



Impact of knowledge and perception on attitude of senior secondary students towards HIV-AIDS in Bilaspur

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Abstract

HIV-AIDS becomes a topic of global concern today and India being the second largest populated country is on a high risk of prevalence. The most affected people by this deadly disease are youth (15-49 yrs) around the globe and so in India. As so far no cure was discovered for this epidemic, knowledge and awareness is the only left for prevention of this disease. Government of India and ministry of health have taken this issue very seriously and creating awareness through various sources. One such source is educating the youth by delivering the knowledge about epidemic at the school level as adolescence possess much vibrant characteristics than mature people and are on higher risk of prevalence. This survey based study was conducted among senior secondary school students to assess their knowledge and attitude towards HIV-AIDS as well as impact of knowledge on attitude and sex behaviour. This study was conducted among 400 students of Bilaspur selected through stratified random sampling based on type of school and gender of students. The findings of the study shows that knowledge and perception about the epidemic creates a positive impact on attitude towards HIV-AIDS by 83% whereas it creates an impact on sex behaviour at about 69%.

Keywords: AIDS, HIV, epidemic, knowledge, perception, attitude, stigma

Introduction

Acquired Immune Deficiency Syndrome (AIDS) results from a combination of factors triggered off by infection with the Human Immune Deficiency Virus (HIV). HIV is a retrovirus with the affinity for the CD4+ cells of the immune system. It is transmissible in the body fluids which include blood and blood products, semen, vaginal secretions, breast milk and saliva. Any activity which results in the entry of infected fluid into the body of a healthy individual leads to infection. Such activities include sexual intercourse (be it heterosexual, homosexual, bisexual activities or oral sex), transfusion of unscreened blood and vertical transmission from an infected mother to her infant at delivery and also during breast-feeding. Others are sharing/use of infected skin piercing instruments, tattooing and the incision of tribal marks, circumcision, all forms of female genital mutilation, manicure and pedicure, shaving of hair in barbing saloons, sharing of toothbrushes, kissing with bruised gums, breast feeding, accidental needle sticking injuries in hospitals and laboratories are amongst the various modes through which HIV may be transmitted. The principal modes of transmission in Nigeria are sexual (80%) and unsafe blood transfusion (10%), mother to child transmission and drug injecting population are on the increase (Akinsete, 2001)^[2].

India is one of the countries experiencing a sharp increase in the number of HIV infections. In 2015, adult HIV prevalence is estimated at 0.30% among males and at 0.22% among females, highest in Manipur (1.15%) followed by Mizoram (0.80%), Nagaland (0.78%), Andhra Pradesh & Telangana (0.66%), Karnataka (0.45%), Gujarat (0.42%) and Goa (0.40%). The total number of people living with HIV (PLHIV)

in India is estimated at 21.17 lakhs (17.11 lakhs–26.49 lakhs) in 2015 compared with 21.47 lakhs (17.43 lakhs–26.71 lakhs) in 2011. Children (< 15 years) account for 6.54%, while two fifth (40.5%) of total HIV infections are among females. Undivided Andhra Pradesh and Telangana have the highest estimated number of PLHIV (3.95 lakhs) followed by Maharashtra (3.01 lakhs), Karnataka (1.99 lakhs), Gujarat (1.66 lakhs), Bihar (1.51 lakhs) and Uttar Pradesh (1.50 lakhs). These seven States together account for two thirds (64.4%) of total estimated PLHIV. India is estimated to have around 86 (56-129) thousand new HIV infections in 2015, showing 66% decline in new infections from 2000 and 32% decline from 2007, the year set as baseline in the NACP-IV. Children (<15 years) accounted for 12% (10.4 thousand) of total new infections while the remaining (75.9 thousand) new infections were among adults (15+years). Andhra Pradesh & Telangana, Bihar, Gujarat and Uttar Pradesh currently account for 47% of total new infections among adults with each of these States contributing 7.5 thousand or more new infections in 2015 (NACO, 2015)^[4].

HIV Awareness in India: An overview

India's National Youth Policy, Draft II, defines "youth" to include those in the 13-30 year age group. Most of India's youth harbor misconceptions about HIV and lack education regarding various aspects of the disease. The Joint United Nations Program on HIV/AIDS (2004) states that the only 17% of Indian males, and only 21% of Indian females could correctly identify two ways one could prevent the transmission of HIV sexually, and were also able to reject three misconceptions about the transmission of HIV. The

same report states that only 59% of young Indian males used a condom during their last occurrence of sexual intercourse with a non-regular partner.

Various studies reveals that Indian youth are significantly less educated regarding HIV when compared to the youth of other nations. A study by Peltzer, Nzewi, and Mohan (2004) ^[6] compared HIV knowledge and attitudes of university students across three countries, namely the United States, South Africa and India. Participants in the study from the three countries were given a questionnaire that explored current HIV knowledge, attitudes towards HIV antibody testing, and attitudes towards people with AIDS (PWA). The results of the study indicated that compared to South African or American youths, Indian youths were less likely to engage in pre-marital sexual intercourse, and were least aware of the HIV modes of transmission. The study found that only 10% of Indian youths reported being sexually active with an average of 2.6 sexual partners. Similar results were found across all three cultures regarding condom usage at last sexual intercourse. Approximately half of all the students reported using a condom during their last sexual encounter across the three cultures surveyed. The study also found that Indian youths were found to be less sensitive towards people with AIDS (PWA) compared to youths in the other two cultures. A study of the level of knowledge and attitudes towards HIV/AIDS among 82 people with AIDS (PWA), revealed a general lack of knowledge of HIV/AIDS and a correlation between illiteracy and the level of knowledge (Sangole, Tandale, Badge & Thorat, 2003) ^[9].

Agrawal, Rao, Chandrashekar, and Coulter (1999) ^[1] examined the knowledge and attitudes of secondary school pupils in India. A survey was used to first identify attitudes and knowledge of the participants at the beginning of the study. The pupils were then given an educational handout about HIV and their knowledge and attitudes were then reassessed and analyzed. The results of this study identified many misconceptions about HIV transmission. For example, 10.9 % of participants thought that HIV was airborne, and 33% thought that HIV could be transmitted via mosquitoes. The study also revealed that 94.6% of pupils knew that HIV could be transmitted through infected syringes, and 90.9% knew that it could be passed vertically from mother to child. The results of study indicated that 84% of pupils were aware that a virus (HIV) causes AIDS. The study found that 27% of pupils thought that there was a vaccine available for HIV, this percentage dropped after the educational unit and reassessment. In one particular school studied, 47% of students thought that there was a cure for the disease; however, after the educational unit this number dramatically dropped to only 6.5%. Puri, Gulati, Pall and Madan (2003) ^[7] studied the AIDS specific attitudes, beliefs, sexual relationship patterns and preferences of 200 medical students ages 18-23 years to discover that only 10% of those sexually active reported to consistently using condoms, and only 17% believed that they were vulnerable to contracting the disease in spite of practicing unsafe sex because in general, AIDS was a threat to what they considered "risk groups" (undefined), other than them. In other words, HIV/AIDS is viewed as an affliction of those who are marginalized. Such a low level of perceived susceptibility is common among upper to middle

class youth.

Bhatia, Swami, and Kaur (2003) examined the efficacy of educational intervention programs in India. The study attempted to find a link between the establishment of National Family Health Awareness Campaigns (FHAC) and increased HIV/AIDS awareness among underprivileged youth in India. Overall, HIV/AIDS awareness was increased from 58.2% to 70% after the implementation of the FHAC. Among young males studied, awareness regarding using condoms for prevention increased from 47.7% at pre-intervention to 79.8% at post-intervention. Similarly, among females studied, awareness regarding having one sexual partner as a means of reducing risk increased from 51.8% at pre-intervention to 79.2% at post-intervention.

Significance of the study

Knowledge gained from the current study will be used to make recommendations regarding HIV/AIDS that could enable educational institutions in Bilaspur as well as Chhattisgarh, to implement policies, strategies and programmes via the curriculum of schools that could help reduce the prevalence of HIV/AIDS among youths. As this study focuses on gaining impact of knowledge and perception towards HIV/AIDS on attitude and sex behaviour of secondary school students hence, findings of the current study will be a basis for implementing responsible sexual behaviour programmes in schools and could serve to review the current health behavior programmes offered in clinics and hospitals in the city of Bilaspur. This in turn could enable the development of a more reality-based integrated programme to meet the total health needs of secondary school learners and adolescents in the city of Bilaspur. The results of the current study could lead to the development of programmes to revitalise sex education, sensitisation, redirection, strengthening and provision of sexual information to sustain the motivation of the secondary school health programmes in the city of Bilaspur as well as for the state of Chhattisgarh. Policymakers in order to come up with policies that will encourage young people to practice safer sex may use knowledge gained from the current study.

Objective of the study

- To study the knowledge, perception and attitude of the senior secondary school students towards HIV-AIDS in Bilaspur.
- To assess the impact of knowledge and perception towards HIV-AIDS on attitude and sex behaviour of secondary school students in Bilaspur.
- To find the impact of perceived severity on attitude and sex behaviour of secondary school students in Bilaspur.
- To know the impact of parents/guardian/teachers-teenagers communication on sex behaviour and attitude of secondary school students in Bilaspur.

Methodology adopted

A survey was conducted among the senior secondary school students in Bilaspur where respondents were selected through stratified random sampling method. A sample of 400 students was selected for this study. All the students were divided into strata on the basis of their type of school (Government and Private) and equal number of boys and girls (100 each) were

selected from both government and private aided schools. A questionnaire was constructed to meet the purpose of the study based on similar studies of knowledge and attitudes in different countries. The questions were modified to suit Indian culture and social norms. The questionnaire included data related to personal information, knowledge and perception about HIV/AIDS, perceived severity, parents/teacher - adolescence communication, students sex behavior and attitudes toward HIV/AIDS. The questionnaire was filled through a survey conducted in the schools where responses were recorded by researcher for ensuring proper understanding about each questions and to avoid mistakes committed by students while marking their responses. A pilot study was done on a sample of 25 individuals drawn from five different schools to check the reliability and validity of the questionnaire. Based on responses collected from pilot study some questions were modified to make them more applicable. The sample of pilot study was not included in the study. The

data collected through survey was entered in SPSS, version 21. For analysis of the formulated objectives, frequency analysis and regression analysis was performed and *P*-value of ≤ 0.05 was considered as significant.

Demographic Profile

The demographic profile of the study population is as shown in table 1. About 59% of study population belongs to the urban area whereas 22% belongs to township and only 2.8% students belong to rural area. On the whole about 58% of the students were in the age group of 17-18 yr. whereas 35.5% fall in the age groups of 19-20 yrs. Majority of students were found with average academic performance at 46.5% whereas some have good academic performance at 36.8%. Majority of students of students belongs to middle class with monthly income of 25000-50000 at 46% or upper middle class with income group of 50001-75000 at 40.5%.

Table 1: Demographic profile of study population

Demographic variable	(n-400)	%
Type of School		
Government	200	50
Private	200	50
Gender		
Male	200	50
Female	200	50
Location		
Urban	237	59.3
Semi-urban	63	15.8
Township	89	22.3
Rural	11	2.8
Age Group		
Below 17 year	8	2
17-18 year	233	58.3
19-20 year	142	35.5
Above 20 year	17	4.3
Academic Performance		
Distinction	31	7.8
1 st Division	147	36.8
2 nd Division	186	46.5
3 rd Division	36	9
Fail	0	0
Monthly Income		
Below 25, 000	14	3.5
25001 - 50,000	184	46
50001 - 75,000	162	40.5
75001 - 1,00,000	29	7.3
Above 1,00,000	11	2.8

Regression Analysis

Table 2: Regression Model Summary (Perception vsAttitude_sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915 ^a	.837	.828	3.65915

a. Predictors: (Constant), Vas_baby_oil_condoms, Unpro_Sex, Fem_Condom, Cough_Sneeze, Shak_Hands, Shar_Water, Pregn_Baby, Same_Eating_Utensils, Sex_more_partner, Vaccine_can_stop, Quick_shws_signs, Inject_needles, HIV_test_one_week, Saliva, Taking_antibiotics, Sex_during_period., Drunkenness_HIV., Deep_kissing, Oral sex., HIV/AIDS_transmit_kissing, Drug_abuse_predispose, Toilet_seats.

Table 3: One way Anova (Perception vs Attitude_sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915 ^a	.837	.828	3.65915

a. Predictors: (Constant), Vas_baby_oil_condoms, Unpro_Sex, Fem_Condom, Cough_Sneeze, Shak_Hands, Shar_Water, Pregn_Baby, Same_Eating_Utensils, Sex_more_partner, Vaccine_can_stop, Quick_shws_signs, Inject_needles, HIV_test_one_week, Saliva, Taking_antibiotics, Sex_during_period., Drunkenness_HIV., Deep_kissing, Oral sex., HIV/AIDS_transmit_kissing, Drug_abuse_predispose, Toilet_seats.

Table 4: Regression Model Summary (Perception vs Sex Behaviour sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.468 ^a	.219	.173	2.58671

a. Predictors: (Constant), Vas_baby_oil_condoms, Unpro_Sex, Fem_Condom, Cough_Sneeze, Shak_Hands, Shar_Water, Pregn_Baby, Same_Eating_Utensils, Sex_more_partner, Vaccine_can_stop, Quick_shws_signs, Inject_needles, HIV_test_one_week, Saliva, Taking_antibiotics, Sex_during_period., Drunkenness_HIV., Deep_kissing, Oral sex., HIV/AIDS_transmit_kissing, Drug_abuse_predispose, Toilet_seats

Table 5: One way Anova (Perception vs Sex Behaviour sum)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	706.915	22	32.132	4.802	.000 ^b
	Residual	2522.525	377	6.691		
	Total	3229.440	399			

a. Dependent Variable: Behaviour_Sum
 b. Predictors: (Constant), Vas_baby_oil_condoms, Unpro_Sex, Fem_Condom, Cough_Sneeze, Shak_Hands, Shar_Water, Pregn_Baby, Same_Eating_Utensils, Sex_more_partner, Vaccine_can_stop, Quick_shws_signs, Inject_needles, HIV_test_one_week, Saliva, Taking_antibiotics, Sex_during_period., Drunkenness_HIV., Deep_kissing, Oral sex., HIV/AIDS_transmit_kissing, Drug_abuse_predispose, Toilet_seats.

Table 6: Regression Model Summary (Perceived Severity vs Attitude Sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.744 ^a	.554	.544	5.95588

a. Predictors: (Constant), Anti Retroviral Therapy (ART) can cure AIDS., If I became HIV positive before finishing school it will interfere with the continuation of my schooling., HIV/AIDS is a disease like any other., Some traditional healers can cure AIDS., HIV/AIDS can be prevented., The consequences of having HIV/AIDS are so serious that I may want to avoid it., The last stage of sexually transmissible disease (STD) is AIDS., HIV/AIDS can be cured., Some antibiotics can cure AIDS.

Table 7: One way Anova (Perceived Severity vs Attitude Sum)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17190.523	9	1910.058	53.846	.000 ^b
	Residual	13834.267	390	35.472		
	Total	31024.790	399			

a. Dependent Variable: Attitude_Sum

b. Predictors: (Constant), Anti Retroviral Therapy (ART) can cure AIDS., If I became HIV positive before finishing school it will interfere with the continuation of my schooling., HIV/AIDS is a disease like any other., Some traditional healers can cure AIDS., HIV/AIDS can be prevented., The consequences of having HIV/AIDS are so serious that I may want to avoid it., The last stage of sexually transmissible disease (STD) is AIDS., HIV/AIDS can be cured., Some antibiotics can cure AIDS.

Table 8: Regression Model Summary (Perceived Severity vs Sex Behaviour Sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.303 ^a	.092	.071	2.74215

a. Predictors: (Constant), Anti Retroviral Therapy (ART) can cure AIDS., If I became HIV positive before finishing school it will interfere with the continuation of my schooling., HIV/AIDS is a disease like any other., Some traditional healers can cure AIDS., HIV/AIDS can be prevented., The consequences of having HIV/AIDS are so serious that I may want to avoid it., The last stage of sexually transmissible disease (STD) is AIDS., HIV/AIDS can be cured., Some antibiotics can cure AIDS.

Table 9: One way Anova (Perceived Severity vs Sex Behaviour Sum)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	296.882	9	32.987	4.387	.000 ^b
	Residual	2932.558	390	7.519		
	Total	3229.440	399			

a. Dependent Variable: Behaviour_Sum

b. Predictors: (Constant), Anti Retroviral Therapy (ART) can cure AIDS., If I became HIV positive before finishing school it will interfere with the continuation of my schooling., HIV/AIDS is a disease like any other., Some traditional healers can cure AIDS., HIV/AIDS can be prevented., The consequences of having HIV/AIDS are so serious that I may want to avoid it., The last stage of sexually transmissible disease (STD) is AIDS., HIV/AIDS can be cured., Some antibiotics can cure AIDS.

Table 10: Regression Model Summary (Parents/teachers comm. vs Sex behaviour Sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399 ^a	.159	.142	2.63544

a. Predictors: (Constant), Sex education becomes must for teenagers so as to avoid causes of HIV/AIDS, I feel myself free to discuss condom use with my parents/any adult member of the family or teachers, Parents/guardians/teachers are supposed to talk about sex with their children., My parents/guardians/teachers are knowledgeable about condom use., My parents/guardians/teachers support condom use., My parents/guardians/teachers are knowledgeable about HIV/AIDS., It is culturally acceptable for Parents/guardians/teachers to discuss sex with their children., I feel free to discuss HIV/AIDS with my parents/guardians/teachers.

Table 11: One way Anova (Parents/teachers comm. vs Sex behaviour Sum)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	513.726	8	64.216	9.246	.000 ^b
	Residual	2715.714	391	6.946		
	Total	3229.440	399			

a. Dependent Variable: Behaviour_Sum

b. Predictors: (Constant), Sex education becomes must for teenagers so as to avoid causes of HIV/AIDS, I feel myself free to discuss condom use with my parents/any adult member of the family or teachers, Parents/guardians/teachers are supposed to talk about sex with their children., My parents/guardians/teachers are knowledgeable about condom use., My parents/guardians/teachers support condom use., My parents/guardians/teachers are knowledgeable about HIV/AIDS., It is culturally acceptable for Parents/guardians/teachers to discuss sex with their children., I feel free to discuss HIV/AIDS with my parents/guardians/teachers.

Table 12: Regression Model Summary (Parents/teachers comm. vs Attitude Sum)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701 ^a	.492	.482	6.34830

a. Predictors: (Constant), Sex education becomes must for teenagers so as to avoid causes of HIV/AIDS, I feel myself free to discuss condom use with my parents/any adult member of the family or teachers, Parents/guardians/teachers are supposed to talk about sex with their children., My parents/guardians/teachers are knowledgeable about condom use., My parents/guardians/teachers support condom use., My parents/guardians/teachers are knowledgeable about HIV/AIDS., It is culturally acceptable for Parents/guardians/teachers to discuss sex with their children., I feel free to discuss HIV/AIDS with my parents/guardians/teachers.

Table 13: One way Anova (Parents/teachers comm. vs Attitude Sum)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15267.132	8	1908.392	47.354	.000 ^b
	Residual	15757.658	391	40.301		
	Total	31024.790	399			

a. Dependent Variable: Attitude_Sum

b. Predictors: (Constant), Sex education becomes must for teenagers so as to avoid causes of HIV/AIDS, I feel myself free to discuss condom use with my parents/any adult member of the family or teachers, Parents/guardians/teachers are supposed to talk about sex with their children., My parents/guardians/teachers are knowledgeable about condom use., My parents/guardians/teachers support condom use., My parents/guardians/teachers are knowledgeable about HIV/AIDS., It is culturally acceptable for Parents/guardians/teachers to discuss sex with their children., I feel free to discuss HIV/AIDS with my parents/guardians/teachers.

Findings

- The findings of this study showed that HIV/AIDS education messages have been effective in increasing awareness of the disease among the senior secondary students. This is evident by the high level of HIV/AIDS related knowledge reported in this study. In spite of the reported high level of HIV/AIDS related knowledge, this may some time did not reflect in their attitude and sex behaviour. This finding was in line with the previous studies conducted by Wodi (2005) [13], Marlink *et al*, (2012) [10] and Yahaya (2010) [14].
- The study also reveals that despite of increasing awareness, students differ in their attitude towards people living with HIV. Nearly, half of the students denied living with people found HIV positive in same house. The findings are in the line with the study conducted by

Thanavanh *et al.*, 2011 [11].

- With respect to modes of transmission, majority of respondents responded that there is a very low or no chance of being infected by making social contacts with infected peoples. Also majority of respondents also found aware about the modes of transmission and misconceptions.
- It was found that various aspects of knowledge and perception related to HIV-AIDS among students has a positive impact on their attitude by 83%.
- It was also found that knowledge and perception of students has positive impact on their sex behaviour by only 21.9%.
- Analysis revealed that perceived severity about the disease has a positive impact on attitude of students towards HIV-AIDS by 55.4%.

- Perceived severity about the disease has a positive impact on overall sex behaviour of the students towards HIV-AIDS by only 9.2%.
- Parents/teachers communication with adolescence has a positive impact on overall sex behaviour of the students towards HIV-AIDS by only 15.9%.
- Parents/teachers communication with adolescence has a positive impact on overall attitude of the students towards HIV-AIDS by 49.2%.

The overall result of the study reveals a positive impact of knowledge and perception of students with respect to HIV/AIDS on their sex behaviour and attitude towards people infected with the virus. These findings were in line with the previous study conducted by Roberts, Roberts *et al.* (2001) which shows that despite the high level of knowledge possessed by the students about the nature and mode of transmission they still have negative attitude in some aspects towards people living with the virus.

Conclusion

Based on the findings it was though students possess a good level of awareness about the epidemic and modes of transmission of the disease, and this creates a positive and direct impact on their sex behaviour and attitude towards people living with HIV/AIDS. It was concluded that gender does not determine the knowledge of HIV/AIDS but the male had a better attitude toward those living with HIV/AIDS than the female and also the male had a better opinion than the female about HIV/AIDS transmission. It was therefore recommended that government should focus on ensuring adequate knowledge among health care workers, local government leaders and peoples and people living with HIV. School based on the educational programmes was urgently required to improve knowledge, impart the right attitude and promote behavior that prevents the transmission of HIV. The electronic and news media should intensify on public enlightenment programmes on HIV/AIDS. This is a good time to have a peer education program to address self-esteem, healthy sexual attitudes, being human-accepting and loving.

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