

Assessment of HIV/AIDS Awareness Level of High School Students in Kolkata

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Abstract

Youths are likely to engage in risky behavior without accurate knowledge about HIV/AIDS. Assessment of their knowledge regarding the disease helps in developing strategies to prevent it. Aim of this study was to evaluate knowledge level of high school students of Kolkata, India, their attitude towards the disease, and enhance their awareness. Effect of previous awareness programs on HIV/AIDS is not well understood.

In this cross-sectional study, students (N=2373) were from 38 randomly selected higher secondary schools. Based on answers to questions of a pre-designed, pre-tested, anonymous questionnaire, knowledge level of the students and their attitude towards HIV/AIDS were ascertained using SPSS version 17.0.

Approximately one-third (36.5%) of the students knew full form of HIV and AIDS. Many (67%) believed that AIDS can be prevented and 45.9% thought AIDS is curable. Very few (2.6%, 0.6%) identified three major modes of transmission of HIV/AIDS and its three different symptoms. Television was the main source of information about HIV/AIDS for the students.

Many students of Kolkata were still deficient in accurate knowledge on HIV/AIDS though they showed positive attitude towards the disease. Frequent awareness programs on HIV/AIDS are required to ensure that students attend at least one program during school curriculum.

Keywords: HIV/AIDS, School students, Knowledge, AIDS awareness, HIV awareness

Introduction

First two National Acquired Immunodeficiency Syndrome (AIDS) Control Projects (NACP I and II) conducted in 1992 and 1999 respectively by the National AIDS Control Organization (NACO) of the Government of India emphasized on creating awareness about HIV/AIDS and transmittance of the disease. NACP-III was launched (2007 to 2012) to enhance prevention efforts among high-risk groups and general population and integrating them with care, support and treatment.¹

The number of people living with Human Immunodeficiency Virus (HIV) in India declined from 2.32 million in 2006 to 2.09 in 2011.¹ Out of 2.09 million, 86% were in 15–49 years age-group and 7% (0.145 million) were children below 15 years of age. Worldwide, over 40% of new infections are among young people (15–24 years) (Centres for Disease Control, USA; 2016;) Basic Statistics). In India out of all infected, 39% (0.816 million) were women. Out of 742,152 people tested for HIV during 2011-12 in Integrated Counseling and Testing Centers of West Bengal, 1.08% were seropositive.²

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How to cite this article: Chatterjee R, Gupta P, Chatterjee D. Assessment of HIV/AIDS Awareness Level of High School Students in Kolkata. *J Commun Dis* 2017; 49 (4): 1-6.

Digital Object Identifier (DOI): ??

ISSN: 0019-5138

Previous studies^{3,4} reported that worldwide, 45% of the people suffering from HIV/AIDS were between 15 and 24 years of age. Adolescents (persons between 10 and 15 years of age as defined by WHO, 1998) are more at risk for sexually transmitted infections including HIV/AIDS owing to their inadequate awareness, misconceptions and inclination to new unsafe practices.^{5,6} Further, education is an effective preventive tool to create awareness and change behavior and attitude of students and public towards HIV/AIDS.^{7,8} In spite of all government (including HIV/AIDS curriculum for schools) and non-government efforts to enhance knowledge and attitude of school students towards HIV/AIDS, many still lack accurate knowledge.

We undertook this study to assess level of knowledge and attitude of high school students towards HIV/AIDS and offer them relevant education in a straightforward way using easy-to-grasp language. Understanding the level of knowledge, attitude and practices of any population regarding HIV/AIDS is helpful in planning HIV prevention strategies. This study provided some indications of the impact of previous awareness programs on HIV/AIDS and the necessity for interventions to prevent new HIV infections among young people. To our knowledge, this is the first such study in the state of West Bengal involving a large number of students.

Materials and Methods

Subjects

In this cross-sectional study undertaken from July, 2011 to December, 2013 participants (N=2373) were from 38 randomly selected schools (16 each of boys' and girls' schools; 6 – co-educational schools) of Kolkata. Out of them (aged 13 to 21 years), 971 were boys and 1402 girls from 10th to 12th grade.

The Ethical committee of KK Chatterjee Memorial Association, Kolkata, approved the protocol of the study. Written consents were obtained from authorities of schools to conduct this study.

Data Collection

A pre-designed, pre-tested questionnaire (in Bengali and English) having 41 questions on HIV/AIDS was administered to students. Purpose of study and the questions were explained to them. Participation in the study was optional. To ensure confidentiality, students were instructed not to mention their name or that of the school in the questionnaire. Adequate measures were taken to minimize consultation among the participants. The questionnaire

contained both open- and close-ended questions.

Subsequent to knowledge assessment, an open discussion was held with the students to clear their misconceptions regarding HIV/AIDS.

Data Analysis

Data was analyzed using SPSS 17.0 version. Only 28 questions were used for the analysis.

Knowledge and Attitude Score

Considering responses to following eight questions a score was defined to ascertain knowledge level about HIV/AIDS:

(i) knowing full forms of HIV and (ii) AIDS, (iii) how HIV/AIDS transmits, (iv) what are symptoms of AIDS, (v) whether knowing any group of people at higher risk for HIV/AIDS, (vi) whether HIV/AIDS preventable, (vii) whether any treatment available for AIDS and (viii) whether HIV/AIDS is spreading fast in India. A correct answer to each question was assigned a score '1', the wrong one '0'. Thus, minimum and maximum value of the knowledge score was '0' and 8 respectively.

Similarly, another score to assess attitude towards the disease and persons affected with HIV/AIDS was defined considering answers to following seven questions: (i) whether HIV/AIDS is a disease of the poor, (ii) whether HIV/AIDS is a disease of the 'bad' people, (iii) whether agrees to shake hand with HIV/AIDS patient or share their dress, (iv) whether HIV/AIDS patient should marry or bear a child, (v) whether feeling embarrassed about talking on HIV/AIDS, (vi) whether ever been discouraged talking about HIV/AIDS and (vii) whether guardians and teachers should talk about HIV/AIDS.

An affirmative response to questions (iii) and (vii) was treated as expression of positive attitude while negative responses to all the other questions was considered as positive attitude towards HIV/AIDS. In both cases, the responses representing positive attitude was assigned a score '1' and '0', otherwise. The sum total of all responses of the above questions was considered as 'attitude score'.

Results

Table 1 describes characteristics of the participating student. Mostly students (1515/2373; 63.8%) were from standard XI, Hindus (2171/2373; 91.7%), unmarried (2349/2373; 99.0%), aged 16–18 years (1878/2373; 79%) and of general caste (1918/2373; 80.8%). Ratio between boys and girls was 0.69 (971/1402).

Table 1.Characteristics of the Students (N=2373)

Characteristics	No.	%	Characteristics	No.	%
Gender			Religion		
Male	971	40.9	Hindu	2177	91.7
Female	1402	59.1	Muslim	168	7.1
			Christian	16	0.7
			Others	12	0.5
Age			Caste		
13-15	444	19	General	1918	80.8
16-18	1878	79	SC	341	14.4
19-21	51	2	ST	20	0.8
			OBC	94	4.0
Marital status			Class		
Married	24	1.0	X	192	8.1
Unmarried	2349	99.0	XI	1515	63.8
			XII	666	28.1

Table 2 depicts knowledge of the students about HIV/AIDS. Only about a third of them knew full form of HIV and AIDS and a large number (41.8%; 53.9%) did not attempt to answer this question. Majority (67%) of them believed that HIV/AIDS can be prevented and 8.7% abstained from responding. In all, 45.9% students thought the disease is curable and 12% were not sure. A large number (76.2%) opined that HIV/AIDS is spreading fast in India though 5.5% avoided responding to this question. One mode of transmission of HIV/AIDS was identified by 46.6% students,

two different modes by 18% and three modes by 2.6%. Wrong answer or no answer was the response to this question from 32.9%. One of the symptoms of HIV/AIDS was known to 23% students, two to 4.1% and only 0.6% knew three symptoms. The question was not answered or wrongly answered by 72.4%. Majority (80.7%) either gave no response or gave wrong answer in identifying the high-risk group of people. Only 17% mentioned one group and 2.2% two groups.

Table 2.Knowledge of the Students about HIV/AIDS

	Yes	%	No	%		
Know full form of HIV	867	36.5	515	21.7		
Know full form of AIDS	888	37.4	207	8.7		
Can HIV infection/AIDS be prevented?	1591	67.0	575	24.2		
Can AIDS be treated?	1090	45.9	999	42.1		
Is AIDS spreading fast in India?	1808	76.2	434	18.3		
	Number of correct answers					
	1	%	2	%	3	%
How HIV/AIDS transmits?	1105	46.6	426	18.0	62	2.6
Symptoms of HIV infection/AIDS	545	23.0	97	4.1	14	0.6
Knowledge about people at higher risk for HIV/AIDS	405	17.0	52	2.2	-	-

Table 3 revealed attitude of the students towards HIV/AIDS. Very few (7.7%) indicated HIV/AIDS as a disease of the poor or of bad people (8.3%) (implicating indulgence in illegitimate sex) and few (around 2%) did not answer these questions. Almost half of the students (49.5%) thought shaking hands with infected persons would not spread the infection whereas other half (46.7%) believed the opposite way (3.8% gave no response to this narration). A huge

number (77.7%) desired HIV/AIDS patients not to marry or have children whereas 6.6% refrained from responding to this question. Largely (73.7%), the students did not feel embarrassed in talking about HIV/AIDS, nor were they (84.6%) discouraged from discussing it. Only a few (2–3%) did not respond to these questions. Most (81.8%) of them thought that teachers and guardians ought to talk about HIV/AIDS but 3.4% did not respond to this question.

Table 3. Attitude of the Students towards HIV/AIDS

	Yes	%	No	%
Is AIDS a disease of the poor?	182	7.7	2146	90.4
Is AIDS a disease of bad people (implicating those indulging in illegitimate sex)?	196	8.3	2116	89.2
Would you shake hands with a HIV infected /AIDS patient?	1175	49.5	1108	46.7
Should HIV infected /AIDS patients marry/have children?	373	15.7	1843	77.7
Is it embarrassing to talk about HIV/AIDS?	574	24.2	1750	73.7
Have you been discouraged discussing about HIV/AIDS?	294	12.4	2007	84.6
Should guardians and teachers talk about HIV/AIDS?	1942	81.8	350	14.7

Statistical tests (Chi-square) were performed to ascertain association between knowledge and attitude scores (Table 4) with gender, age and stream of study. Strong association was revealed between age and knowledge score (chi-square, degrees of freedom and P-value as 230.634, 64 and 0.000 respectively) and attitude score (chi-square, degrees

of freedom and P-value as 106.733, 56, 0.000 respectively) of the students. However, association between gender and attitude score (12.116, 7, 0.097) or knowledge score (9.011, 8, 0.341) was not significant. Stream of study also had no strong association with knowledge (226.925, 24, 0.0000) and attitude scores (153.838, 21, 0.0000).

Table 4. Distribution of Knowledge and Attitude Score of the Participants with respect to Their Gender, Age and Stream of Study

	Knowledge Score ¹			Attitude Score ²		
	Low (%)	Medium (%)	High (%)	Low (%)	Medium (%)	High (%)
Gender (N)						
Girls (1402)	294 (20.97)	827 (58.98)	281 (20.04)	1	234 (16.69)	1167 (83.23)
Boys (971)	225 (23.17)	548 (56.43)	198 (20.39)	1	209 (21.52)	761 (78.37)
Age (N)						
≤15 (444)	110 (24.77)	233 (52.47)	101 (22.74)	0	93 (20.94)	351 (79.05)
16–19 (1923)	406 (21.11)	1139 (59.23)	378 (19.65)	2	348 (18.09)	1573 (81.79)
>19 (6)	3 (50.00)	3 (50.00)	0	0	2	4
Stream (N)						
Arts (955)	220 (23.03)	590 (61.78)	145 (15.18)	0	195 (20.41)	760 (79.58)
Science (875)	116 (13.25)	495 (56.57)	264 (30.17)	1	99 (11.31)	775 (88.57)
Commerce (351)	92 (26.21)	217 (61.82)	42 (11.96)	0	74 (21.08)	277 (78.92)

¹Low: Knowledge scores from 0 to 2; Medium: Knowledge scores from 3 to 5; High: Knowledge scores from 6 to 8.

²Low: Attitude scores from 0 to 1; Medium: Attitude scores from 2 to 4; High: Attitude scores from 5 to 7.

NB: Out of the 192 secondary students 91, 73 and 28 had low, medium and high knowledge score respectively and 1, 75 and 116 had low, medium and high attitude scores respectively.

Discussion

In this study, both male and female students were lacking in high-degree knowledge about HIV/AIDS. Lack of awareness among higher secondary students was reported previously from Calcutta⁹ and Meerut.¹⁰ Overall knowledge of school students of a south Indian study¹¹ was 63% whereas about

57% of our students had medium knowledge score.

Major source of information about HIV/AIDS for our students was television (45%), followed by newspapers/magazines (28.7%) and friends (16%). The earlier south Indian study¹¹ also found television as the main source (75%) for their students, followed by print media (48%) similar to a report from Lucknow.¹² However, media may not be the primary way of HIV/AIDS intervention for the young people who mainly use them as source of entertainment, not information (<https://www.common sense media.org/research/children-teens-and-entertainment-media-the-view-from-the-classroom>). Children, Teens, and Entertainment Media. The view from the classroom. Accessed 4 Nov 2015). Few (7%) of our students gathered the information from family members similar to earlier Indian studies.^{13,14} This may be attributed to conservative

nature of Indian society where talking about HIV/AIDS is not easy.

Only 10% of students of the south Indian study¹¹ in contrast to 40% of another study¹² from India believed that there is a cure for HIV/AIDS. Similar to the latter study, 45.9% of the participants of this study thought the disease to be curable.

Similar to our observation of 46.6% students identifying one mode of transmission of HIV infection, 50–60% Tamil Nadu¹¹ students were aware of one mode of transmission. However, over 90% students from Gujarat¹⁵ were aware about different ways of transmission. Similar knowledge about transmission was reported among students of Lucknow.¹²

In this study, 46.7% of the students had the misconception about transmission of HIV by shaking hands with infected persons. Similar misconceptions were reported previously from India.^{16,17} Our students had less knowledge about symptoms of AIDS (23% about one symptom, 4% about two and 0.6% about three symptoms). In contrast, more (45%) of the Tamil students¹¹ were better informed about the symptoms.

Few (17%) of our students identified one group at high-risk for HIV/AIDS. In contrary, more (30%) students from Lucknow¹² identified one high-risk group and reported significant negative attitude towards HIV/AIDS among male students compared to females. However, our study revealed no gender bias in attitudes. We found significant association between age and knowledge regarding HIV/AIDS. In contrary, the previous study¹³ reported poor knowledge among Indian youths.

Majority (around 80%) of our students showed high attitude score irrespective of gender, age and stream of study, indicating their positive attitude towards people living with HIV/AIDS. Similar response was recorded by the study from Tamil Nadu.¹¹

Knowledge level among high school adolescents about HIV/AIDS ranged from 50% to over 90% in different countries.¹⁸⁻²¹ However, their way of response was different. When asked whether they considered they may suffer from HIV/AIDS, responses of majority of our students were negative. This as expected is wrong. But most studies reported similar responses.^{3,22,23}

Inadequate knowledge of our students regarding HIV/AIDS indicates that many more awareness programs need to be conducted. It may be made mandatory for students to attend at least one awareness program.

Limitations

Though larger number of students of this study increased

statistical power of the findings, yet they are not necessarily representative of all students of Kolkata. This questionnaire-based study might have suffered from social and cultural desirability bias. However, we expected fair degree of honest responses since students were guaranteed anonymity in the questionnaire.

Acknowledgement

The authors thank authorities of all schools for their cooperation. Sincere thanks are due to the participants. The authors also thank Dr. Amitava Saha of Directorate General of Commercial Intelligence & Statistics, Kolkata, for performing statistical analysis.

Conflict of Interest: None

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Date of Submission: 2017-12-01

Date of Acceptance: 2017-12-11