

Awareness of HIV/AIDS among rural youth in India: A community based cross-sectional study

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Abstract

Introduction: More than one third of reported cases of HIV/AIDS in India are among youth and 60 percent of these reside in rural areas. Assessment of the awareness of HIV/AIDS in the youth is important for determining the impact of previous and current awareness programs as well as the need for interventions. This study aimed to assess the knowledge of rural youth regarding HIV/AIDS and to explore the epidemiological determinants of awareness among them.

Methodology: A community-based cross-sectional study was conducted among youths aged 15-24 years in rural areas of the Saurashtra region of Gujarat, India. A cluster sampling design was used, surveying 50 subjects from each of 30 clusters. Data was collected through house-to-house visits using a semi-structured questionnaire. Proportions and logistic regression were used for analysis.

Results: Out of a total of 1,237 subjects who participated in survey, 60% knew something about HIV. Of those who had heard of HIV, more than 90% subjects knew the modes of transmission and more than 80% were aware of modes of prevention of HIV/AIDS. One fifth of the subjects had misconceptions in relation to HIV/AIDS. On applying multiple logistic regression, age, education, occupation, and mass media exposure were found to be the major determinants of their knowledge with regard to HIV/AIDS.

Conclusions: Basic knowledge of HIV/AIDS is still lacking in two fifths of the rural youth. Literacy and media exposure are factors that determine awareness of HIV among them and can be helpful to raise their knowledge regarding this scourge.

Key words: AIDS; awareness; HIV; knowledge; youth

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Introduction

HIV has rapidly established itself throughout the world over the past three decades. The youth cohort is one of the most vulnerable groups as far as risk of HIV/AIDS is concerned. Globally, almost of a quarter of people living with human immunodeficiency virus (HIV) are under the age of 25 years [1]. In India, 35% of all reported AIDS cases are among the age group of 15-24 years, indicating the vulnerability of the younger population to the epidemic [2]. Furthermore, the epidemic is moving from high-risk groups such as sex workers to the general population and from urban to rural populations [3]. Of the estimated people living with HIV, 60% reside in rural areas [4]. HIV affects the immune system and reduces the body's defenses to protect against various infectious diseases and cancer. Treatment is available to delay the death of persons suffering from the disease; however, there is no cure. Thus it becomes necessary to educate young people so that they can protect themselves from getting

infected. Various government and non-government organizations the world over have undertaken programs to raise awareness among people regarding HIV/AIDS. To stop the spread of HIV/AIDS in India, the Tenth Five Year Plan (2002-2007) was developed with targets set to achieve 90% coverage of schools and colleges through education programmes and 80% awareness among the general population in rural areas [5]. Assessment of awareness levels in adolescents is important because it helps to determine the impact of previous awareness and prevention efforts made by the government and also to gauge the need for interventions. With this background, the present study was conducted to assess the current level of knowledge of young people (15-24 years) living in rural areas with regard to HIV/AIDS and to explore epidemiological determinants of awareness of HIV/AIDS among them.

Methodology

Study design and setting

A community-based cross-sectional study was conducted between March and July 2007 in rural areas of selected districts in the Saurashtra region of Gujarat, India. The study population was comprised of young people aged 15 to 24 years living in the study area. A cluster sampling design was used to select clusters of subjects from the study population. A total of 30 clusters were included in the survey. For selection of the clusters, a complete list of villages with the number of households and total population in each village of selected districts per the 2001 census was obtained. Then a list of the cumulative population of the villages was prepared based on the total population for each village. Thirty clusters were selected proportionate to the population size of the villages from the list.

A total of 50 young people in each cluster was included in the survey with a minimum of 10 of each gender. To ensure appropriate representation of the entire cluster in case the selected cluster had more than 150 households, the cluster was divided into four quadrants and from each quadrant an equal number of adults was studied. Each quadrant's total houses was recorded and, taking a random number using a currency note, the survey was initiated at that numbered house and continued in one direction until the required number of persons in the age group of 15-24 years was surveyed from that quadrant. All the houses while going in a clockwise direction were included for the survey. The same procedure was repeated for the other quadrants to ensure equal representations from all four quadrants of the clusters in the survey.

Data collection material

Two questionnaires were used to collect data regarding the youth population in the community. Form 1 recorded household information such as the names, age, marital status, sex, and religion of the members of the household. Information regarding availability of media such as radio, television, and newspapers to the households was also obtained through this form.

Form 2 included questions related to awareness regarding HIV/AIDS. The possible responses for each question were pre-coded and given along with the questions so that the interviewer could immediately code the responses obtained.

Forms 1 and 2, which were developed by our technical partner in this study, the Gujarat State AIDS Control Society, were in the local (Gujarati) language and pre-tested and modified as necessary.

Data collection

A team of two field investigators (one male and one female) performed a house-to-house survey in one cluster per day. The interviewers were native speakers of the Gujarati language and the entire interview process was conducted in Gujarati. The average time of an interview was 10 minutes. A supervisory team consisting of Assistant Professor level personnel supervised the work of data collection.

The consent of the participants was taken by initially explaining to them the purpose of the study and knowing their willingness to share the information. The participants were not forced to answer any questions, and they were free not to respond or partially respond to any question. Revealing their identity was also optional and they were free not to disclose their names. After the data collection, any queries relating to HIV/AIDS that the participants may have had were answered.

Data entry and analysis

Data entry and analysis was performed using Epi-Info statistical software (CDC, Atlanta, GA, USA). Percentages were calculated to explore the level of awareness about HIV/AIDS in the study population. Logistic regression analysis was applied to explore the factors which determine awareness of HIV/AIDS among rural youth. For regression analysis, the outcome variable was presence or absence of awareness of HIV/AIDS and explanatory variables were socio-demographic factors and media exposure of participants. All predictor variables were entered in the equation as dummy variables and the "enter" method.

Results

The study was conducted in 30 clusters of the selected districts of Saurashtra region of Gujarat, India. Attempts were made to have approximately 50 participants from each cluster; however, on occasion young people had either gone to school or had gone out of the village for work or other reasons during the time of the survey. The final sample with complete information totalled 1,237 (82.45% response rate). Of 1,237 respondents, 47.45% were 20 to 24 years old and 52.55% were 15 to 19 years old. Gender distribution was even (50.1% were females and 49.9% were males). While 13.42% of the respondents were illiterate, 86.58% were literate mostly at primary and secondary levels (32% and 33% respectively).

Table 1. Knowledge regarding HIV/AIDS

	No.	%
Heard about HIV/AIDS (n = 1237)		
Yes	765	61.84
No	472	38.16
Knowledge regarding modes of transmission (n = 765)		
Transmission through sexual intercourse	707	92.42
Transmission by blood transfusion	697	91.11
Transmission by sharing needles/syringes	672	87.84
Transmission from mother to child	640	83.66
Knowledge regarding preventive measures (n = 765)		
Prevention by having sexual relationship with single partner	658	86.01
Prevention by blood safety	647	84.58
Prevention by safe injection practices	633	82.75
Prevention by use of condoms	533	69.67
Misconceptions regarding modes of transmission (n = 765)		
Transmission by living with HIV-infected person	159	20.78
Transmission by taking food with HIV-infected person	132	17.25
Transmission by mosquito bite	142	18.56
Transmission by healthy-looking person (can't transmit)	198	25.88
Knowledge regarding availability of health services (n = 765)		
Lab services	204	26.67
Drugs against HIV/AIDS	133	17.39

No. = Number

Over half (61%) of the young people involved in the study had heard about HIV/AIDS. Among these, 92.42% knew that the disease was transmitted through sexual intercourse, 91.11% knew about transmission through blood transfusion, 87.84% knew about transmission through the sharing of needles/syringes, and about 83.66% knew about transmission of HIV from mother to child (Table 1).

The majority (> 80%) of the participants among those who had heard about HIV/AIDS were aware of various preventive measures against it as follows: 86.01% knew the importance of having a monogamous sexual relationship with a non-infected partner in preventing HIV; 69.67% knew the role of condoms in preventing HIV; 84.58% knew the role of blood safety; and 82.75% understood the importance of safe injection practices (Table 1).

Misconceptions regarding the transmission of HIV were noted in the study subjects. Twenty percent (20.78%) thought that HIV can be transmitted by living with an HIV-infected person; 17.25% thought

that HIV can be acquired through eating food with HIV positive individuals; 18.56% thought that HIV could be transmitted by a mosquito bite; and 25.88% believed that a healthy-looking person cannot transmit HIV (Table 1).

The main sources of information regarding HIV/AIDS were friends (77.39%) and television (69.28%). Other sources were special visits by health workers or social workers (18.43%), newspapers (12.55%), radio (9.54%), magazines (3.53%), and others including wall slogans or billboards (7.84%).

Out of the 765 people who had heard about HIV, 26.67% were aware of the existence of laboratory services for HIV testing in their areas and 17.39% knew about the availability of drugs against HIV (Table 1).

On applying multivariate logistic regression on determinants of knowledge, it was found that knowledge of HIV/AIDS was higher among the group aged 20 to 24 than 15 to 19 years age group (OR = 1.58, $p < 0.05$). Though males were more

Table 2. Determinants of awareness of HIV/AIDS

Variables	OR	95% CI	β	SE	t-Statistic	P-Value
Age group						
15-19	1					
20-24	1.58	1.12 - 2.21	0.45	0.17	2.63	0.01
Sex						
Female	1					
Male	1.08	0.79 - 1.48	0.08	0.16	0.49	0.63
Education						
Illiterate	1					
Primary	3.10	2.01 - 4.78	1.13	0.22	5.12	<0.01
Secondary	5.85	3.65 - 9.36	1.77	0.24	7.35	<0.01
Higher secondary and above	6.63	3.76 - 11.68	1.89	0.29	6.54	<0.01
Marital status						
Unmarried	1					
Married	1.26	0.86 - 1.84	0.23	0.19	1.20	0.23
Occupation						
Labourer	1					
Private job	1.06	0.35 - 3.22	0.05	0.57	0.09	0.92
Government job	1.67	0.25 - 10.91	0.51	0.96	0.53	0.59
Business	2.16	1.27- 3.66	0.77	0.27	2.86	<0.01
Unemployed	0.82	0.51 - 1.33	-0.19	0.24	-0.79	0.43
Student	2.60	1.62 - 4.17	0.96	0.24	3.96	<0.01
Other	0.87	0.58 - 1.29	-0.14	0.20	-0.71	0.48
Watching television						
No	1					
Yes	4.54	3.43 - 5.99	1.51	0.14	10.65	<0.01
Reading newspaper						
No	1					
Yes	3.47	1.66 - 7.26	1.24	0.38	3.30	<0.01
Listening to radio						
No	1					
Yes	1.63	0.97 - 2.74	0.49	0.26	1.85	0.06

OR = Odds Ratio; CI = Confidence Interval; β = Regression coefficient; SE = Standard Error

aware than female regarding HIV/AIDS, the difference in knowledge was not significant (OR = 1.08, $p > 0.05$). Literate young people were more aware of HIV/AIDS than illiterate, at all the levels of literacy ($p < 0.05$).

Concerning occupation, it was observed that students and those who had businesses were more knowledgeable about HIV/AIDS compared to labourers ($p < 0.05$). There was no significant difference in knowledge regarding HIV/AIDS among persons with other occupations and labourers.

The impact of various types of media on knowledge levels was also explored. It was found that the odds ratio was higher for those who were watching television and for those who read newspapers when compared to those who were not exposed to such media ($p < 0.05$) but there was not much difference in knowledge among those who

were listening to radio than those who were not ($p > 0.05$) (Table 2).

Discussion

Awareness is the key to prevention of HIV/AIDS. The present study showed that about two thirds of young people from rural areas of the Saurashtra region of Gujarat, India had heard about HIV/AIDS. Similar findings were reported in other studies conducted in other parts of India [6-9]. According to the National Family Health Survey 3 (2005-2006), 64.8% of rural youth had heard of HIV/AIDS at the country level [4]. Our findings reveal that a large number of youth in rural area are still unaware of the disease to which they are most vulnerable.

The study found that knowledge regarding the transmission of the disease was good in general but variable for different modes among youth who had

heard of HIV. It was observed that youth were less aware of transmission of infection from mother to child in comparison to other modes of transmission. Similar findings were reported by the District Level Household Survey (2002-04) [10] in Gujarat State and the Behaviour Surveillance Survey (2006) [11] across the country. In a study conducted in the state of Maharashtra, teenagers were less aware of the role of improperly sterilized syringes and needles as a mode of transmission of HIV in comparison to other modes of disease transmission [12]. The findings show regional variation in knowledge regarding different modes of transmission which can help in developing a strategy for an awareness programme.

In our study, youth displayed less awareness of prevention methods in comparison to awareness of transmission modes of the disease. Similar findings were observed in other studies conducted across the country without regional variation [10,11,13]. Again, awareness of different preventive measures was variable. The study found that young people were less aware of condom use as a prevention strategy than another strategy. The observation highlights the high level of ignorance about this important preventive measure in the sexually active young population in rural areas.

It was observed in the study that a good number of youths were aware of modes of transmission of HIV/AIDS and its prevention but there were misconceptions among them as well. Studies completed by Lal *et al.* [14], Banerji and Mattle [15], Ganguli *et al.* [16] and Meundi *et al.* [17] also showed presence of misconceptions among youth.

Results of multivariate logistic regression analysis revealed age, literacy status, occupation, and types of media exposure of youth as the predictors HIV awareness in rural areas. In the studies performed by Aggarwal and Ross [18], Sarkar *et al.* [19], Glick *et al.* [20], Abdullatif and Niveen [21], Rehman [22] and in the National Family Health Survey 3 (2005-2006) [4], age, education, wealth and media exposure emerged as the major predictors of knowledge of HIV among youth.

Our study explored one of the important measures to prevent HIV/AIDS, *i.e.*, awareness of the disease. The study was a survey at one period in time so it has the limitations of a cross-sectional study. However, the findings of the study are very relevant to young people in rural areas. Young people are more vulnerable and are less covered by HIV/AIDS prevention programmes in rural areas. These study results can be useful in directing future efforts at

creating awareness about HIV/AIDS, particularly in rural areas.

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