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Awareness about the mode of transmission and prevention of HIV/AIDS in adolescents: A college-based study

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Abstract
Introduction: Globally, almost of a quarter of people living with human immunodeficiency virus (HIV) are under the age of 25 years 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. India is having a large population with low literacy levels leading to a low level of awareness of HIV/AIDS. Maharastra is among the four high prevalence states of South India (Andhra Pradesh – 500,000, Maharashtra – 420,000, Karnataka – 250,000, Tamil Nadu – 150,000) which account for 46 % of all HIV infections in the country. Inspite of being a major health problem there are no studies done to gauge the awareness among the student community

The present study was conducted in urban area compromising of both private and government aided junior colleges. Private college students mostly compromised of children from well-educated and effluent families. They are expected to be well informed about HIV/AIDS through better schooling and exposure through media (T.V,Internet). Government aided college students coming from lower socio-economic families are expected to be ignorant in various aspects of HIV/AIDS. So, the present study is expected to aptly provide results that give us deficiency of knowledge levels in adolescents. It would also aptly give the differences among the compared groups.

Materials and Methods
Design of the Study: Community based cross – sectional observational study
Period of Study: One year from july 2017 to july 2018
Study Population: A total of 1722 students in the age group of 14-18 years from junior colleges in karad, satara district maharastra were enrolled in the study. Students were surveyed from two government aided and two private junior colleges. Students willing for the survey were enrolled in the study.
Method: Predesigned questionnaire containing a total of 24 questions was used for the study. These questions were designed to assess the knowledge of students on mode of transmission and prevention of HIV/AIDS. Questionnaire also included questions to assess their awareness of counselling, testing and treatment facilities for HIV/AIDS in their district. The consent of the participants was taken initially explaining to them the purpose of the study. Students were assured about the confidentiality of their answers.
Statistical Methods: Data was tabulated and analyzed using SPSS 16.0 software. P value <0.05 was considered as significant.
Results: A total of 1722 students were enrolled in our study. Observations and results are as follows. In the present study, it was found that 1335 students (77.5%) knew that avoiding multiple sexual partners is an effective preventive measure of HIV/AIDS.79%,68.5% and 65% students were aware of prevention of HIV by usage of condoms, screening blood before transfusion and treatment of HIV infected pregnant women respectively. Private college students had better knowledge regarding preventive measures in comparison to their government aided counterparts.

Conclusions and Summary
1. In the study population major source of information about HIV/AIDS for the first time was school (83.8%).
2. Students had good knowledge about blood transfusion, infected needles, sexual contact and mother to child modes of transmission of HIV/AIDS.But their knowledge levels about transmission of HIV/AIDS through breastfeeding were low.
3. Level of knowledge about HIV/AIDS transmission is higher among private college students and boys compared with government aided college students and girls respectively.
4. Knowledge levels among students about preventive strategies of HIV/AIDS is low compared with their knowledge about modes of transmission.
5. In all aspects, level of knowledge is low particularly in government aided college girls.

Keywords: Globally, counterparts, government, HIV/AIDS

Introduction
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

Demographically the second largest country in the world,

India has also the third largest number of people living with HIV/AIDS. The total number of people living with HIV/AIDS in India was estimated at around 20.9 lakh in 2011 [5]. 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

India is having a large population with low literacy levels leading to a low level of awareness of HIV/AIDS. Maharastra is among the four high prevalence states of South India (Andhra Pradesh – 500,000, Maharashtra – 420,000, Karnataka – 250,000, Tamil Nadu – 150,000) which account for 46 % of all HIV infections in the country. Inspite of being a major health problem there are no studies done to gauge the awareness among the student community

The present study was conducted in urban area compromising of both private and government aided junior colleges. Private college students mostly compromised of children from well-educated and effluent families. They are expected to be well informed about HIV/AIDS through better schooling and exposure through media (T.V, Internet). Government aided college students coming from lower socio-economic families are expected to be ignorant in various aspects of HIV/AIDS. So, the present study is expected to aptly provide results that give us deficiency of knowledge levels in adolescents. It would also aptly give the differences among the compared groups.

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Method

Predesigned questionnaire containing a total of 24 questions was used for the study. These questions were designed to assess the knowledge of students on mode of transmission and prevention of HIV/AIDS. Questionnaire also included questions to assess their awareness of counselling, testing and treatment facilities for HIV/AIDS in their district. The consent of the participants was taken initially explaining to them the purpose of the study. Students were assured about the confidentiality of their answers.

Inclusion Criteria

All students who are from selected colleges and willing to particiapate

Exclusion Criteria

All those who are not willing

Statistical Methods

Data was tabulated and analyzed using SPSS 16.0 software. P value <0.05 was considered as significant.

Results

A total of 1722 students were enrolled in our study. Observations and results are as follows.

Out of 1722 students, 902 (52.38%) were boys and 820 (47.62%) were girls. Students were surveyed from two government aided and two private colleges. Government aided college students constitute 896 (52.04%) and private college students 826 (47.96%).

Table 1

College	Gender		
	Male	Female	Total
Government Aided	459	437	896(52.04%)
Private	443	383	826(47.96%)
Total	902(52.38%)	820(47.62%)	1722

In the present study, 1589(92.2%) of students knew blood transfusion as mode of transmission. 87.6% of students knew that HIV is transmitted from mother to child.85% of students knew that HIV can be transmitted through sexual contact. 78% of students knew that HIV can be transmitted through sharing infected needles and razor blades.63% of students knew that HIV can be transmitted through breastfeeding. Private college students were more knowledgeable than government aided college students regarding mode of transmission of HIV/AIDS. This difference is statistically significant with P value<0.05

In the present study, it was found that 1335 students (77.5%) knew that avoiding multiple sexual partners is an effective preventive measure of HIV/AIDS.79%,68.5% and 65% students were aware of prevention of HIV by usage of condoms, screening blood before transfusion and treatment of HIV infected pregnant women respectively. Private college students had better knowledge regarding preventive measures in comparison to their government aided counterparts. Statistically significant difference was present between them. Boys were more knowledgeable compared to girls with statistically significant difference regarding knowledge on preventive measures of HIV/AIDS

Table 2

Mode of Transmission	College		P	Total
	Govt Aided	Private		
Having sexual contact	684 (76.3%)	780 (94%)	0.04	1464 (85%)
Mother to child in pregnancy	714 (79.6%)	795 (96%)	0.02	1507 (87.6%)
Breastfeeding by mother	1124 (50%)	646 (78%)	0.03	1124 (63%)
Sharing infected needles/razor blades	681 (76%)	677 (81.9%)	0.12	1358 (78%)
Blood transfusion	798 (89%)	791 (95%)	0.10	1589 (92.2%)
	Gender		P	Total
	Boys	Girls		
Having sexual contact	829 (91.9%)	635 (77%)	0.001	1464 (85%)
Mother to child in pregnancy	806 (84%)	703 (85%)	0.04	1507 (87.6%)

Breastfeeding by mother	635 (67%)	489 (59.6%)	0.03	1124 (63%)
Sharing infected needles/razor blades	690 (76%)	668 (81.4%)	0.12	1358 (78%)
Blood transfusion	843 (93.4%)	746 (90.9%)	0.04	1589 (92.2%)

Table 3

Preventive measure	College		P	Total
	Govt aided	Private		
Avoiding multiple sexual partners	585 (65%)	750 (90%)	0.001	1335 (77.5%)
Usage of condom	629 (70%)	737 (89%)	0.03	1366 (79%)
Screening of blood	551 (61.4%)	627 (75.9%)	0.04	1178 (68.5%)
Screening/treating pregnant women	522 (58.2%)	598 (72.3%)	0.01	1120 (65%)
	Gender			
	Boys	Girls		
Avoiding multiple sexual partners	743 (82%)	592 (72%)	0.02	1335 (77.5%)
Usage of condom	77 (85%)	596 (72%)	0.03	1366 (79%)
Screening of blood	770 (85.3%)	553 (67.4%)	0.04	1178 (68.5%)
Screening/treating pregnant women	662 (77.3%)	480 (58%)	0.001	1120 (65%)

Discussion

In the present study, 1722 students from urban area of karad town in Satara district, maharastra were enrolled from both government aided and private junior colleges studying 11th and 12thclasses.This comparative study among helps to bring out the difference in knowledge among students. Private college students due to their effluent familial and educated parental background are expected to be more knowledgeable about HIV/AIDS. Private college students are expected to have more exposure to media (internet/tv) in comparison with government aided college students. In the present study, out of 1722 students 52.38% were boys and 47.62% were girls.

In the present study, knowledge of study population regarding sexual contact as a mode of transmission of HIV/AIDS was found to be 85% in contrast to 92.42% in Yadav *et al* and 73% in Anjali Singh study. In National Behavioural Surveillance Survey,2006 by NACO about 90.9% and 76.2% in India were aware of sexual contact as a mode of transmission [5]. The high percentage of awareness in Yadav *et al* study can be attributed to the fact that population under study consisted of 15-24 years. So inspite of lower literacy rates in Yadav study their knowledge about sexual route was more than other studies. Higher percentage of awareness about sexual contact as a mode of transmission in the present study than state average in BSS,2006 may be due to selected student population in the present study as opposed to youth (15-24years) in BSS, 2006 [14].

In the present study, blood transfusion as a mode of transmission was known to 92.2% in contrast to Yadav *et al* study with 91.11% and Anjali Singh study with 94%. In National Behavioural Surveillance Survey, 2006 by NACO about 95.1% in India is uniformly known among all study populations. In the present study awareness about blood transfusion as a mode of transmission is lower than both national and state averages in BSS, 2006 In the present study, mother to child transmission of HIV/AIDS was known to 87.6%.This is in contrast to Yadav *et al* study (83.66%) and Anjali Singh Study (91%) [6]. In National Behavioural Surveillance Survey, 2006 by NACO about 83.3% and 78.6% in India were aware mother to child transmission of HIV/AIDS. In the present study, sharing of infected needles and syringes as a mode of transmission of HIV/AIDS is known to 78% in contrast to 87.8% in Yadav *et al* study and 91.7% in Anjali Singh study. In National Behavioural Surveillance Survey, 2006 by NACO about 95.1% and 98.7% in India were aware of transmission of HIV/AIDS by sharing infected needles. Knowledge in this aspect is low in the present study. In the present study, transmission of HIV/AIDS through breastfeeding was known to 63% of students. In National Behavioural Surveillance Survey,2006 by NACO about 66.9% in India were aware of transmission of HIV/AIDS through breastfeeding [14].

In the present study, 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) in Gujarat State and the Behaviour Surveillance Survey (2006) [14] across the country [7]

In the present study, comparison between government aided and private college students regarding modes of transmission of HIV, private college students fared better in their knowledge than government aided college students. This further strengthens that government aided college students had inadequate knowledge levels about AIDS. Boys were more knowledgeable about sexual contact and blood transfusion as modes of transmission than girls. Regarding mother to child and sharing of infected needles girls fared a bit better than boys. Mother to child transmission might be more known to girls in view of their better knowledge regarding pregnancy related aspects.

Education and correct scientific information are urgently needed to adolescent boys and girls to avoid myths and misconceptions on HIV and AIDS. This knowledge enables them to take rational decisions regarding their sexual life and how they can protect themselves against HIV infection.

Conclusions and Summary

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