exactly 31 (73.8%) of males and 7 (28%) of females were having either premarital or extra-marital sexual relations. Those who were more educated (>5th class), had better knowledge regarding sexual relations, sexually transmitted diseases (STD's), condoms, had sex with consent and used condoms during sex (statistically significant), compared to those who had not studied up to 5th class.

DISCUSSION

Out of school adolescents being deprived of the required school education have poor knowledge regarding their physical attributes, sexuality; hence, are more vulnerable to HIV. In our studied group, early marriage was more common in females (21.4%) than males (12.4%). In India, overall 49.4% female and 16.8% male youth are married [2].

Education status of females was also poor compared to males in our study. In our country, 29% of young women and 38% of young men have completed ≥10 years of education,

while 7% of men and women of 15-24 age group have <5 years of school education [2]. Education of adolescents was found to be related to the educational status of their parents. Similar results were obtained in another study from India, where 93.7% adolescents were in school if mother had some education and only 63.8% attended school if mother had no education [5].

The awareness about HIV/AIDS in out of school adolescents was very less, especially among females. As per the national average, 86% youth have heard about HIV/AIDS with 28% having comprehensive knowledge, means that they know that a healthy looking person can have HIV/AIDS, that HIV/AIDS cannot be transmitted through mosquito bites or by sharing food, and that condom use and having only one faithful, uninfected partner can help prevent infection [6]. Among “youth,” two-thirds of women and 88% of men have heard of AIDS [2]. At state level, 53.2% females and 83.8% males from 15 to 19-year-old group in Uttar Pradesh had heard of HIV/AIDS, with 32% males and 18% females having comprehensive knowledge [2]. In a study on unmarried adolescent and boys from villages in Gujarat, only 58% had heard of AIDS [7]. A community-based study among adolescents in a rural area of Maharashtra reported that the general awareness about AIDS was very high with >90% of the respondents having heard of AIDS [8]. The difference observed in our study from these surveys is most likely due to the poor education status of out of school adolescents. In our study, knowledge significantly increases in upper age group, and among those who had studied more at school, certainly depicting the effect of education.

Education, media exposure have a positive association with youth having comprehensive knowledge of HIV/AIDS [9]. Television was the most common source of knowledge in our study consistent with the national data [2]. Adolescents’ knowledge regarding modes of transmission was also poor in our study, compared to national surveys, in which 95% youth knew that HIV can be transmitted due to infected blood transfusion, 92% knew that it is due to unsafe sexual contact,

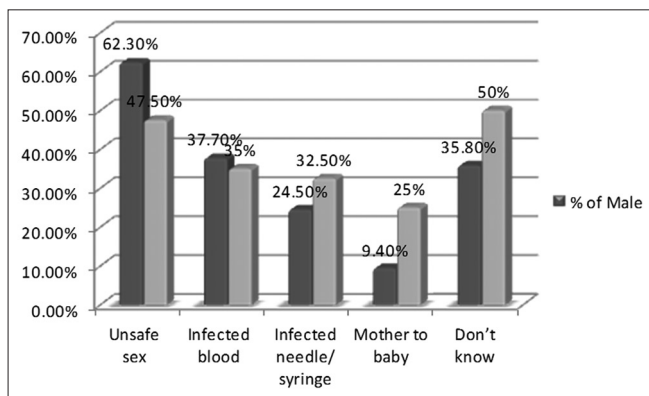


Figure 1: Knowledge about modes of transmission about human immunodeficiency virus/acquired immune deficiency syndrome* (N=93). *Multiple responses

Table 2: Knowledge about HIV/AIDS among out of school adolescents***

| Knowledge of facts (N=93) | Illiterate (53) | <5 Class (94) | 5-10 Class (58) | >10 Class (6) | Total (211) | p value |
|---|-----------------|---------------|-----------------|---------------|-------------|---------|
| Knowledge about etiology of HIV/AIDS (%) | 8 (72.7) | 29 (90.6) | 41 (93.2) | 6 (100) | 84 (90.3) | 0.19 |
| Knowledge of difference between HIV/AIDS (%) | 0 | 0 | 1 (2.3) | 1 (16.7) | 2 (2.2) | 0.18 |
| Is HIV preventable? (%) | 4 (36.4) | 9 (28.1) | 25 (56.8) | 6 (100) | 44 (47.3) | <0.01 |
| Can a healthy looking person suffer from HIV/AIDS (%) | 2 (18.2) | 9 (28.1) | 19 (43.2) | 5 (83.3) | 35 (37.6) | 0.02 |
| Anyone in family suffering from HIV/AIDS (%) | 0 | 0 | 2 (4.5) | 0 | 2 (2.2) | 0.18 |
| Are you safe from HIV/AIDS (%) | 2 (18.2) | 7 (21.9) | 22 (50) | 6 (100) | 37 (39.8) | <0.01 |
| Should person with HIV/AIDS reveal his condition to all (%) | 0 | 8 (25) | 21 (47.7) | 5 (83.3) | 34 (36.6) | 0.17 |
| Would you consent for your HIV test (%) | 8 (72.7) | 17 (53.1) | 26 (59.1) | 1 (16.7) | 52 (55.9) | 0.68 |
| Should HIV test be done before marriage (%) | 3 (27.3) | 11 (34.4) | 22 (50) | 4 (66.7) | 40 (43) | >0.05 |
| Aware about ART center | 0 | 0 | 3 (6.8) | 2 (33.3) | 5 (5.4) | 0.03 |

*Only positive responses have been taken. **% shown in the tables is of the group itself. HIV: Human immunodeficiency virus, AIDS: Acquired immune deficiency syndrome, ART: Anti-retroviral therapy

Table 3: Knowledge and behaviour regarding sexual relations – Gender wise*

| Knowledge attitude and practice | Male (%) | Female (%) | Total (%) | p value |
|--|-----------|------------|------------|---------|
| Knowledge about sexual relations (n=211) | 76 (67.3) | 50 (51) | 126 (59.7) | 0.01 |
| Knowledge about STD's (n=126) | 44 (57.9) | 22 (44) | 66 (52.4) | 0.12 |
| Knowledge about condoms (n=126) | 70 (92.1) | 41 (82) | 111 (88.1) | 0.08 |
| Involved in sexual relation (excluding with spouse) (n=67) | 31 (73.8) | 7 (28) | 38 (56.7) | <0.01 |
| Had physical relation with consent (n=38) | 24 (77.4) | 2 (28.6) | 26 (68.4) | >0.01 |
| Used condoms during sex (n=38) | 8 (25.8) | 0 | 8 (21.1) | 0.13 |
| Had physical relation with multiple partner (n=38) | 19 (61.3) | 05 (71.4) | 24 (63.2) | 0.61 |

*Only positive responses have been shown in the Table 3. STD's: Sexually transmitted diseases

Table 4: Knowledge and behavior regarding sexual relations – Education wise***

| Knowledge attitude and practice | Nil (53) | <5 Class (94) | 5-10 Class (58) | >10 Class (6) | Total (211) | p value |
|--|-----------|---------------|-----------------|---------------|-------------|---------|
| Knowledge about sexual relations (n=211) (%) | 27 (50.9) | 49 (52.1) | 44 (75.9) | 6 (100) | 126 (59.7) | <0.01 |
| Knowledge about STD's (n=126) (%) | 8 (29.6) | 26 (53.1) | 27 (61.4) | 5 (83.3) | 66 (52.4) | 0.03 |
| Knowledge about condoms (n=126) (%) | 20 (74.1) | 41 (83.7) | 44 (100) | 6 (100) | 111 (88.1) | <0.01 |
| Involved in sexual rel. (excluding with their spouse) (n=67) (%) | 13 (68.4) | 15 (53.6) | 9 (50) | 1 (50) | 38 (56.7) | 0.46 |
| Had physical relation with consent (n=38) (%) | 7 (53.8) | 9 (60) | 9 (100) | 1 (100) | 26 (68.4) | >0.01 |
| Used condoms during sex (n=38) (%) | 0 | 3 (20) | 4 (44.4) | 1 (100) | 8 (21.1) | <0.01 |
| Had physical relation with multiple partners (n=38) (%) | 10 (76.9) | 9 (60) | 5 (55.6) | 0 | 24 (63.2) | 0.31 |

*Only positive responses have been taken, **% shown in the tables is of the group itself. STD's: Sexually transmitted diseases

and 83% were aware about mother to child transmission [6]. Unsafe sexual contact was stated as the most common reason of transmission in our study. At Uttar Pradesh state level survey, 31% were aware that one cannot contract HIV by a mosquito bite or by sharing a meal with an infected person [10].

Knowledge about physical relationships, STD's and condoms was overall less among out of school adolescents. Knowledge about sexual relationships was present in 67.3% males and 51% females in our study, the difference being significant. Only 57.9% males and 44% females in our study group who were aware of sexual relations had knowledge of STD's. This was comparable to the knowledge of STDs among adults in Uttar Pradesh, which is 53% with equal knowledge in urban and rural areas, with females having better knowledge 60% compared to males 46% [6]. As per the national data, 93% males and 71% females know about condoms [2].

About 18% of our study population, including 73.8% of sexually active males and 28% of females were involved in high-risk sexual relations. Around 15.4% adolescents in 10-15 year age group were involved in sexual relations. This was higher compared to the national data in which 12% males and 1% females among never married youth had sexual relation. It was found that 10% of young women and 2% of young men in India had sexual intercourse before they were 15 years of age [2]. In another study on male adolescents in Mumbai slum, it was found that 7.5% were involved in sexual relations [11]. In another study involving adolescents in slums in north India, 10% of the adolescents reported a history of sexual activity [12].

Among those adolescents who were "at risk" in our study, 77.4% males and 28.6% females had sex with consent. 25.8% males and none of the females "at risk" in our study had used condoms during sex. This falls below the national data, as per which among men who had high-risk sexual intercourse, >33% used condoms [2]. A study on unmarried adolescents in Gujarat suggested that in over 87% adolescents, the first sexual contact was a prostitute, and only 5% had ever use condom [7]. Another survey among street adolescents at the New Delhi Railway Station by Salaam Baalak Trust revealed that 86% of males were sexually active, very low number of them knew about safe sex and condom use while nobody used a condom [13]. The difference in our study and these studies is mainly due to more risky behavior of street adolescents. In our study, 61.3% "at risk" males and 71.4% females had multiple partners. The national average of partners for youth, who had sexual intercourse, was 1.8 partners for men and slightly more than one partner for women [2].

The education-wise knowledge and behavior regarding sexual relations among adolescents clearly shows that those who studied more (>5th class), had better knowledge regarding sexual relations, STD's, condoms, had sex with consent and used condoms during sex, compared to those who had not studied up to 5th class.

CONCLUSION

Education and higher age are the major factors which determine the status of awareness about HIV/AIDS. Despite

ongoing national level campaigns against HIV, the majority of adolescents are still ignorant about it, mostly because they are devoid of basic school education, which prevents them gaining knowledge about other aspects of life as well. A significant number are involved in high-risk sexual behavior like not using condoms and having multiple sex partners. More programs are needed to include them for education, awareness and addressing their sexual queries.

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