



Study of HIV Awareness in Adolescent Age Group

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Abstract

Background and Objectives: HIV and AIDS is a global public health problem and young people are at the centre of global HIV/AIDS pandemic. Adolescence is a stage of physiological, mental and social transformation which poses a threat for risky health behaviours. Inadequate knowledge, taboos regarding sex education, indulgence in risky behavior lends the adolescents susceptible to AIDS (Acquired Immuno Deficiency Syndrome). In our context, we decided to have our study in the age group 13 -19 years, as it is a phase of experimentation and risk that includes early sexual debut, sexual coercion and violence, trafficking, and substance abuse. This study was done with the objective to assess the knowledge and attitude of adolescents towards people living with HIV/AIDS in urban Bangalore.

Methodology: This school based study was conducted from August 2017 to July 2018, where all the students aged 13-19 years from selected schools and PU colleges who were present on the day of the study were included. Informed consent was taken from the parents. Information regarding their knowledge and attitude regarding HIV/AIDS were obtained using a self-administered, pre-tested, semi-structured questionnaire. The children who were mentally disabled were excluded. The values were analysed using appropriate statistical methods.

Results: Among the 1200 adolescents who participated, television 275 (73.5%) was the most common source of information about HIV/AIDS. 71.2% of respondents knew that unprotected sexual contact and 58.50% knew that multiple/homosexual partners will transmit the disease. 21.5% of students were aware of female condoms as a preventive method. Regarding misconceptions about HIV, 58.3% of student thought that HIV spreads by coughing and sneezing and only 22.1% were aware that contact with saliva, tears, sweat, urine or body fluids will not transmit the disease. Nearly 55% of the adolescents thought that HIV could be transmitted by mosquito bite. 33.1% of participants knew that there is no vaccine for HIV/AIDS. Only 36.6% of students had a favourable attitude towards People Living with HIV/AIDS (PLWHA). About 32.9% students in our study knew that HIV and AIDS are not synonymous.

79.2% opined that infected persons quickly show signs of infections. Regarding PEP, 23.3% of students were aware that taking antibiotics will not prevent HIV /AIDS and 37.5% were aware that HIV cannot be diagnosed within 1 week post exposure.

Conclusion: The basic knowledge of HIV and AIDS is inadequate over various issues like knowledge on HIV/AIDS with respect to behaviours or actions that does not allow HIV/AIDS transmission, time to diagnose/confirm HIV/AIDS and non-availability of vaccines for prevention of HIV/AIDS. However, awareness regarding prevention methods is adequate, yet further education is needed to enhance better knowledge. The awareness regarding unprotected sex as modes of transmission is significantly higher in boys compared to girls. Information, Education and Communication is the effective means to be disseminated as campaign at school level for preventing and protecting adolescents from the HIV/AIDS and spread awareness to induce behavioural changes among the adolescents.

Keywords: AIDS/ HIV, Awareness, Adolescents, Knowledge, urban Bangalore.

Introduction

Bangalore is the capital of the state Karnataka. The urbanization, advent of technology, active night culture and increasing western lifestyle, all have led to people living a very fast life and an easy access to social life at an early age.

The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19 years (1) they constitute more than 1.2 billion worldwide and contribute to 22% of the Indian population (2). It is one of the most crucial stages in the life of an individual, as this phase is characterised by acceleration of physical growth and, psychological and behavioural changes, thus bringing about transformation from childhood to adulthood. Physical growth and development are accompanied by sexual maturation, often leading to intimate relationships. In addition, the adolescents experiences changes in social expectations and perceptions. (3)

It establishes a strong foundation for adulthood, which propels one to move in the right direction with a right influence and a lack thereof resulting in disastrous consequences, generating an economically productive but a morally precarious population.

Adolescence, a stage of physiological, mental and social transformation which accompanies inquisitiveness, impulsiveness and experimentation, makes them prone for risky health behaviours. These behaviours make them vulnerable to diseases especially sexually transmitted diseases such as AIDS.

AIDS caused by HIV stands as a threat to entire mankind stigmatising those affected and petrifies the rest and has rightly been called a “social disease”. Although, a vast amount of accessible information is available about the disease and a significant progress made in the past two decades on prevention, control and cure, the extent of utilization still remains a challenge to be explored.

Since prevention is the key to AIDS control, empowerment of youth with knowledge about high risk behaviours and its ominous relation with HIV is a most effective tool to contain the pandemic. Planning an appropriate HIV awareness programme for a specific target group must be relevant to its need and can be designed only after determining the existing knowledge, belief, attitude and practice pattern of that particular group.

Despite advances in our scientific understanding of HIV and its prevention and treatment as well as years of significant effort by the global health community and leading government and civil society organizations, too many people living with HIV or at risk for HIV still do not have access to prevention, care, and treatment, and there is still no cure. However, effective treatment with antiretroviral drugs can control the virus so that people with HIV can enjoy healthy lives and reduce the risk of transmitting the virus to others.

The HIV epidemic not only affects the health of individuals, it impacts households, communities, and the development and economic growth of nations. Many of the countries hardest hit by HIV also suffer from other infectious diseases, food insecurity, and other serious problems.

Despite these challenges, there have been successes and promising signs. New global efforts have been mounted to address the epidemic, particularly in the last decade. The number of people newly infected with HIV has declined over the years. In addition, the number of people with HIV receiving treatment in resource-poor countries has dramatically increased in the past decade.(4)

Progress also has been made in preventing mother-to-child transmission of HIV and keeping mothers alive. In 2017, 80% of pregnant women living with HIV had access to antiretroviral medicines to prevent transmission of HIV to their babies, up from 47% in 2010. (5)

However, despite the availability of this widening array of effective HIV prevention tools and methods and a massive scale-up of HIV treatment in recent years, new infections among adults globally have not decreased sufficiently.

Importance of awareness

The most potent form of prevention (for there really is no cure) is awareness.

India having a large population with low literacy levels leading to a low level of awareness of HIV/AIDS, the disease is posing an alarming threat on the public health scenario. At the same time, discussing sex has been a taboo in the Indian societal set-up. Adolescence is shrouded in myths and misconceptions about sexual health and sexuality. With the influence of media and the breakdown of traditional family structures, sexual behaviour among adolescents is in flux.

In the absence of any organized institution for imparting sex education, young people tend to learn about sexual and reproductive health from unauthorized and unreliable sources resulting in perpetuation of myths and misconceptions about puberty, masturbation, night emissions, sexual intercourse, safe sex, reproductive health, sexually transmitted diseases (STDs), etc.(6)

The biggest hurdle in the spread of awareness is the availability of correct information. Several myths about the spread and containment of the disease exist. Schools are in a unique position to reach nearly every child.

Knowledge, attitudes and practices (KAPs) regarding HIV/AIDS is one of the corner stones in the fight against the disease. Adequate knowledge about HIV/AIDS is a powerful means of promoting positive attitudes and engaging in safe practices. Many prevention programmes have focused on increasing knowledge on transmission so as to overcome misconceptions that could prevent behavioural change towards safe practices and also reduce the stigma against people living with HIV/AIDS.

Stigmatizing attitudes have been shown to be strongly associated with misconceptions on HIV transmission and negative attitudes towards people living with HIV. An assessment of KAPs among any population is highly necessary in planning the management and prevention of HIV, and as baseline to evaluate the success of prevention strategies.

“The future of the HIV epidemic lies in the hands of young people. The behaviour they adopt now and those that they maintain throughout their sexual lives will determine the course of this epidemic for

decades to come. Young people will continue to learn from one another, but their behaviour will depend largely on the information, skills and services that the current generation of adults choose to equip their children with.” (7)

Need of the Present Study

AIDS affects many parts of society, and so everyone needs to be aware of HIV and AIDS. Providing the general population with basic AIDS education contributes to the spread of accurate information, promoting awareness and tackling stigma and discrimination.

The key issues in this study are hereby raised in the following questions:

- What is the level of awareness about basic information on HIV/AIDS disease among adolescents?
- What is the level of awareness about Mode of transmission of HIV/AIDS disease among adolescents?
- What is the level of awareness about methods of prevention of HIV/AIDS disease among adolescents?

Aims and Objectives

Aim of the study

To evaluate level of HIV/AIDS related knowledge and attitude among school & college going adolescents.

Objective of the study

1. For this purpose the following aspects will be analyzed:
 - I. The level of knowledge of adolescents regarding HIV
 - II. Trusted sources of information regarding HIV
 - III. The adolescents’ level of knowledge about HIV ways of transmission and Prevention measures

2. Identification of the adolescents' attitudes towards HIV protection measures.
3. Identification of the adolescents' attitude towards people living with HIV.
4. To address the need for school AIDS education programmes.

Material and Methods

Study area: Schools and colleges in urban Bangalore. A simple random sampling technique was used to select the schools, pre-university college and colleges and two classes from each were selected randomly and all adolescents in the class who were present on the day of the study were included.

(This study was done in five schools, two pre university colleges and two engineering colleges)

Study population: Students in grade 9,10, PUC 1,2, engineering 1st year aged 13 – 19 years during the academic year of 2017-2018 who voluntarily joined the study. Informed consent is obtained from students and their parents.

Study design: This is a descriptive cross sectional study.

Sample size:

The main objective of the present study is to study the HIV awareness among School going Adolescents, hence by taking percentage of adolescents who knew that the disease can be spread through needles and syringes was 24%. (Ref: Caroline Andersson & Camilla Westergren, Department of Infectious Diseases The Sahlgrenska Academy at the University of Gothenburg, Sweden “Still scant and insufficient knowledge about HIV/AIDS among teenagers in Solapur District, Maharashtra State, India “ (130)and by taking 10% relative precision, with 95% Confidence limits, sample size was calculated using the formula

Sample Size = $Z^2 (1-\alpha)2*p*q$

L2

α is the level of significance

Z is the Standard Normal Variance i.e. 1.96 for 95% of Confidence Interval.

$p = 24\%$

$q = 100 - p = 76\%$

$L = \text{relative Precision or Maximum Allowable Error} = 10\% \text{ of } p = 2.4$

Accordingly, sample size calculated was 1216. Hence 1200 adolescents will be taken for the study.

The sample consist of 600 adolescent girls and 600 adolescent boys.

Study duration: August 2017 to July 2018.

Inclusion criteria

1. Apparently healthy children between 13 – 19 years of age.
2. Adolescent boys and girls who are willing to participate in the study.

Exclusion Criteria

1. Adolescent girls and boys who are not willing to participate in the study.
2. College students above 19 years and school students below 13 years.
3. Mentally disabled children.

Ethical clearance

The ethical clearance was obtained from Ethics Review Board, St.Philomena's Hospital, Bangalore at the beginning of the study.

Methodology

Formal permission was obtained from the Administrator of St. Philomenas' hospital, Bangalore.

Informed consent

Informed consent was obtained from parents and confidentiality was assured.

Data Analysis and Interpretation

Data was entered into Microsoft Excel (Windows 7; Version 2007) and analyses were done using the Statistical Package for Social Sciences (SPSS) for Windows software (version 22.0; SPSS Inc, Chicago). Descriptive statistics such as mean and standard deviation (SD) for continuous variables, frequencies and percentages were calculated for categorical Variables were determined. Association between Variables was analyzed by using Chi-Square test for categorical Variables. Bar charts and Pie charts were used for visual representation of the analyzed data.

Probability value <0.05 was considered statistically significant.

Data collection Methods

A predesigned, anonymous, self-administered questionnaire was used for data collection. The questions were explained to them and they were asked to write answers of the questions on their own. Questionnaire includes questions related to knowledge on HIV/AIDS, modes of transmission of disease, misconceptions regarding the modes of transmission, availability of vaccine and attitude about people living with HIV/AIDS (PLWHA). Questions were of closed ended questions. Questionnaire is derived from standard HIV KQ 18 form with questions relevant to adolescents and similar to a questionnaire used in a survey on “ADOLESCENCE AWARENESS: A BETTER TOOL TO COMBAT HIV/AIDS” amongst adolescents of District Bareilly.

Data collection Forms: During data collection, the purpose of the study was sufficiently elaborated to the informants. Consent was obtained from the participant. The teacher served primarily as a guide and helped in gaining access to students in class, introducing the research team and participants, ensuring that the research team did not obstruct normal student activities, as well as seeking permission from other teachers and staff encountered during the data collection.

HIV/AIDS Awareness Survey

Name :

Age :

Gender :

Urban/rural :

Have you ever heard about HIV/AIDS?

- a) Yes
- b) No

How did you come to know about HIV/AIDS? (Multiple response question)

- a) Television
- b) Family/Parents
- c) Teacher/School
- d) Friends
- e) News paper

Hiv Questionnaire

1. Coughing and sneezing DO NOT spread HIV.

- a) True
- b) False
- c) Don't know

2. A person can get HIV by sharing a glass of water, shaking hands, kissing someone who has HIV.

- a) True
- b) False
- c) Don't know

3. HIV can be transmitted by sharing public toilet and swimming pool .

- a) True
- b) False
- c) Don't know

4. HIV and AIDS are the same thing.

- a) True
- b) False
- c) Don't know

5. Showering, or washing one's private parts, post exposure keeps a person away from getting HIV.
- a) True
 - b) False
 - c) Don't know
6. All pregnant women infected with HIV will have babies born with AIDS.
- a) True
 - b) False
 - c) Don't know
7. People who have been infected with HIV quickly show serious signs of being infected.
- a) True
 - b) False
 - c) Don't know
8. There is a vaccine that can stop children from getting HIV.
- a) True
 - b) False
 - c) Don't know
9. A person can get HIV through contact with saliva, tears, sweat, or urine, body fluids.
- a) True
 - b) False
 - c) Don't know
10. HIV can be transmitted by unprotected or unsafe sex with infected person.
- a) True
 - b) False
 - c) Don't know
11. There is a female condom that can help decrease a woman's chance of getting HIV.
- a) True
 - b) False
 - c) Don't know

12. HIV can be transmitted by mosquito bite.

- a) True
- b) False
- c) Don't know

13. A person will NOT get HIV if she or he is taking antibiotics

- a) True
- b) False
- c) Don't know

14. Having multiple partners, homosexual partners can increase a person's risk of being infected with HIV.

- a) True
- b) False
- c) Don't know

15. Taking a test for HIV one week post exposure will tell a person if she or he has HIV.

- a) True
- b) False
- c) Don't know

16. Persons living with HIV should be kept separate, isolated from others.

- a) True
- b) False
- c) Don't know

17. A person with HIV can look and feel healthy.

- a) True
- b) False
- c) Don't know

18. HIV can be transmitted by sharing needle/syringe or blades or transfusion of blood of infected person.

- a) True
- b) False

c) Don't know

ANSWER KEY

1. TRUE
2. FALSE
3. FALSE
4. FALSE
5. FALSE
6. FALSE
7. FALSE
8. FALSE
9. FALSE
10. TRUE
11. TRUE
12. FALSE
13. FALSE
14. TRUE
15. FALSE
16. FALSE
17. TRUE
18. TRUE

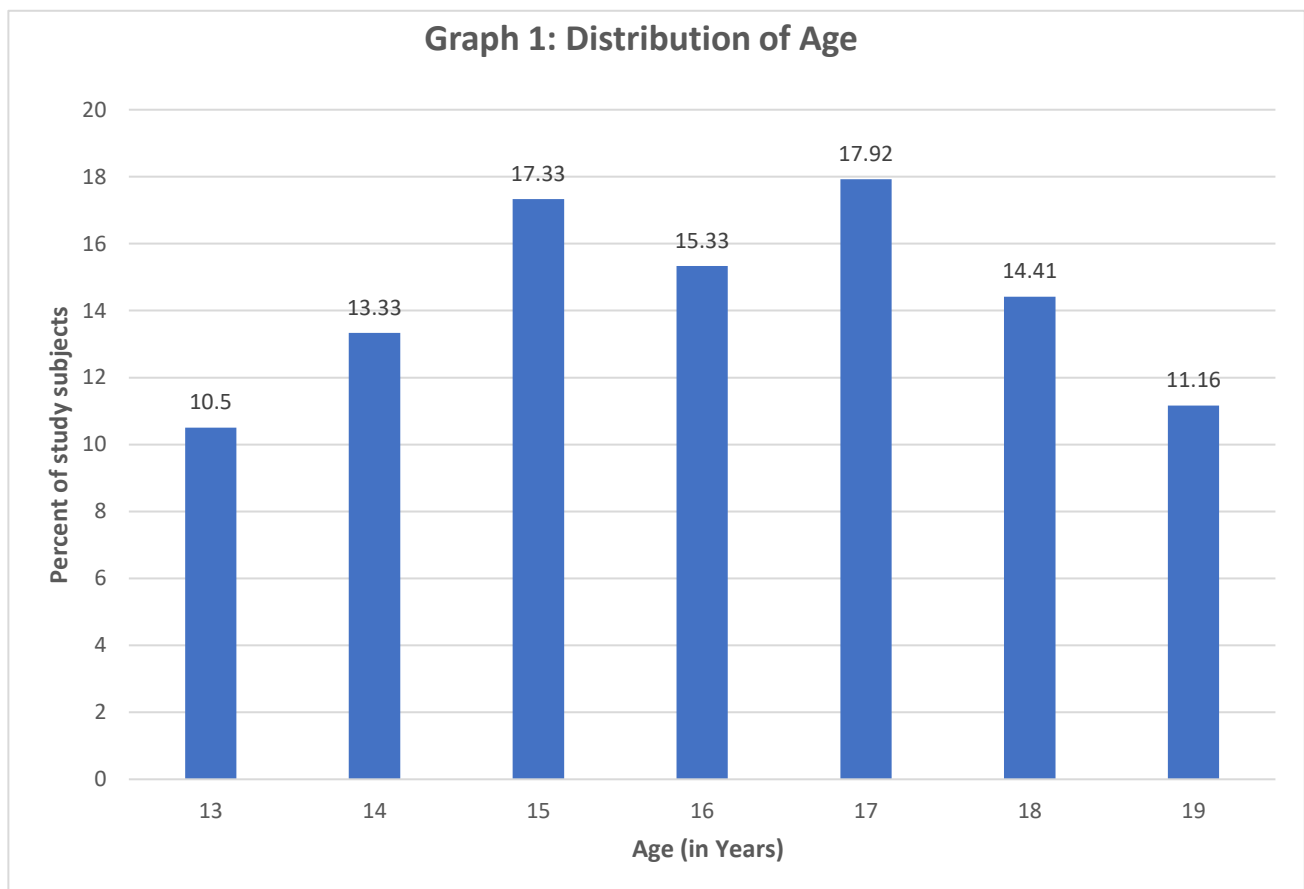
For knowledge and attitudes, each right response was given a score of 1 while a wrong or unsure response score is 0. The knowledge and attitudes were assessed in percentage.

Results

Age	Total	Percent
13	126	10.50
14	160	13.33
15	208	17.33
16	184	15.33
17	215	17.92
18	173	14.41
19	134	11.16
Mean (SD)	16.05 (1.84)	
Range	13-19	

Among the 1200 students in the age group of 13-19 years, the mean age group was 16.05 years.

Table 1: Distribution of Study Subjects according to their Age (N= 1200)



Gender	Number	Percent
Male	600	50.0
Female	600	50.0

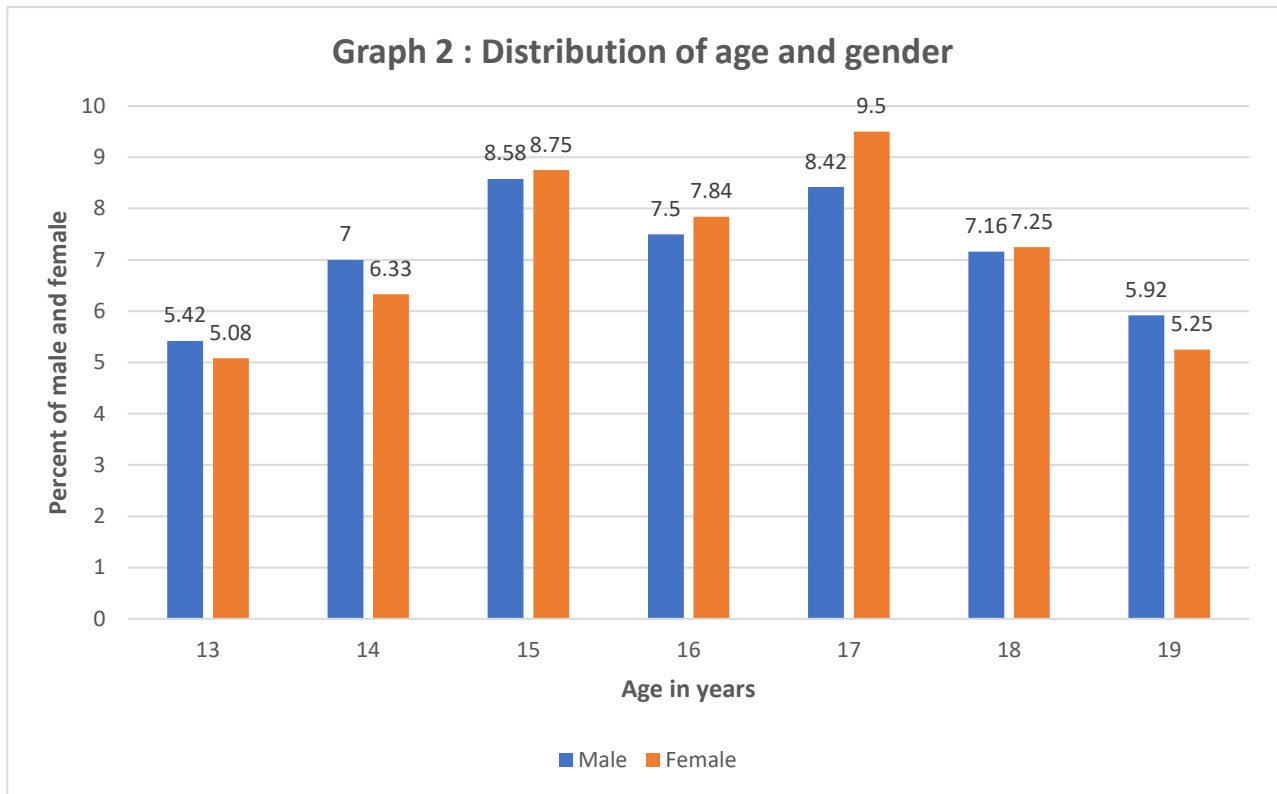
Among the total students, (50.0%) respondents were male and (50.0%) were female.

Table1. 2: Distribution of Study Subjects according to the Gender (N=1200)

Age	Male	Percent	Female	Percent
13	65	5.42	61	5.08
14	84	7.00	76	6.33
15	103	8.58	105	8.75
16	90	7.5	94	7.84
17	101	8.42	114	9.5
18	86	7.16	87	7.25
19	71	5.92	63	5.25

Table 1.3 Age and gender wise distribution among study participants. (N=1200)

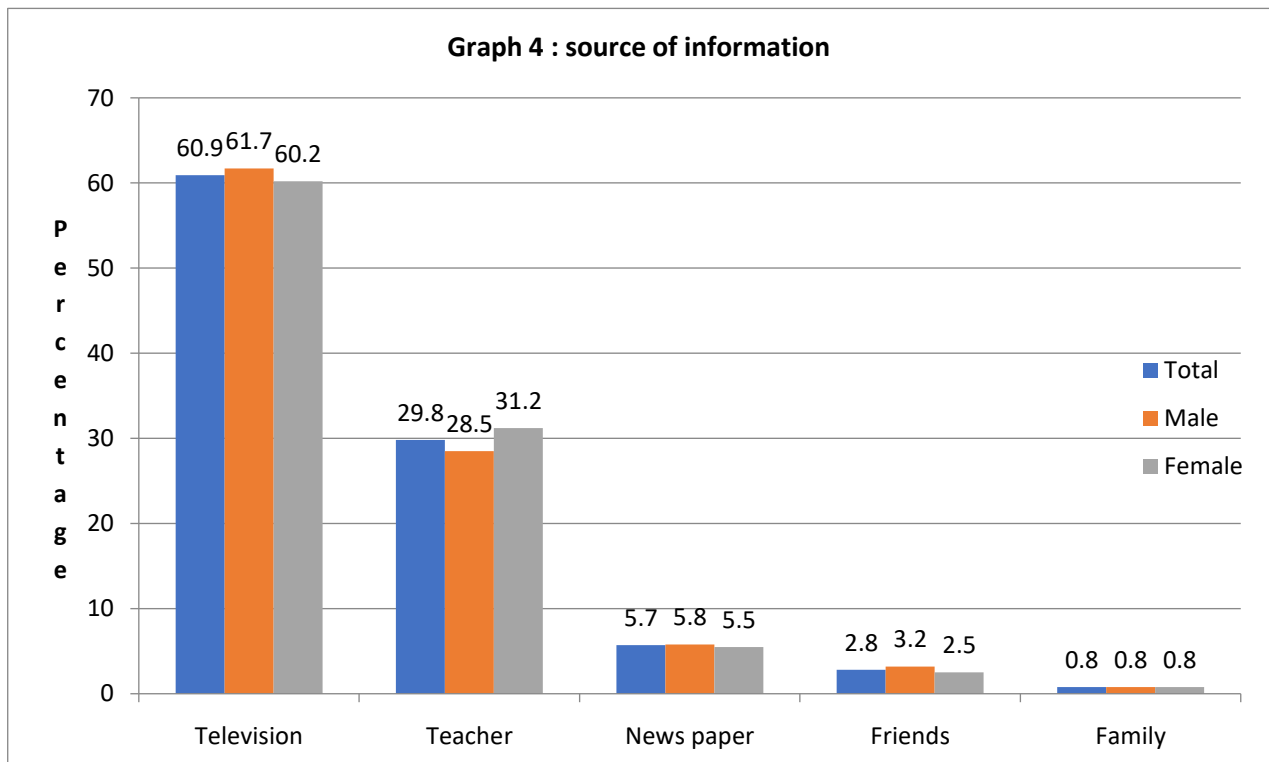
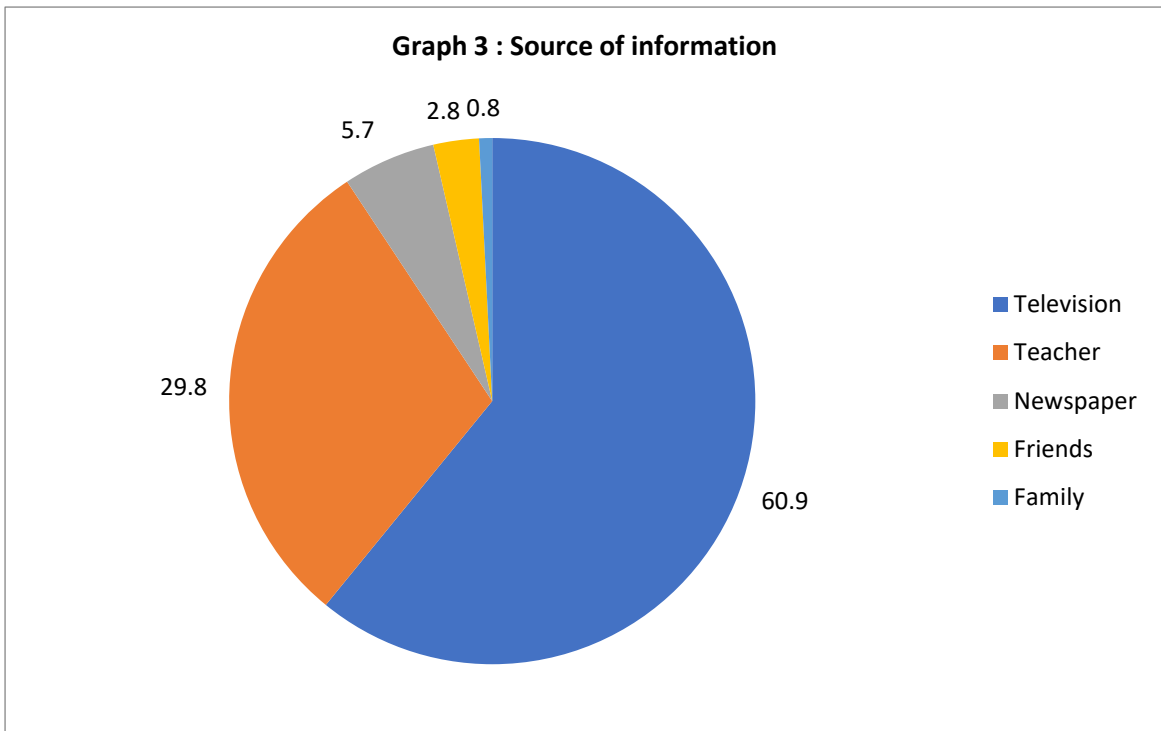
Among the study subjects, 13 years males and females were 5.4% and 5.08% respectively. 7.0% and 6.33% were males and females of 14 years respectively. Among age group of 15 years, 8.5% were males and 8.7 % were females. 16 years of age, 7.5% were males and 7.8% were females. 17 years age group, 8.4% males and 9.5% females, 18 years age group 7.1% males and 7.2 % females. In 19 years age group, males and females were 5.9% and 5.2% respectively.



Source of information	Total	Percent	Male	Percent	Female	Percent	Chi square	P value
Television	731	60.9	370	61.7	361	60.2	1.354	0.852
Teacher	358	29.8	171	28.5	187	31.2	Df=4	
Newspaper	68	5.7	35	5.8	33	5.5		
Friends	34	2.8	19	3.2	15	2.5		
Family	10	0.8	5	0.8	5	0.8		

Table.2: Distribution of study subjects according to Source of information regarding HIV (N=1200)

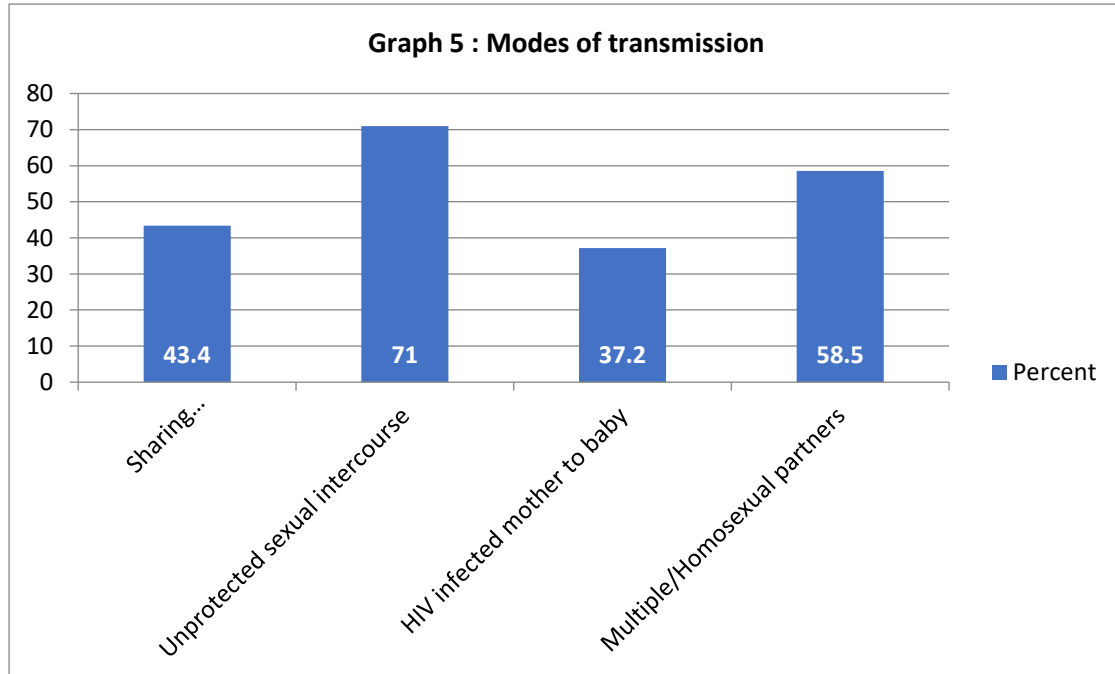
Seven hundred and thirty one (60.9%) students had heard about HIV/AIDS from television while 358 (29.8%) mentioned teacher as main source of information to them. Other sources of information were newspaper (5.7%), friends (2.8%) and family (0.8%).



Modes of transmission	Total	Percent
Sharing needle/syringes/blades/blood transfusion of infected person	521	43.4
Unprotected sexual intercourse	852	71.0
HIV infected mother to baby	446	37.2
Multiple/Homosexual partners	702	58.5

Table 3: Distribution of respondents according to awareness regarding modes of transmission of HIV/AIDS (N=1200)

Among the respondents, 71.0 % and 58.5 % were aware that unprotected sex and multiple/homosexual partners as mode of transmission of HIV respectively. About 43.4% knew that sharing needles/syringes transmit the disease. 37.2% of them were aware of mother to baby transmission.

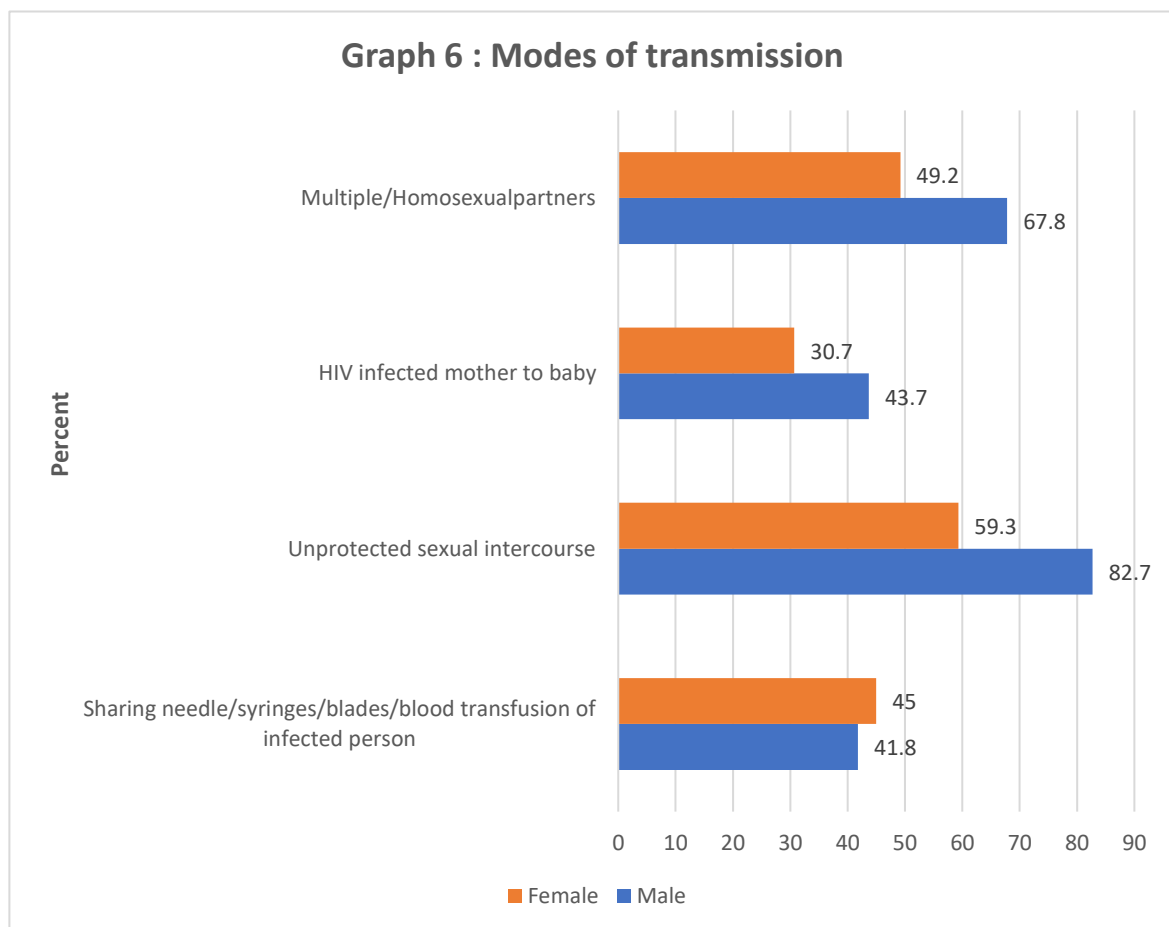


Modes of transmission	Male	Percent	Female	Percent
Sharing needle/syringes/blades/blood transfusion of infected person	251	41.8	270	45.0
Unprotected sexual intercourse	496	82.7	356	59.3
HIV infected mother to baby	262	43.7	184	30.7
Multiple/Homosexual partners	407	67.8	295	49.2

Chi-square =17.102, df= 3, P value <0.001

Table 3.1 Gender wise distribution of respondents according to awareness regarding modes of transmission of HIV/AIDS

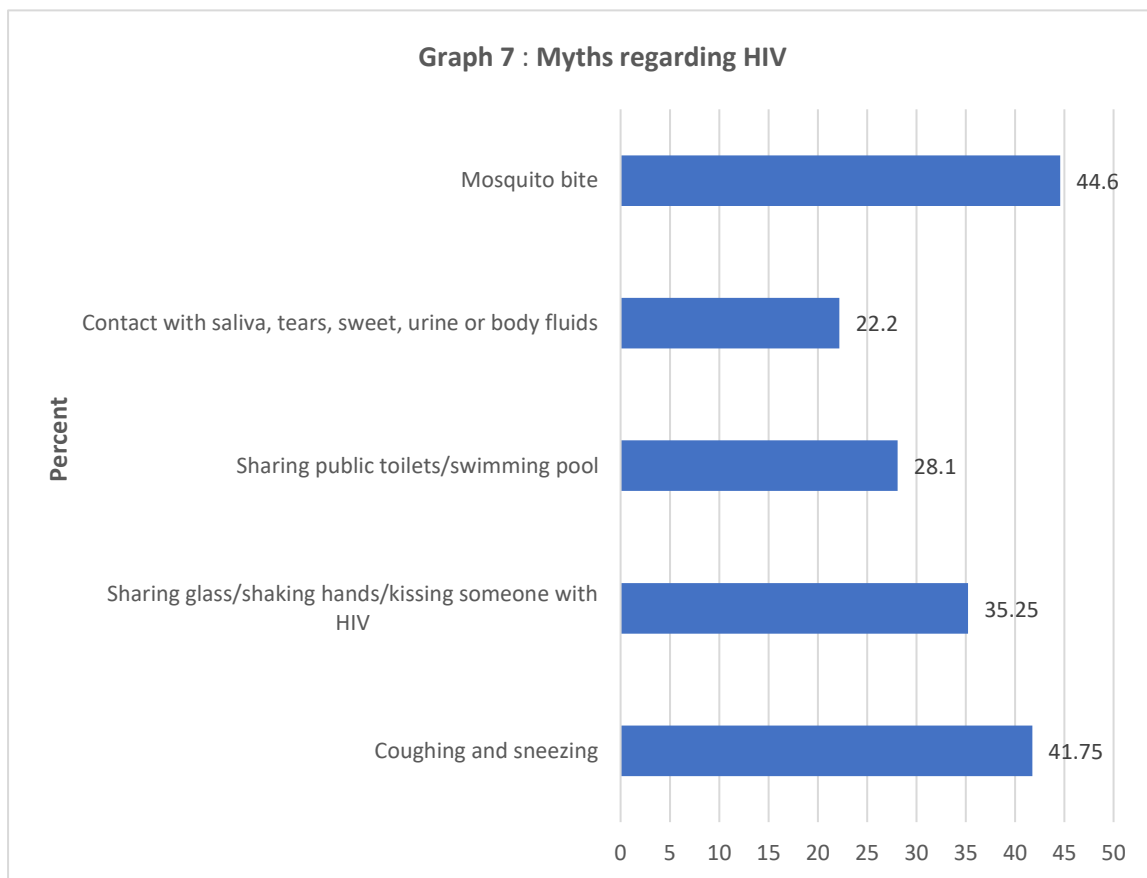
Awareness regarding methods of prevention of HIV/AIDS by unprotected sex was significantly higher (P <0.001) among boys (82.8%) as compared to girls (59.5%). 43.7 % boys were aware regarding transmission from mother to baby, whereas 30.7% girls were aware of it.



Myths Regarding HIV	Total No. of Students Aware	Percent
Coughing and Sneezing	501	41.75
Sharing Glass/Shaking Hands/Kissing Someone with HIV	423	35.25
Sharing Public Toilets/Swimming Pool	337	28.1
Contact With Saliva, Tears, Sweat, Urine or Body Fluids	266	22.2
Mosquito Bite	535	44.6

Table 4. Distribution of study participants according to myths regarding HIV transmission (N=1200)

Among total respondents, 35.25% were aware that sharing glass/shaking hands/kissing will not transmit the disease. Only 28.1% opined sharing toilets/pools will not transmit HIV. 44.6% of respondents were aware that mosquito bite will not transmit HIV.

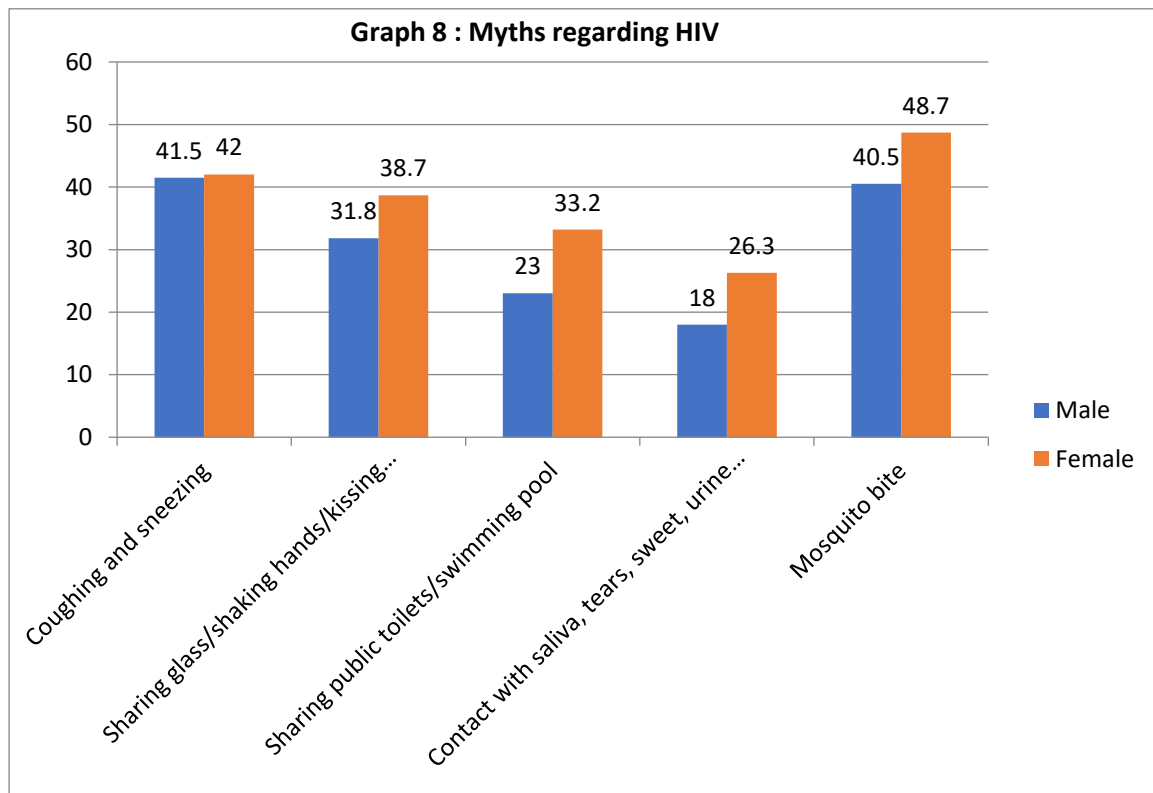


Myths regarding HIV	Male	Percent	Female	Percent
Coughing and sneezing	249	41.5	252	42.0
Sharing glass/shaking hands/kissing someone with HIV	191	31.8	232	38.7
Sharing public toilets/swimming pool	138	23.0	199	33.2
Contact with saliva, tears, sweat, urine or body fluids	108	18.0	158	26.3
Mosquito bite	243	40.5	292	48.7

Chi-square = 8.824, df= 4, P value = 0.065,

Table 4.1: Gender wise Distribution of respondents according to myths regarding HIV/AIDS.
(N=1200)

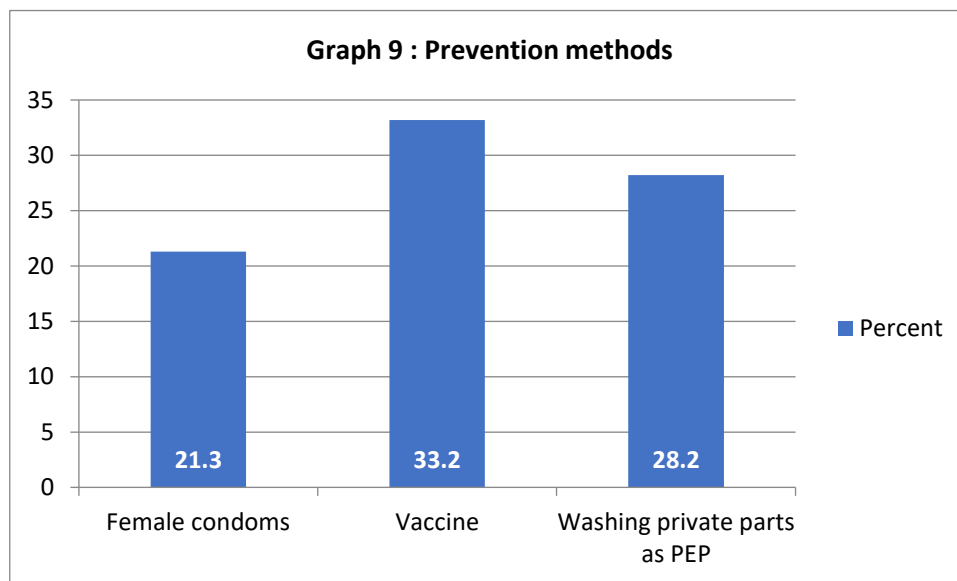
Misconceptions regarding HIV, 40.5% boys and 48.7 % girls were aware that mosquito bite doesn't transmit HIV. Regarding sharing public toilets/pools, 23% boys and 33.2% girls were aware.



Prevention methods	Total	Percent	Chi square	P value
Female condoms	256	21.3	42.962	
Vaccine	399	33.2	Df=2	<0.001
Washing private parts as PEP	338	28.2		

Table 5: Distribution of respondents according to awareness regarding methods of prevention of HIV/AIDS (N = 1200)

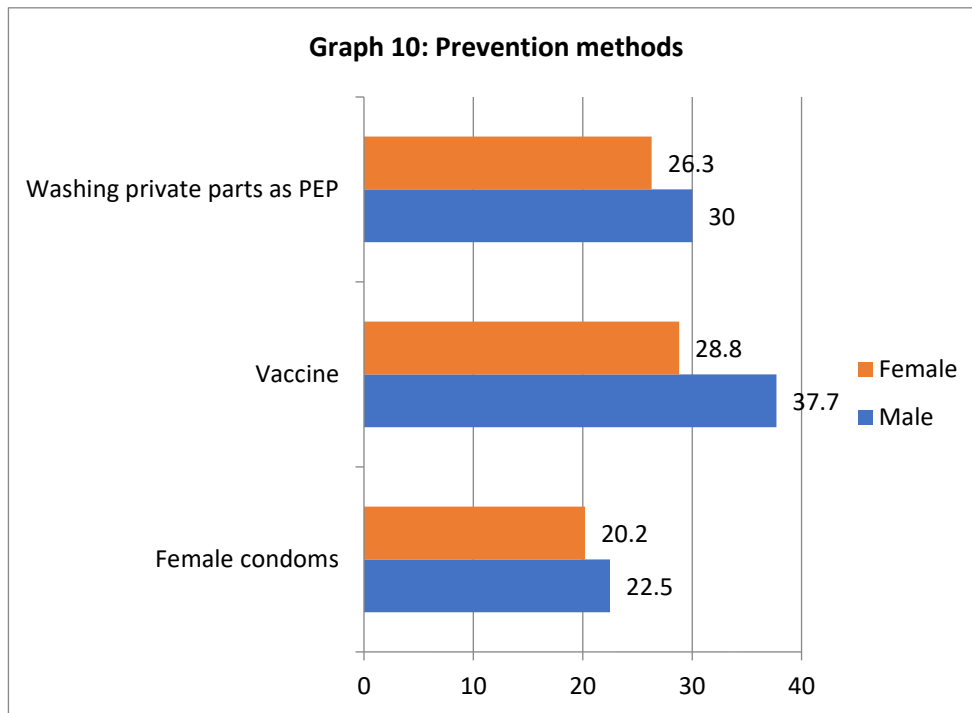
Among the respondents, 21.3% were aware of female condoms as method of prevention. About 33.2% knew there is no vaccine for HIV. Regarding washing private parts post exposure, 28.2% were aware that it doesn't prevent spread of the disease. Regarding methods of prevention, though the awareness among the study population is adequate, yet there is need for further interventions to enhance the knowledge.



Prevention methods	Male	Percent	Female	Percent	Chi sq	P
Female condoms	135	22.5	121	20.2	1.271	
Vaccine	226	37.7	173	28.8	Df=2	0.527
Washing private parts as PEP	180	30.0	158	26.3		

Table 5.1: Gender wise Distribution of respondents according to awareness regarding methods of prevention of HIV/AIDS. (N=1200)

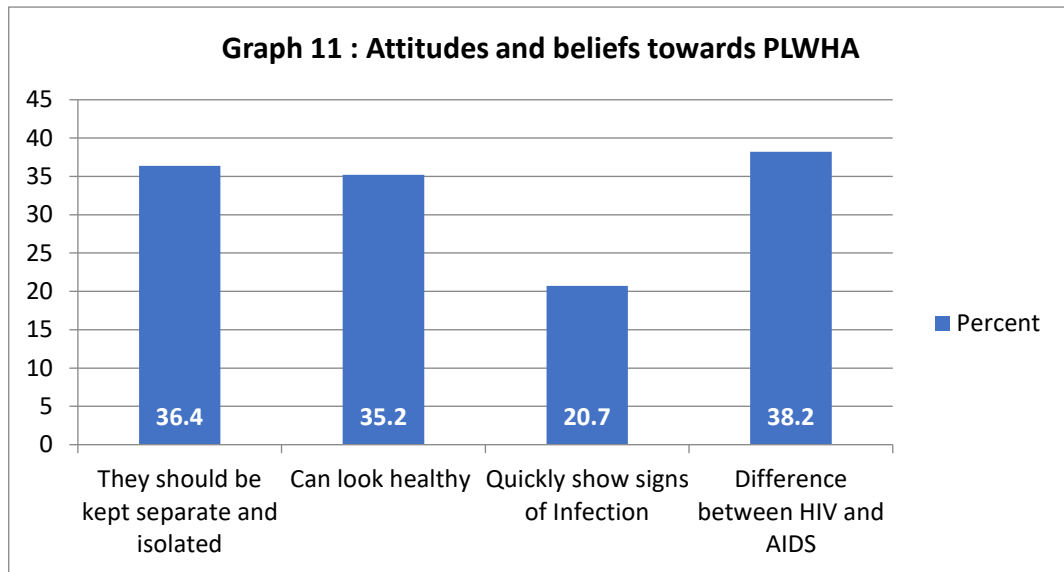
Among the respondents, 37.7% males and 28.8% females were aware of non availability of vaccine. Regarding washing private parts post exposure, 30% males and 26.3% females had correct knowledge.



Attitudes and beliefs towards PLWHA	Total	Percent
They should be kept separate and isolated	437	36.4
Can look healthy	422	35.2
Quickly show signs of Infection	248	20.7
Difference between HIV and AIDS	459	38.2

Table 6. Distribution of awareness regarding Attitude and beliefs towards PLWHA (N=1200)

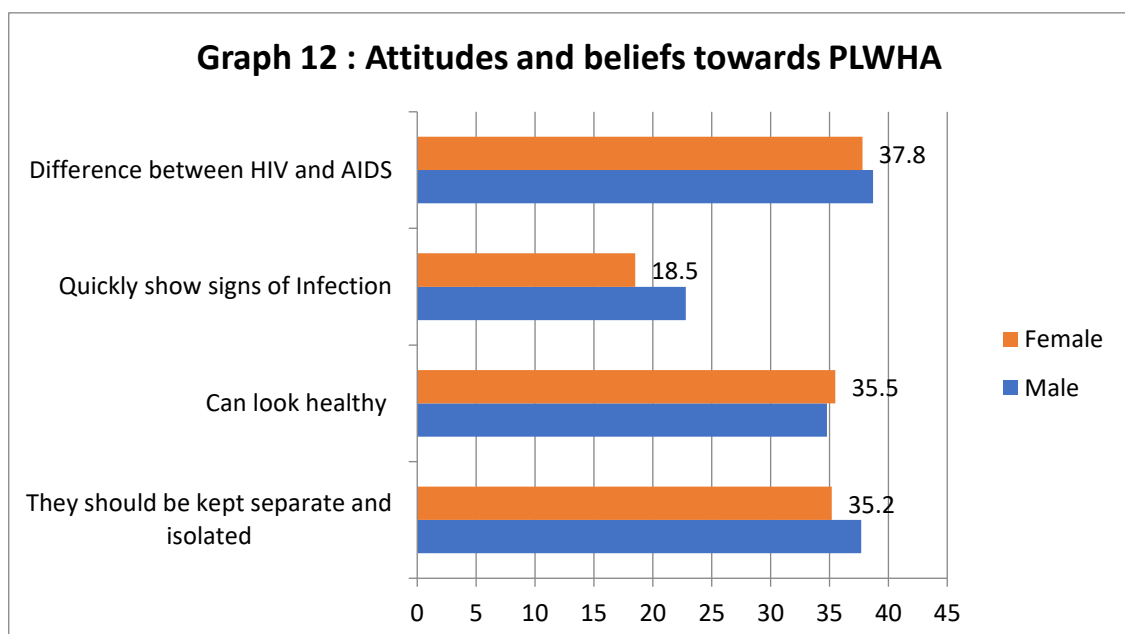
Regarding attitudes of respondents towards PLWHA, 36.4% had a favourable attitude. 35.2% opined PLWHA can look healthy. 20.7% of them were aware that infected person will not show immediate signs. 32.9% students knew that HIV and AIDS are not synonymous.



	Male	Percent	Female	Percent	
They should be kept separate and isolated	226	37.7	211	35.2	2.208
Can look healthy	209	34.8	213	35.5	Df= 3
Quickly show signs of Infection	137	22.8	111	18.5	P= 0.530
Difference between HIV and AIDS	232	38.7	227	37.8	

Table 6.1 Gender wise Distribution of awareness regarding Attitude and beliefs towards PLWHA (N=1200)

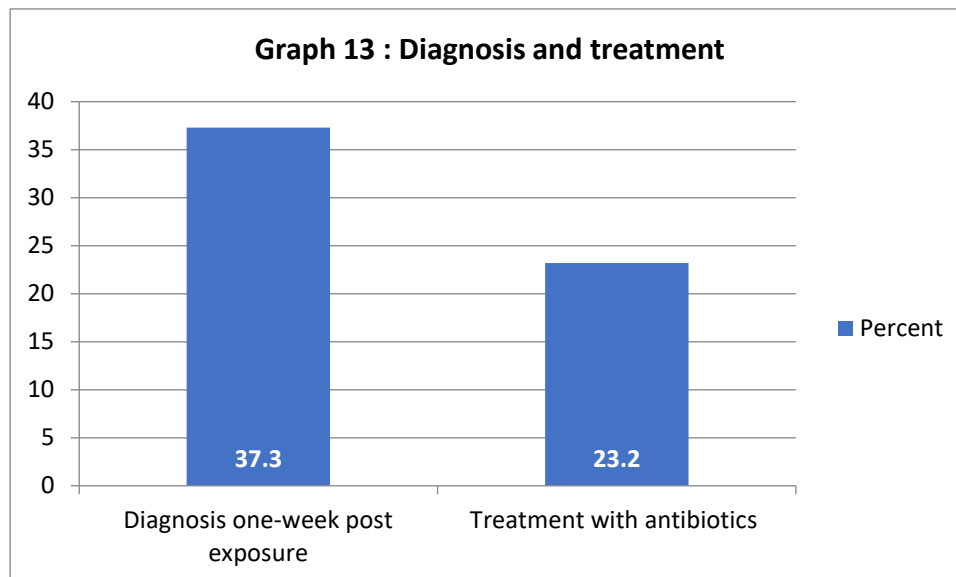
Among the total respondents, 37.7% boys and 35.2% girls has favourable attitudes towards PLWHA.



	Total	Percent
Diagnosis one-week post exposure	448	37.3
Treatment with antibiotics	278	23.2

Table 7. Distribution of awareness of study subjects regarding diagnosis and treatment of HIV (N=1200)

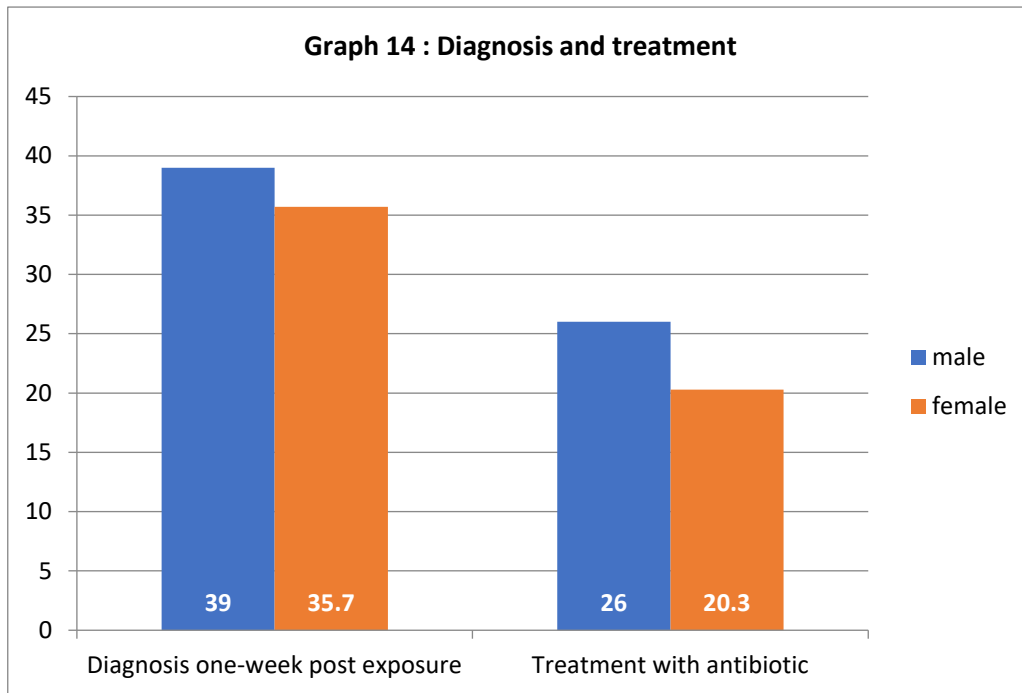
37.3% had knowledge that HIV cannot be diagnosed within 1 week of exposure and 23.2% were aware that HIV cannot be treated with antibiotics.



	Male	Percent	Female	Percent	
Diagnosis one-week post exposure	234	39.0	214	35.7	1.040m df=1
Treatment with antibiotic	156	26.0	122	20.3	P=0.307

Table 7.1. Gender wise Distribution of awareness of study subjects regarding diagnosis and treatment of HIV

Among the total respondents, 39% males and 35.7% females had correct knowledge that HIV can be diagnosed 1 week post exposure.



Discussion

This study was initiated after getting approval from the Hospital management and school and colleges were randomly selected and management were approached regarding the purpose of the study.

The study was conducted in 5 schools, 2 pre university colleges and 2 engineering colleges. The Head of the institutes were briefed about the study methods and relevance of this study among the population and approval was taken for the same. Those students who were in the age group of 13-19 years were enrolled in the study after obtaining informed consent.

The questionnaire was explained and all the queries were clarified.

The students were assured of confidentiality. The children who were mentally disabled were excluded.

Data entry and the statistical analysis were performed using the Microsoft excel and statistical analysis was done.

Age and sex wise distribution of study subjects

This study included 1200 students from the urban background of Bangalore. There is equal distribution of males and females.

In this study conducted in 5 schools, 2 pre university colleges and 2 engineering colleges, all the students had heard about HIV/AIDS which is similar to the observations of a study carried out by Srivatsava et al(40).

Source of information

In this study conducted in 5 schools, 2 pre university and 2 engineering colleges, it was observed that Television was the most frequently reported sources of information related to HIV and AIDS as reported by 60.8 % of total students, followed by information from class teacher (29.8%), whereas information from newspaper (5.6%), friends (2.8%) and from family and parents (0.8%) were less frequently reported.

These observations display the strength and effectiveness of tele-media as source of information followed by respective class teachers. Print media stood third in this study.

However, friends and parents contributed only to a very less amount which might be due to stigma to discuss about HIV and AIDS as they are considered a taboo in our social context.

This is comparable to Srivatsava et al (40), Kumar P et al (34), Lal P (46) studies where majority of students had heard about HIV/AIDS from television.

In contrast, in Vijayageetha et al (74) study textbooks(73%) were the main source of information followed by school teachers.

Beliefs about communicability

In this study about 35.2% of participants knew that hugging and shaking hands with HIV infected person will not transmit the virus. In studies done by Singh SK et al(47) reported 53.9% of participants, Shinde M et al(23) reported 68.84%, Kumar P et al (34) reported 46% of students participants knew that hugging and shaking hands will not transmit HIV virus. In contrast in a study by Vijayageetha et al(74), reported only 6.4% participants knew that shaking hands with HIV/AIDS infected person will not transmit HIV virus.

In our study, 58.3% of student thought that HIV spreads by coughing and sneezing. The findings are comparable to Bangladesh National Survey(125), where 52 % had misconception that coughing and sneezing will spread HIV. In Mehra B study(126), it is observed that 32.9% had a false perception that

HIV can be transmitted by coughing/sneezing. In Samantha M et al(14) study, 49% have idea that HIV can be spread by coughing or sneezing.

In our study, 22.1% were aware that contact with saliva, tears, sweat, urine or body fluids will not transmit HIV. Similar findings were observed in Samantha M (14)study, in which 21.4% were aware of it.

In Gupta P et al(38) study, 52.1% answered saliva, sweat is mode of transmission. Srivatsava et al(40) study, 19.6% students opined HIV spreads through sweat. In Raheel H(111) study, 37% were of the opinion that it can be transmitted via saliva, tear and sweat.

In this study, nearly 55% of the adolescents (40% of male and 48% of females) thought that HIV could be transmitted by mosquito bite. The findings are similar to Shinde M et al (23) study which reported 45% were aware .In Raheel H (111)study, 56% where of the opinion that HIV can be transmitted through mosquito bites .

In Samantha M et al (14)study , 63% opined that infection might be transmitted by mosquito bite.

Our study found that only 28% of the study participants were aware of the action that does not transmit HIV infection such as sharing public toilets and swimming pools with HIV/AIDS infected person. 29.9 % in Vijayageetha et al(74), 54% in Raheel H study(111) had misconceptions that HIV is transmitted by sharing toilets. Females (33.2%) have comparatively better awareness compared to males (23%).

Modes of transmission

In our study, 71.2% of respondents knew that unprotected sexual contact and 58.50% knew that multiple/homosexual partners will transmit the disease. 43.3 % of individuals thought that HIV/AIDS can be transmitted through blood transfusion, sharing needles/syringes. It has been observed that 37% students were aware of transmission of infection from mother to child. Similar findings were observed in study conducted by Chiwa Musa D et al(91) and Shinde M et al studies(23).

The awareness regarding modes of transmission of HIV/AIDS was found to be significantly higher among boys as compared to girls. Thus adolescent girls lacked awareness regarding HIV/AIDS. This is compatible to the findings reported Srivatsava et al(40).

But there was no significant difference between girls and boys about mother-to-child transmission of HIV/AIDS by Gupta P et al(38) study.

Methods of prevention of HIV/AIDS

In our study 21.5% of students were aware of female condoms as a preventive method. Similar findings were observed in Miguez MJ study(90) where 33% were aware of female condoms as preventive methods.

In Lal P et al study(46) 14.9% knew the role of condom in preventing HIV. In Shinde M study(23), 70% of students were aware that using condoms can prevent HIV.

In our study, 33.1% of participants were knew about the nonavailability of vaccine for HIV.

Similar findings were reported in study by Nuwera H(16), 34% of participants were aware regarding the nonavailability of vaccine. In another study by Shinde M(23), only 18.75% of participants knew about the non-availability of vaccine for HIV/AIDS.

28.3% of students were aware that washing private parts post exposure will not prevent spread of disease. It was similar to Míguez MJ study(90), where 23% of them were aware. In Bangladesh National Survey (125) 57% were aware that washing private parts as PEP will not prevent transmission of disease.

There is significant awareness regarding methods of prevention of HIV among the study participants. Boys have slightly more awareness compared to girls regarding prevention methods.

General awareness regarding HIV/AIDS

Awareness is the key for prevention of HIV/AIDS.

It is impossible to tell that a person is infected with the HIV by just looking at him/her. Physically assessing their behaviors as well as change in their bodies cannot be used in any instance as a means of detecting the disease. However, 64.7% of the respondents were not aware of this fact, rather believed that they could tell that a person was HIV positive by merely looking at them.

In our study, 36.6% of students had a favourable attitude towards People Living with HIV/AIDS (PLWHA), stating that they should not be kept separate and isolated. The findings are similar to Srivatsava et al(40) study in which 38.8 % had favourable attitude. Dahlui M et al(128) in his survey among Nigerian population found that young men, with lower education level and from a lower socioeconomic status, were possessing more negative attitudes towards PLWHA compared to their female counterparts. Raheel H et al(111), 48% boys and 47% girls opined that PLWHA should be

isolated. In, Shinde M study(23), 69.6% students opined PLWHA should be helped, treated and supported.

Only 32.9% students in our study knew that HIV and AIDS are not synonymous. This is similar to findings (36.9%) reported in a study among school adolescents of Srivatsava study(40). Similar findings were observed in Singh A study (54).

In our study, only 23.3% of students were aware that taking antibiotics will not prevent HIV /AIDS. 57% of study subjects in Bangladesh National Survey (125) thought that antibiotics will prevent HIV. In Das S et al study(129), 24.7% opined there are antibiotics to cure HIV. The observation made amongst a group of secondary school students belonging to Udupi district in Karnataka by Agarwal HK(127), only 24.3% were aware about the existence of drugs. Lal P et al(46) study only 28.6% knew about the availability of drugs for HIV/AIDS. In Shinde M study(23), 17.5 % aware of treatment available.

In our study 79.2% opined that infected persons quickly show signs of infections. In a study by Sobhan(65), reported slightly higher knowledge of symptoms. 22% of the females were aware of symptoms of AIDS in slums of chennai, a study done by Kalasagar M(66). In Rahman study, 64% rural adolescents and 45% urban adolescents were in misconception that HIV infected person quickly show serious signs of being infected.

37.5% were aware that HIV cannot be diagnosed within 1 week post exposure. 23% of respondents in Míguez MJ study(90), opined that taking a test for HIV one week after exposure will tell a person if she or he has HIV.

Conclusion

According to this data, a higher proportion of students mentioned television (60.2%) as main sources of information to them. These observations show the strength and effectiveness of tele-media as source of information. The findings of this study suggest that mass media play a significant role in promoting awareness, increasing knowledge and changing health behaviours. Thus, we need to pay attention to reducing communication inequalities to moderate the effect of awareness on HIV/AIDS.

The study also found that class teachers being the poor source of information (29.8%) , hence regular programmes to be conducted in the schools and colleges 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.

In this study about 71.0 % and 58.5 % were aware that unprotected sex and multiple/homosexual partners as mode of transmission of HIV respectively. The awareness regarding modes of transmission of HIV/AIDS was found to be significantly higher (p value <0.001) among boys (82.7%) as compared to girls (59.3%). Thus adolescent girls lacked awareness regarding HIV/AIDS. This could be explained by the fact that girls have stigma to discuss about HIV compared to boys as they are considered a taboo in our social context.

This study revealed that most of the adolescents have misconceptions regarding HIV, such as shaking hands, kissing, mosquito bite may transmit the disease. Removal of such misconceptions among adolescents, youth and the general population is very important. Or else, it might lead to create a phobia among the masses.

In our study 21.5% of students were aware of female condoms as a preventive method and 33.2% knew there is no vaccine for HIV. The knowledge regarding methods of prevention is good in study subjects, yet there is need of further educational programmes to enhance further awareness. Only 36.6% of students had a favourable attitude towards People Living with HIV/AIDS (PLWHA), stating that they should not be kept separate and isolated. Unwillingness to accept HIV positive cases could be due to misconceptions about the disease and not many educational programs are in place which are targeted toward adolescent and youth population.

Regarding attitudes of the public toward PLWHA, interactive sessions and camps where HIV-infected persons share their experiences, could help give them a better understanding of the lives of PLWHA. Attention should also be given to better implementation of the existing programs to reduce stigma, increase awareness, and inculcate a more positive attitude toward PLWHA.

Findings of this study may be replicated for future research with the larger sample.

This study is restricted to few schools and colleges and did not include out-of-school adolescents and rural population, hence future studies that investigate shall include all these possible constraints which could help to improve our understanding of HIV transmission and thus better awareness.

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