International Journal of Contemporary Pediatrics
Nuwera H et al. Int J Contemp Pediatr. 2017 Mar;4(2):317-321
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: http://dx.doi.org/10.18203/2349-3291.ijcp20170084

Original Research Article

Knowledge about HIV/AIDS among Xth standard students in Mangalore, India

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Received: 05 January 2017
Accepted: 11 January 2017

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ABSTRACT

Background: HIV an abbreviation of human immunodeficiency virus, infection of which in most advanced stage leads to AIDS. HIV/AIDS is both global public health problem and young people are at the centre of global HIV/AIDS pandemic. Lack of information and understanding about HIV/AIDS, increases their susceptibility towards the disease. Hence, this study was conducted to assess the knowledge of HIV/AIDS among the X grade students as well as to know the differences in knowledge across gender.
Methods: A cross sectional study was conducted among 250 students studying in X grade of 3 private schools located in Mangalore city, selected by multistage cluster sampling. The study was conducted for duration of 2 weeks using a predesigned and pre-structured questionnaire. Ethical approval from the institution and necessary permission from school authority was obtained prior to initiation of study.
Results: Mean age of the study participants was 15.40±0.615. Females were predominant in the age group of 14 and 16 years (100.0% and 53.40% respectively). Majority of them had adequate knowledge of full form of HIV (94.4%), virus as causative agent (85.6%), awareness symbol of HIV/AIDS (86.8%), modes of transmission of HIV (81.6%). Poor knowledge was observed in areas of prevention (60.4%), actions that does not transmit HIV infection (58.0%), availability of blood tests (58.0%) and drugs (42.4%). Males had better knowledge in various areas when compared to females.
Conclusions: Stringent efforts are required to improve the knowledge of HIV/AIDS by health education camps and school teachers need to be trained to enhance the knowledge of students.

Keywords: HIV/AIDS, Knowledge, Mangalore

INTRODUCTION

HIV stands for Human Immunodeficiency Virus, the causative agent for HIV infection. Infected individuals gradually become immune-deficient which results in increased susceptibility to a wide range of infections and diseases. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS), which can take from 2 to 15 years to develop depending on the individual. HIV can be transmitted with the exchange of a variety of body fluids from infected individuals, which may include blood, breast milk, semen and vaginal secretions.[1] Individuals cannot become infected through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing personal objects, food or water. There are various risk factor which put individual at greater risk of acquiring HIV infection and includes, unprotected anal or vaginal sex; having another sexually transmitted infection such as syphilis, herpes, chlamydia, gonorrhoea, and bacterial vaginosis; sharing contaminated needles, syringes and other injecting equipment and drug solutions when injecting drugs;

receiving unsafe injections, blood transfusions, medical procedures that involve unsterile cutting or piercing; and experiencing accidental needle stick injuries, including among health workers.[1] According to India HIV Estimation 2015 report, national adult (15 - 49 years) HIV prevalence in India is estimated to be 0.26% (0.22% - 0.32%). Manipur (1.15%), Mizoram (0.80%), Nagaland (0.78%), Andhra Pradesh and Telangana (0.66%), Karnataka (0.45%) are the top 5 states accounting for high prevalence of HIV/AIDS infection. The total number of people living with HIV (PLHIV) in India is estimated at 21.17 lakhs in 2015 and children (< 15 years) account for 6.54%. India is estimated to have around 86 (56-129) thousand new HIV infections in 2015 and 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).[2]

Young people are at the centre of the global HIV/AIDS pandemic which is true both in countries with a generalized epidemic and in those with a concentrated epidemic. Young people are at high risk of contracting HIV because, once they become sexually active, they often have several, usually consecutive, short-term sexual relationships and do not consistently use condoms. In many countries, a significant proportion of young people start sexual activity before the age of 15.[3] In some regions, intravenous drug use is spreading at an alarming rate in this age group. Furthermore, young people often have insufficient information and understanding about HIV/AIDS. They may not be aware of their vulnerability to it or of how best to prevent it. They also often lack access to the means to protect themselves.[3] There is paucity of studies with reference to knowledge of HIV/AIDS among this age groups. Hence this study was conducted to assess the knowledge regarding HIV/AIDS among the Xth class students of a private school in Mangalore and to compare the gender differences in knowledge about HIV/AIDS.

METHODS

A cross-sectional study was conducted among the 10th grade students, willing to participate voluntarily in the study from 3 private schools of a Mangalore city of Karnataka, India. Multistage sampling method was employed. In first stage, list of higher secondary schools in Mangalore city of Dakshina Kannada District was obtained and 3 schools were sampled based on simple random sampling using lottery method.[4]

In second stage, list of total number of classes in schools sampled in the first stage was obtained and 10 grade class was selected on the basis of convenience sampling, In the third stage all the students studying under the 10th grade in schools sampled in the first stage were selected as a sample for the study. The study was conducted for duration of 2 weeks. Data was collected by school to school visit and prior to initiation of study, assent from the study participants and a written informed consent from the parents was obtained. The data was collected using a pre-designed and structured questionnaire, used in different settings and modified for the local context. The questionnaire was divided into two parts, first part included information pertaining to age and gender and the second part of the questionnaire included questions pertaining to knowledge of HIV/AIDS and included knowledge about full form of HIV, causative agent, symbol representing HIV/AIDS, source of information of awareness, mode of transmission, behaviours or actions that may increase the chances of acquiring infection and knowledge pertaining to availability of test, treatment, vaccines and prevention. Institutional ethical clearance and necessary permission from the school authorities was obtained prior to data collection.

The data obtained was analysed using SPSS 16.0. Chi–square test was used to find out the association between variables and p <0.05 was considered statistically significant.

RESULTS

As shown in Table 1, of the 250 study participants, mean age of the study participants was 15.40±0.615. Majority were in the age group of 15 and 16 years (46.0% and 47.2% respectively). Females were predominant in the age group of 14 and 16 years (100.0% and 53.40% respectively) and males in the age group of 15 years (58.30%). As seen in Table 2, majority of the respondents knew full abbreviation of HIV (94.4%), the causative agent of HIV/AIDS is a virus (85.6%), mode of transmission of HIV/AIDS (81.6%) and behaviours or actions that does not cause transmission of HIV/AIDS such as shaking hands, sharing meals and hugging an infected person (58.0%).

Majority of them knew about the awareness symbol of HIV/AIDS as red ribbon (86.8%). Majority of the students were aware about the availability of blood test to diagnose HIV/AIDS (58.0%) and the availability of treatment (60.4%). Most of the respondents knew about the non-availability of vaccines for HIV/AIDS (34.0%).

When gender wise distribution about the HIV/AIDS was seen, it was found that males had a better knowledge of HIV/AIDS with respect to, awareness symbol of HIV/AIDS (92.6%), mode of transmission (88.5%), behaviors or action that does not transmit infection (77.0%), prevention (77.9%) and availability of blood test to diagnose HIV/AIDS (64.8%), whereas females had a better knowledge of HIV/AIDS with respect to correct abbreviation of HIV and causative agent of HIV/AIDS as virus (89.1% and 96.9%). As shown in Table 4 and Figure 3, 52.80% of the respondents (48.4% males and 57.0% females) reported that the source of information was mixed which included media, friends, relatives and teachers.

Table 1: Socio-demographic profile of the study participants (n=250).

Age (years)	Frequency	Percentage
14 years	17	6.8
15 years	115	46.0
16 years	118	47.2
Sex		
Male	122	48.8
Female	128	51.2

Table 2: Knowledge and source of information about HIV/AIDS among the study participants (n=250).

Knowledge	Frequency	Percentage
Abbreviation of HIV	236	94.4
Virus as causative agent of HIV/AIDS	214	85.6
Awareness symbol of HIV/Aids	217	86.8
Mode of transmission	204	81.6
Behaviours/ actions does not transmit HIV/AIDS infection	145	58.0
Knowledge on prevention	151	60.4
Blood tests available to diagnose HIV/AIDS	145	58.0
No vaccines for HIV/AIDS	85	34.0
Availability of drugs for HIV/AIDS	106	42.4

Table 3: Gender wise distribution of study participants about the knowledge of HIV/AIDS (n=250).

Variables	Male	Female
Abbreviation of HIV	112 (91.8%)	124 (96.9%)
Virus as causative agent of HIV/AIDS	100 (82.0%)	114 (89.1%)
Awareness symbol of HIV/Aids	113 (92.6%)	104 (81.3%)
Mode of Transmission	108 (88.5%)	96 (75.0%)
Behaviours/ actions does not transmit HIV/AIDS infection	94 (77.0%)	51 (39.8%)
Knowledge on prevention	95 (77.9%)	56 (43.8%)
Blood tests available to diagnose HIV/AIDS	79 (64.8%)	66 (51.6%)
No Vaccines for HIV/AIDS	55 (45.1%)	30 (23.4%)
Availability of drugs for HIV/AIDS	61 (50.0%)	45 (35.2%)

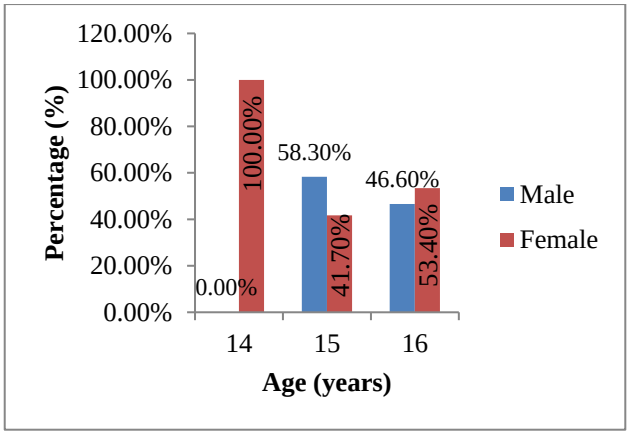

Figure 1: Age wise gender distribution of the study participants (n = 250).

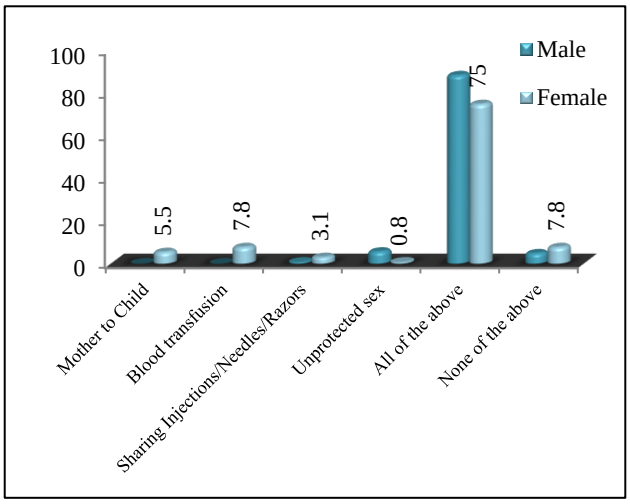

Figure 2: Gender wise distribution of study participants according to knowledge of various mode of transmission of HIV/AIDS (n = 250).

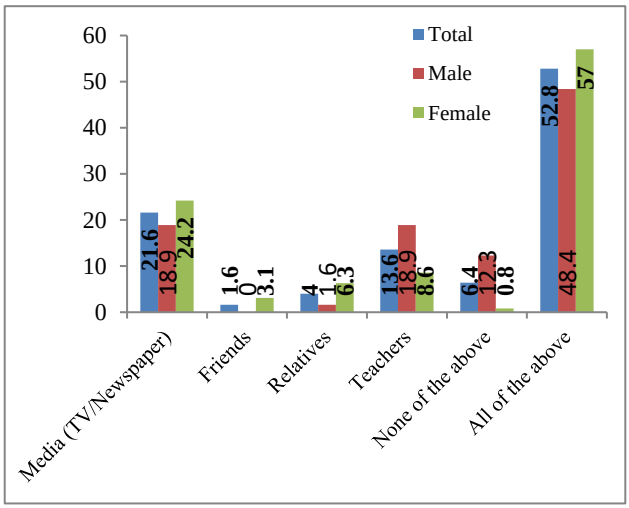

Figure 3: Gender wise distribution of study participants according to source of information of HIV/AIDS (n = 250).

DISCUSSION

The present study was carried out in 3 randomly selected schools through pre-designed and pre-structured questionnaire to assess the knowledge of HIV/AIDS among the students studying in X grade. The study found that majority of the students (94.4%) had identified the correct abbreviation of HIV. The results fall in line with the study conducted by Bolla CR et al in Andhra Pradesh among secondary school students where 92.60% of the study participants had written correct abbreviation of HIV.[5] In a study conducted by Bhalla S et al reported that 60.0% of the study participants had written correct abbreviation of HIV.[6] The present study found that 85.6% of the study participants were aware that the causative agent of HIV/AIDS is a virus. This finding was found to be similar with the study conducted by Bhalla S et al and Bolla CR et al, wherein the 90.5% and 78.90% of the study participants reported that the causative agent of HIV/AIDS is a virus.[5,6] Majority of the study participants (86.8%) knew that the awareness symbol of HIV is a red ribbon, which was in line with the study by Bolls CR et al where 76.85% of secondary school students knew about the awareness symbol of HIV/AIDS.[5] The present study found that 81.6% (88.5% of males and 75% of females) of the students knew about the various modes of transmission that included mother to child transmission, blood transfusion, sharing injections/needles/razors, and unprotected sex. The results were similar with the study conducted by Bolla CR et al.[5] A study conducted by Kotecha PV et al found that males had a better knowledge when compared to females (sexual intercourse- 78.3% vs 70.1%; sharing needle, blades- 49 and 17.4% vs 47.7 and 6.4%; blood transfusion- 34% vs 16.7%) as regard to modes of transmission of HIV, which was found to be in line with our study findings.[7] Study by Lal P et al found that females had better knowledge of modes of transmission of HIV, when compared to males.[8] Our study found that 58% of the study participants were aware of the action that does not transmit HIV infection such as sharing a meal, hugging a person and shaking hands with HIV/AIDS infected person. The study conducted by Bolla CR et al reported that 56.38% and 46.14 % of the study participants knew that HIV will not be transmitted by hugging or shaking hands and sharing meals with HIV infected person respectively. Our study found that 60.8% (77.9% males and 43.8% females) of the students had a knowledge that HIV is a preventable condition, similar results were found in the study conducted by Kotecha PV et al, where 63.6% (73.5% males and 54.2% females) of the study participants knew that HIV is a preventable condition.[5,7] A study by Lal P et al reported that 72.1% of the study was aware about the preventable aspect of HIV prevention with marginal difference across gender.[8] The present study found that 58% (64.8% males and 51.6% females) of the study participants were aware about the availability of blood test for HIV/AIDS diagnosis. Study by Bolla CR et al reported that 75.43% of the study participants knew about the availability of blood tests to confirm HIV/AIDS.[5] Our study reported that 34% knew about the non-availability of vaccines for HIV/AIDS and 34% had wrong perception of availability of HIV/AIDS vaccines, this finding was comparatively lower from the study finding of Lal P et al, where 61.89% of the study participants had wrong perception of availability of HIV/AIDS vaccine.[8] The study also found that 42.4% of the study participants were having the knowledge of availability of drugs for HIV/AIDS, which were in line with the study conducted among the high school students in Mumbai where 34% of the students were aware about the availability of drugs for HIV/AIDS.[9] Study conducted by Lal P et al found that 28.6% of the study participants had knowledge of existence of anti-retroviral drugs.[8]

Majority of the study participants (52.8%) reported that the source of information regarding HIV/AIDS was mixed which included media, friends, relatives and teachers, whereas 21.6% (18.9% males and 24.2% females), 13.6% (18.9% males and 8.6% females) reported that their source of information was from media and teacher respectively. Similar results with respect to teacher as a poor source of information was found in a study by Kotecha PV et al7, where 12.6% of males and 9.1% of the females reported as teacher being the source of information.

CONCLUSION

Study found the high school students had poor knowledge on HIV/AIDS with respect to behaviours or actions that does not allow HIV/AIDS transmission, HIV/AIDS prevention, availability of blood test to diagnose/confirm HIV/AIDS, availability of anti-retroviral drugs and non-availability of vaccines for prevention of HIV/AIDS.

The study also found that teachers being the poor source of information, hence regular programmes to be conducted in the schools to train teachers regarding various aspect aspects of HIV/AIDS, which in turn will help the students to gain wider aspect of HIV/AIDS knowledge.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Nuwera H, Prabhu AS. Knowledge about HIV/AIDS among Xth standard students in Mangalore, India. Int J Contemp Pediatr 2017;4:317-21.