

Original Research Article

Assessment of knowledge of HIV and AIDS among tribal college students: a cross-sectional study

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ABSTRACT

Background: AIDS mainly affects people aged 15-40 years. The co-infection of HIV/AIDS with other infectious diseases is an escalating public health problem. Public health intervention tools are effective only when knowledge needs are ably assessed. The objective of this study was to assess knowledge regarding HIV, routes of transmission, prevention and treatment in tribal students.

Methods: Questionnaire was used to carry out this study in 120 tribal students enrolled in BA (bachelor of Arts) course in a college of tribal district of Maharashtra.

Results: Out of 120 students, 104 students 86.67% completed the self-administered questionnaire. Out of 104 the 62.50% were males and 37.50% were females. 99.03% were aware of the word 'HIV/AIDS'. 58.65% were aware of all possible routes of HIV transmission. Only 12.5% knew that unprotected anal sex carries high risk for HIV transmission. 70.19% knew that HIV infection was not curable. 75% students said that weight loss was the major symptom of AIDS. 49.03% knew that tuberculosis was the principal opportunistic infection. 25% were aware of the ELISA test and 21.03% knew the location of treatment centre. The main sources of this information were television and the internet (72% and 71%).

Conclusions: Tribal students have inadequate knowledge regarding routes of HIV transmission and its prevention. It is imperative to increase awareness by various channels of communications such as the mass media.

Keywords: HIV, Routes of HIV transmission, Knowledge

INTRODUCTION

HIV and AIDS emerged as one of the most important public health issues of the late twentieth and early twenty-first centuries and is now one of the leading causes of global morbidity and mortality. The AIDS epidemic has prompted wide-reaching changes in public health, clinical practice, and scientific research, and has had a great impact upon societies throughout the world. Statistics from the United Nations programme on HIV/AIDS (UNAIDS) in 2010 reported that estimated 2.6 million

were newly infected with HIV and 1.8 million lost their lives due to AIDS.^{1,2} Although the latest UNAIDS estimates were lower than those published in the AIDS epidemic update December 2005, the number of people living with HIV continued to rise. HIV incidence is a key parameter so that prevention efforts aim to reduce the total number of persons living with HIV, these patients will progress to disease and death. These patients are potential sources of further HIV transmission. There is a decrease in HIV incidence rate from 4.1 million to 2.6 million as result of behavioral change as preventive

measures.² Young people (15-24 years) make up an estimated 41% of new infections.³ Young women make up more than 60% of all young people living with HIV.⁴ In 1985 there are only 7% females with HIV, In 2005 it became 26% and now in 2009 Slightly more than 50% of all people living with HIV are women and girls.¹ Globally, the percentage of men living with HIV continues to decrease. 26% of all new infections are among young women ages 15-24 years.^{5,6} HIV is the leading cause of death among women of reproductive age.⁵

Maharashtra is one of the high HIV-prevalence states in India. According to the 2005-06 NFHS 3 data, HIV prevalence among adult age 15-49 year in India was 0.28%, male to female were 0.36% and 0.22% respectively. Prevalence in Maharashtra in the same age group of 15-49 year is 0.62%.⁷ HIV-related stigma and discrimination remains an enormous barrier to effectively fighting the HIV and AIDS epidemic. Stigmatization would make people hesitant to get the test done, therefore, more PLWHA (people living with HIV and AIDS) are unaware that they are suffering from HIV/AIDS, and are thereby putting his/her sexual partners at risk of getting infected, due to lack of precautionary measures. Nearly half of new HIV infections are seen in the age group of 15-30 years. Particularly the tribal population of society has a high risk of HIV infection and AIDS, if they have deficient knowledge regarding HIV transmission and its prevention. They will add social, economic burden to the family ultimately on the country. Therefore, assessment of knowledge of adolescent age groups particularly in tribal populations is important to reduce the burden and spread of HIV further through raising awareness. Based on the findings of our study, we need to come up with suitable strategies to correct the misconceptions by information, education, and communication (IEC) activities.

Over half of all new infections worldwide can be seen among young people between the age group of 15 to 24 years. Every day, 6,000 young people become infected with HIV more than five every minute.⁵ Demographic health surveys of many countries have prevailed that adolescents nowadays are experiencing puberty at a younger age than the previous generation. As result, they are involved in early initiation of sexual intercourse; most of it is being unsafe, unplanned and exposing them to unwanted pregnancy, abortion and sexually transmitted disease. Risk behaviors like unprotected sex, multi partnership, inconsistent use of condoms by adolescents and young adults putting them at high risk to HIV/AIDS and other sexual transmitted diseases (STDs).⁶

Objectives

To assess and evaluate knowledge regarding transmission and prevention of HIV and to make suitable recommendations based on this study.

METHODS

Study area and study design

A cross sectional survey was conducted at senior college of Palghar district in 2019. BA (bachelor of arts) students in the age group of 16-20 from the tribal district of Palghar were included as study participants.

Study population and sampling procedure

There were 120 tribal students enrolled under BA course. All students were selected as study participants by universal sampling method. Student list was obtained by a student registration book.

Data collection and study tool

The data was collected by using semi-structured, self-administered and pre-tested questionnaires. The instrument has 7 questions rated on a 5-points Likert scale. The questionnaire has been shown to be an appropriate, reliable and valid scale for knowledge regarding HIV transmission, treatment and prevention.^{8,9} The age group of study participants was 16-20 years of age. Anonymity and confidentiality were guaranteed to study participants when they participated in a study survey. All study participants were asked about their knowledge regarding different modes of HIV transmission and source of their knowledge.

Data analysis

The study enrolled 120 study participants, out of which 104 participated in actual study. During the data collection process, data was checked for accuracy and completeness. Data was double entered and analyzed by calculating percentages/proportions. Descriptive statistics was used to measure frequency of distribution of both dependent and independent variables.

Ethical considerations

All students were interviewed in complete anonymity. The study participants gave informed consent and were given the choice to withdraw from study anytime.

RESULTS

Out of 120 students, 104 students 86.67% completed the self-administered questionnaire. Out of 104 the 62.50% were males and 37.50% were females. The 92.30% study participants were of Hindu religion. The 99.03% study participants were aware of the word 'HIV as well as AIDS and 89.42% of them knew that HIV is a virus. The 58.65% study participants were aware of all possible routes of HIV transmission and a significant finding was that 28.90% were not aware about parenteral to child transmission HIV virus during and after delivery. Knowledge regarding prevention of HIV transmission by

contraceptives was 47.11% among the study participants, out of them 27.88% were males and 19.23% were females but unfortunately out of these only 22.11% males and 5.70% females knew that condom which is barrier contraceptive prevents HIV transmission (Figure 2). Only 12.50% respondents knew that unprotected anal sex carried a high risk for HIV transmission while 17.30% study participant knew that homosexuality has high risk for the same.

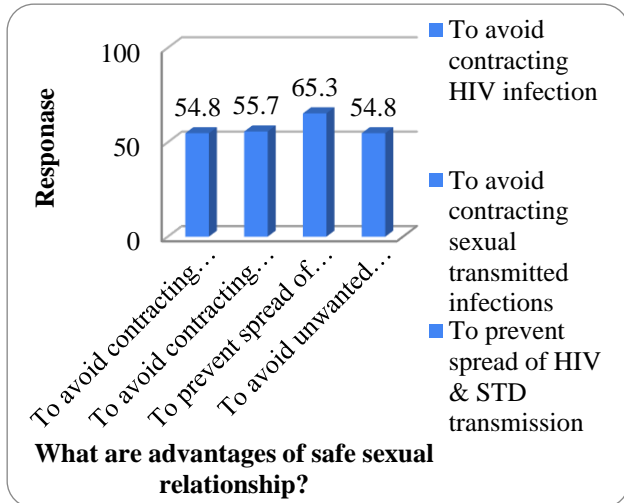


Figure 1: Knowledge regarding advantages of safe sexual relationships.

The 22.11% study participants felt that for a safe sexual relationship you should be loyal to your life partner (monogamous relationship) and use condoms while having multiple partners. According to 54.80% study participants, the advantage of safe sexual relationships is that to avoid contracting HIV infection and to avoid unwanted pregnancies (Figure 1). The 70.19% knew that HIV infection was not curable. The 75% study participants knew that weight loss and 45.19% prolonged fever were the major symptoms of AIDS. The 49.03% respondents knew that tuberculosis and 19.20% felt that herpes were the principal opportunistic infections. The 25% were aware that ELISA test is used to diagnose HIV infection and 21.03% knew the location of treatment centers in the district.

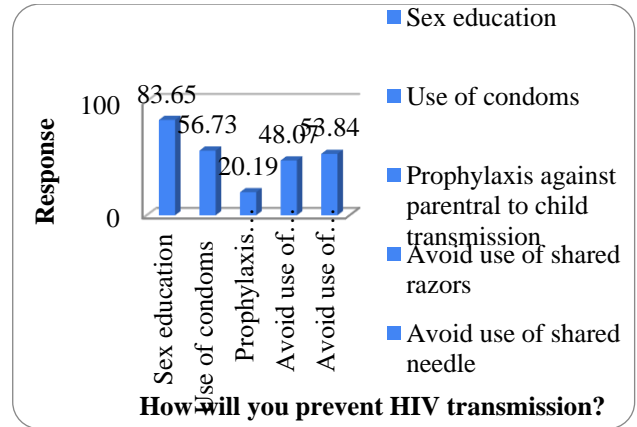


Figure 2: Knowledge regarding prevention of HIV transmission.

The 70.19% respondents felt that if the test to diagnose HIV becomes positive, they will first consult a local doctor. The 79.80% respondents felt that if the test to diagnose HIV becomes negative, they will repeat the test after 1 month and 17.30% said that they will consult a local doctor. 40% of the participants were cognizant of measures to prevent HIV transmission. The main sources of this information to study participants were television and internet i.e., 72% and 71%, for just 45% of the participants is through teachers (Figure 3).

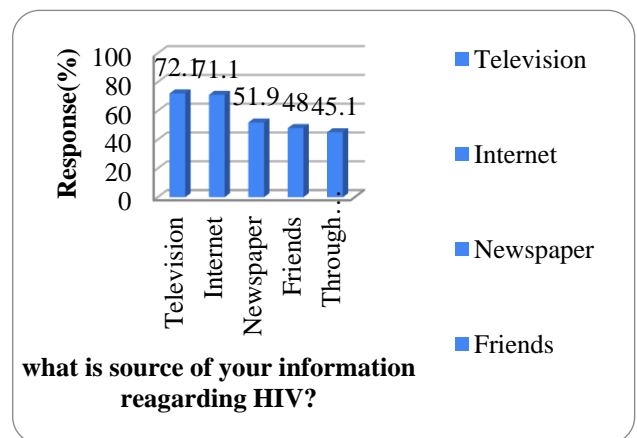


Figure 3: Source of Information regarding HIV.

Table 1: Knowledge regarding HIV transmission, treatment and prevention.

Questions	Correct response	Male	Female
Does HIV transmit through unsafe sexual intercourse?	True	100	100
Does HIV transmit from pregnant mother to child?	True	73.84	66.66
Does use of contaminated needles cause transmission of HIV	True	92.3	92.3
Does HIV transmit from kissing?	False	93.30	82.06
Does HIV spread through mosquito bites?	False	96.40	94.90
Does contraception prevent HIV transmission?	True	27.88	19.33
Which contraceptive prevents HIV transmission?	Open ended question (condom)	22.11	5.71

Note: correct responses are in %.

DISCUSSION

Maharashtra is one of the high HIV-prevalence states in India. Prevalence in Maharashtra in the same age group of 15-49 year is 0.62%. Demographic health surveys of many countries have prevailed that adolescents nowadays are experiencing puberty at a younger age than the previous generation. As result, they are involved in early initiation of sexual intercourse; most of it is being unsafe, unplanned and exposing them to unwanted pregnancy, abortion and sexually transmitted disease. Risk behaviors like unprotected sex, multi partnership, inconsistent use of condoms by adolescents and young adults putting them at high risk to HIV/AIDS and other sexual transmitted diseases (STDs).⁶

HIV-related stigma and discrimination remains significant barrier against war with the HIV and AIDS epidemic. Stigmatization would make people hesitant to get the test done, thus putting his/her sexual partners at risk of getting infected, due to lack of precautionary measures. Nearly half of new HIV infections are seen in the age group of 15-30 years. Particularly the tribal population of society has a high risk of HIV infection & AIDS, if they have deficient knowledge regarding HIV transmission and its prevention. They will add socioeconomic burden in terms of morbidity. Therefore, assessment of knowledge of adolescent age groups particularly in tribal populations is important to reduce the burden and spread of HIV further through raising awareness.

Out of 104 tribal students the 62.50% were males and 37.50% were females. A very important finding of our study was that 99.03% students participated in the survey had heard about AIDS which is in conformity with findings of Shiferaw et al and Deb et al.^{10,11} The 89.42% study participants knew that HIV is a virus which is in consistent with Benjamin et al which observed that 89% doctors, 61% lab technicians and 52% paramedical professionals knew about viral aetiology of the disease, while this is in against with the findings of Kubde et al where 69% of the respondents knowledge about cause of HIV/AIDS.^{12,13}

The 58.65% study participants were aware of all possible routes of HIV transmission and significant finding was that 28.90% were not aware about parenteral to child transmission HIV virus during and after delivery so, the finding is not consistent with Singh et al where 96% agreed upon transmission via blood transfusion, contaminated needles and syringes and from infected mothers to their babies.¹⁴ As per study of Udgiri et al it is found that according to male and female respectively mother to child transmission was 61.05% and 26.08% which shows significant difference in knowledge of male and female regarding HIV transmission.¹⁵ Vasundhara et al found awareness about HIV transmission through sexual route 96.00% and 98.24%, blood borne 94.28% and 89.47% among medical students and in-service

doctors respectively which is consistent with results of study.¹⁶ Knowledge, attitude and practice regarding HIV/AIDS was studied among the general population in Dakshina Kannada district of Karnataka, India.⁵ Significant gaps in knowledge were noted Meundi et al.¹⁷ According to the study of et al the 47% study participants were of opinion that adolescent population is among high risk group for HIV transmission.⁸

Knowledge regarding prevention of HIV transmission by contraceptives was 47.11% among our study participants (Table 1), out of them 27.88% were males and 19.23% were females but unfortunately out of that only 22.11% males and 5.70% females knew that condom which is barrier contraceptive prevents HIV transmission. As per study of Shiferaw et al 75% males and females felt that condom prevents HIV transmission and as per study of Zhao and Xiaoming et al 68% male and 60% female study participants were aware that use of condom during intercourse prevents HIV transmission.^{9,10} In our study 18% and 5% female study participants have misconceptions like HIV transmits through kissing and mosquito bite respectively. As per study of Zhao and Xiaoming et al misconceptions like kissing and sharing equipment with AIDS patients 28% and mosquito bite 45% would transmit HIV were observed in study.⁹ As per study of et al misconceptions like kissing and sharing equipment with AIDS patients 3% would transmit HIV were observed in study.⁸ Only 20% study participants knew how HIV is transmitted and only 9% study participants were aware of methods to prevent HIV/AIDS transmission in tribal communities as per study done by Naik and Karpur et al which is consistent with findings of our study.¹⁸

The 29.81% study participants have a misconception that HIV infection was curable with no difference in knowledge of male and female, which is better as compared to Lal et al where 40.2% males and 60.3% females said it is curable if treated in early stages.¹⁹ The 75% study participants knew that weight loss, 45.19% prolonged fever and chronic diarrhea 26.92% were the major symptoms of AIDS but as per study of Singh et al 80.11% knew weight loss, 48.55% prolonged fever and 52.33% chronic diarrhea were the major symptoms of AIDS.¹⁴ Shiferaw et al observed that knowledge of symptoms and the methods of preventing STDs other than HIV were poor.¹⁰ Anita et al observed that Pre and extramarital relations, including multi-partnered sex is prevalent in this tribal community, and safe sexual practices are not reported, while the risk perception is very low.²⁰ At a national level, 83.8% of the youth were aware of condom use for protection against HIV/AIDS. Only 4 in 10 students from Delhi University used a condom sometimes during sexual intercourse. An awareness level as low as 11% regarding the preventive action of condoms has been recorded among married female youth in the state of Tamil Nadu. Only 21% and 15% students respectively were aware that unprotected sex and multi-partner sex were modes of HIV

transmission as per study of Lal et al.⁸ 65% students were aware of safe sexual practices as per study of Lal et al.⁸

The main sources of this information to our study participants (Figure 3) were television and internet i.e., 72% and 71%, just 45% through teachers. As per study of Lal et al, for 70% students' source of information about HIV was television and radio.⁸ As per Lal et al only 29% of students in our study obtained information on HIV/AIDS from their teachers.¹⁹ 22.11% study participants felt that for a safe sexual relationship you should be loyal to your life partner (monogamous relationship) and use condoms while having multiple partners. Our findings emphasize the need to improve the role of teachers in HIV/AIDS awareness programmes. This is important because educating school children about safe sex is one of the most effective ways of postponing the onset of sexual activity among them. Intervention programmes providing sex education in schools have been reported to result in a marked improvement in the know ledge of students about HIV/AIDS and have been associated with a positive change in their attitude towards the disease Agrawal et al.²¹

CONCLUSION

The present study highlights that tribal students, especially female students have inadequate knowledge regarding transmission, symptoms of HIV/AIDS and its prevention. Health education is inadequate in information dissemination of HIV.

Recommendations

Health promotion through IEC activities is of immense importance to limit spread of HIV. The spread of HIV in any community is in part determined by the knowledge of the attitude towards sexuality of its members and by their actual sexual practices. Before formulating public health policies for HIV/AIDS, prevalent knowledge, attitude and practices (KAP) regarding HIV/AIDS in the target community should be determined. Thus, behavior change communication can be increased through risk reduction counselling by identifying vulnerable group in society

To achieve universal goals toward HIV prevention, treatment care and support, the AIDS response needs to be women centered and include a dedicated budget to address their needs.

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