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Original article

# Awareness & Knowledge of Adolescent girl Students from a Government High School for Girls on HIV/AIDS

M.Bharathi<sup>1,\*</sup>, MD (Microbiology), M.Radha<sup>2</sup>, M.Sc(Geography), M.Sc.(Botany),B.Ed.

## Affiliation:

<sup>1</sup>Associate Professor, Department of Microbiology, Rajeev Gandhi Institute of Medical Sciences (RIMS), Kadapa, AP, India

<sup>2</sup>School Assistant, Biology, Queen Mary's Government High School for Girls, Visakhapatnam, AP, India

## The name of the department(s) and institution(s) to which the work should be attributed:

Department of Microbiology, Rajeev Gandhi Institute of Medical Sciences (RIMS), Kadapa, AP, India

## Address reprint requests to

### Dr.M.Bharathi

Associate Professor, Department of Microbiology, Rajeev Gandhi Institute of Medical Sciences (RIMS), Kadapa, AP, India or at bharithkanthi65@gmail.com

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## ABSTRACT:

India has the 3<sup>rd</sup> highest number of estimated people living with HIV/AIDS (PLHA) in the world. It is estimated that over 35% of all reported HIV incidences in India occur among young people of 15-24 years of age. Despite norms prohibiting premarital sex relations, opportunities to form premarital relations did exist and 4% young women had engaged in premarital sex. Adolescent girls are at far greater risk of contracting HIV than boys, as a result of their greater physiological susceptibility and their vulnerability to sexual violence, rape and marriages at an early age.

**Aim:** 1.To evaluate awareness and knowledge of adolescent girl students about HIV/AIDS.

2.To assess the impact of curriculum on HIV/AIDS, on the knowledge of students about HIV/AIDS.

**Material & Methods:** 150 students from 10<sup>th</sup> standard, having a lesson on HIV/AIDS ( group one) and 150 students from 9<sup>th</sup> standard, not having a lesson on HIV/AIDS (group two) were included. Formative evaluation was done. Selection type, closed ended, objective type schedule in Telugu language, was administered. Schedule contained 12 items.

**Statistical Analysis:** Chi square test was used.

**Results:** General awareness as, HIV is a virus and it causes AIDS was high in both groups. 59.33% & 66.66% from group one and 29.33% & 44% of group two knew how HIV spreads and how it does not spread, respectively. Group one had more knowledge on symptoms than group two. Above all are with significant P values. There was not much difference in the knowledge of two groups about its non-curability and lack of vaccine. Only 16.66% from both groups has positive attitude towards PLHA. Group one had more awareness about high risk group. Text books/Teachers were the main source of information.

**Conclusions:** (1)The awareness and knowledge of 10<sup>th</sup> Std. students on HIV/AIDS was higher than that of 9<sup>th</sup> Std. students.(2)Curriculum on HIV/AIDS played an important role on the awareness and knowledge of students on HIV/AIDS. (3)Positive attitude towards PLHA was less. (4)The awareness, as HIV/AIDS has no cure and no vaccine was also less. (5)Teachers & Text books were on top as source of information.

**KEYWORDS:** Adolescents; Attitude; adolescent education programme; Curriculum; Reproductive health.

## INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS), caused by Human Immunodeficiency Virus (HIV) remains the most infectious disease and it poses a challenge to public health system<sup>1</sup>. India has the 3<sup>rd</sup> highest number of estimated people living with HIV/AIDS

(PLHA) in the world<sup>2</sup>. It is estimated that over 35% of all reported HIV incidences in India occur among young people of 15-24 years of age. Adolescents aged 10-19 years constitute 325 millions of Indian population<sup>3</sup>.

The government of India, however in the national youth policy, defines adolescent age group as 13-19 years. This phase is characterized by acceleration of physical growth and psychological & behavioural changes, thus bringing about transformation from childhood to adulthood. Physical growth and development are accompanied by sexual maturation, often leading to intimate relations<sup>4</sup>. According to the study conducted by International Institute for Population Sciences, Mumbai and Population Council, Delhi in six states (2006-2007), suggests that despite norms prohibiting premarital sex relations, opportunities to form premarital relations did exist. 4% young women had engaged in premarital sex and it is mostly non-consensual<sup>3</sup>. Adolescent girls are at far greater risk of contracting HIV than boys, as a result of their greater physiological susceptibility and their vulnerability to sexual violence, rape and marriages at an early age<sup>5</sup>. Women and girls are still the most affected by the HIV epidemic and they bear the disproportionate share of the care giving burden and at the same time their ability to protect themselves from HIV continues to be compromised by physiological factors, gender inequalities including unequal legal, economic and social status<sup>6</sup>.

We all know that education plays an important role in prevention of infectious diseases. True to this, education plays a role in delaying sex for young women<sup>7</sup>, thereby preventing exposure to HIV/AIDS. Moreover for both women and men, HIV prevalence is lowest for those with ten or more years of education<sup>8</sup>. To impart knowledge in the young minds, Adolescent Education Programme was introduced in secondary and senior secondary schools to build up life skills of adolescents to cope with the physical and psychological changes associated with growing up<sup>2</sup>.

We made an attempt to ascertain the knowledge of adolescent girl students and the role of curriculum & AEP about HIV/AIDS and to the best of our knowledge this study was conducted for the first time in this area.

## AIM

1. To evaluate awareness and knowledge of adolescent girl students about HIV/AIDS.
2. To assess the impact of, curriculum on HIV/AIDS on the knowledge of students about HIV/AIDS.

## MATERIAL & METHODS

150 students from 10<sup>th</sup> standard, having a lesson on HIV/AIDS in Biology as group one and 150 students from 9<sup>th</sup> standard, not having a lesson on HIV/AIDS in their curriculum as group two were included after taking their willingness to participate in the study. The study was conducted during 1<sup>st</sup> week of February. The aim of the study was explained to them and the importance of answering the questionnaire without consultations among themselves was also stressed. They all participated in the study with enthusiasm. At the end of the study their doubts, misconceptions about HIV/AIDS were clarified by the investigators.

Formative evaluation was done. Selection type, closed ended, objective type schedule in Telugu language, was administered. Schedule contained 12 items and 30 minutes time was given. It was an anonymous test. Another questionnaire was administered to know their financial status and the educational status of their parents. This was done, only to assess the parental influence on the knowledge acquired by them. At the end of the test they were asked to place the answered schedule in a tray.

Permission: Prior permission from the Head Master of Queen Mary's Government High School for Girls, Visakhapatnam, AP, was obtained to conduct the study.

## STATISTICAL ANALYSIS

Chi square test was used to analyze the data (using 2×2 contingency table)

## RESULTS

300 students, 150 each from 10<sup>th</sup> and 9<sup>th</sup> standard, in the age group between 14 and 16 years were included. All were white ration card holder's means they belonged to below poverty line. Occupationally all are children of laborers, petty vendors and fishermen. Education wise none of the parents studied beyond middle school.

Only few students knew the acronym of HIV (26 in 10<sup>th</sup> Std and 4 in 9<sup>th</sup> Std.). Majority of them knew that HIV is a virus (92.66% & 69.33%: P value-Significant) and it causes AIDS (86% & 68%: P value-Significant) from 10<sup>th</sup> and 9<sup>th</sup> Std.s respectively. They were aware of the modes of transmission as, sexual route (18.67% & 38%), Blood transfusion (10% & 10%), through contaminated needles and syringes (4.67% & 6.67%), from mother to child (7.33% & 16%) and

all of the above (59.33% & 29.33%: P value-Significant) from group one and two respectively. 100 from group one (66.6%) and 66 from group two (44%) were aware that HIV does not spread by, eating together, playing together and shaking hands (P value-Significant). 85 of 10<sup>th</sup> Std (56.67%) and 65 of 9<sup>th</sup> Std. (43.33%) students knew the symptoms of HIV infection as fever of more than 1 month, diarrhea of more than 1 month and loss of weight (P value-Significant). 38 students of 10<sup>th</sup> (25.33%) and 46 of 9<sup>th</sup> (30.67%) knew that HIV infection adversely affects immunity. Only 37 (24.66%) of 10<sup>th</sup> students

thought that there is no cure for HIV/AIDS when compared to 49 (32.66%) of group two. More than 50% of students from both classes were aware that there is no vaccine for HIV/AIDS. But only 16.6% of total students had positive attitude towards PLHA. They were aware that drug abusers, persons with multiple sex partners and girls/boys having premarital sex constitute high risk group (52 from 10<sup>th</sup> & 38 from 9<sup>th</sup>). The source of information was text books & teachers, news paper, TV, health personnel and friends, as shown in Table 1.

Table 1. Showing the results on awareness & knowledge of students on HIV/AIDS.

Item	10 <sup>th</sup> Std Number(%)	9 <sup>th</sup> Std Number(%)	Chi –square (df)	P value
HIV Stands for	26	4		
HIV is a virus	139 (92.66)	104 (69.33)	26.53 (1)	< 0.001
HIV causes AIDS	129 (86)	102 (68)	13.72 (1)	< 0.001
<b>Mode of Transmission</b>				
Mother to Child	11 (7.33)	24 (16)		
Sexual Contact	28 (18.67)	57 (38)		
Blood Transfusion	15 (10)	15 (10)		
Contaminated Needles	7 (4.67)	10 (6.67)		
All	89 (59.33)	44 (29.33)	5.47 (1)	< 0.02
<b>It does not Spread by</b>				
Eating Together	14 (9.33)	34 (22.66)		
Hand Shake	12 (8)	33 (22)		
Playing Together	24 (16)	17 (11.33)		
All	100 (66.66)	66 (44)	15.58 (1)	< 0.001
<b>Symptoms to Suspect HIV Infection</b>				
Fever of > 1 month	18 (12)	33 (22)		
Diarrhea of > 1 month	15 (10)	18 (12)		
Loss of Weight	32 (21.33)	34 (22.66)		

All	85 (56.67)	65 (43.33)	5.33 (1)	< 0.05
<b>Complete Cure for HIV Infection</b>				
Yes	23 (15.33)	19 (12.66)		
No	37 (24.66)	49 (32.66)	2.34 (1)	> 0.05
Don't Know	90 (60)	82 (54.66)		
<b>Vaccine for HIV</b>				
Yes	66 (44)	64 (42.66)		
No	84 (56)	86 (57.33)	0.054 (1)	> 0.05
<b>Vulnerable Group</b>				
Drug Abusers	4 (2.66)	30 (20)		
Persons with Multiple Sex Partners	63 (42)	50 (33.33)		
Boys/girls having premarital sex	31 (20.67)	32 (21.33)		
All	52 (34.67)	38 (25.33)	3.11 (1)	> 0.05
Positive attitude towards PLHA	25 (16.66)	25 (16.66)		

Number of students from group one and two who were aware of different routes of transmission was as follows (Total number in the Parenthesis): Sexual contact 117 & 102 (219), Blood transfusion 104 & 59 (163), through contaminated needles/syringes 96 & 54 (150) and from mother

to child 100 & 68 (168), as shown in Table 2. Majority of students knew that eating together (214), playing together (207) and shaking hands (211) does not lead to transmission of HIV/AIDS as shown in Table 3.

Table 2. Total number of students who were aware of different routes of transmission.

Mode of Transmission	10 <sup>th</sup> Std	9 <sup>th</sup> Std	Chi square (df)	P value	Total
Sexual contact	117 (78%)	102 (68%)	3.8 (1)	> 0.05	219 (73%)
Blood Transfusion	104(69.33%)	59 (39.33%)	27.20 (1)	< 0.001	163 (54.3%)
Contaminated needles	96 (64%)	54 (36%)	23.52 (1)	< 0.001	150 (50%)
Mother to child	100 (66.66%)	68 (45.33%)	13.85 (1)	< 0.001	168 (56%)

Table 3. Total number of students who were aware, how HIV/AIDS does not spread.

Does not Spread by	10 <sup>th</sup> Std	9 <sup>th</sup> Std	Chi square (df)	P value	Total
Eating together	114 (76%)	100 (66.66%)	3.19 (1)	> 0.05	214 (71.33%)

Playing together	124 (82.6%)	83 (55.33%)	26.19 (1)	< 0.001	207 (69%)
Shaking hands	112(74.66%)	99 (66%)	2.69 (1)	> 0.05	211 (70.33%)

Around two thirds of them were sure about the symptoms that lead to suspicion of HIV infection as shown in Table 4. Two thirds (67.66%) of the students thought that persons with multiple sex partners comes under high risk group, followed by boys/girls having premarital sex (51%) and drug abusers (41.33%). as shown in Table 5. The

main source of information was Text books & Teachers (63.33%), followed by news papers (50%), health personnel (49.66%) TV (46.33%) and friends (40%) as shown in Table 6. Above 50%, of students were aware that there was no vaccine for HIV/AIDS (84 & 86), but around 30% only, knew, as HIV/AIDS has no cure.

Table 4. Total number of students who were aware of symptoms of HIV/AIDS.

Symptoms	10 <sup>th</sup> Std	9 <sup>th</sup> Std	Chi square (df)	P value	Total
Fever of > 1month	103 (68.66%)	98 (65.33%)	0.37 (1)	> 0.05	201 (67%)
Diarrhea of > 1 month	100 (66.66%)	83 (55.33%)	4.04 (1)	<0.05	183(61%)
Weight loss	117 (78%)	99 (66%)	5.35 (1)	<0.05	216(72%)

Table 5. Total number of students who were aware of high risk group of HIV/AIDS.

High risk group	10 <sup>th</sup> Std	9 <sup>th</sup> Std	Chi square (df)	P value	Total
Drug abusers	56(37.33%)	68(45.33%)	1.97 (1)	>0.05	124(41.33%)
Persons with multiple sex partners	115(76.66%)	88(58.66%)	11.10 (1)	<0.001	203(67.66%)
Boys/girls having pre-marital sex	83(55.33%)	70(46.66%)	2.25 (1)	>0.05	153(51%)

Table 6. Source of Information.

Source of information	10 <sup>th</sup> Std	9 <sup>th</sup> Std	Chi square (df)	P value	Total
Friends	70(46.66%)	50(33.33%)	5.55 (1)	<0.05	120(40%)
TV	76(50.66%)	65(43.33%)	1.61 (1)	>0.05	141(47%)
News paper	85(56.66%)	63(42%)	6.45 (1)	<0.02	148(49.33%)
Text books/ Teachers	105(70%)	85(56.66%)	5.74 (1)	<0.02	190(63.33%)
Health personnel	82(54.66%)	67(44.66%)	3 (1)	>0.05	149(49.66%)

## DISCUSSION

Adolescence is the time when they get interested in sexual relationships. Immature reproductive tracts make them more susceptible to HIV/AIDS

and other STIs. Discussing sex has also been a taboo for them. With the influence of media and break down of traditional family structures and in

the absence of organized institution for imparting sex education, they tend to learn about sexual and reproductive health from unreliable sources resulting in perpetuation of myths regarding safe sex and reproductive health<sup>1</sup>. At this juncture the role of teachers, curriculum and AEP comes as vital. The school education system all over the world play a major role in shaping the attitudes, opinions and the behavior of young people<sup>9</sup>.

The role of teachers in shaping the character of students, in incorporating the knowledge regarding reproductive system and healthy practices in the young minds and in modulating their attitude towards sex education is undeniable. Based on the socio-economic background of the students in the present study, whatever knowledge they acquired was from their school and teachers. The overall knowledge and awareness of 10<sup>th</sup> Std. students over students of 9<sup>th</sup> Std. was high. The obvious reason for this was inclusion of a lesson on HIV/AIDS in their curriculum.

Acronym of HIV was correctly answered only by 10% in this study where as it was higher in other studies<sup>10-13</sup> (Oyo Ito, S. Bhalla, P.Lal, & Jannu Raja Mouli). 85% students in this study knew that HIV is a virus on par with other studies<sup>11,13</sup>. (S.Bhalla & Jannu Raja Mouli). Majority of them (73%) were aware that sexual route is the main mode of transmission, similar to the findings of Anurag Srivastava and Suneeth Pramanik<sup>1,14</sup>. But at higher level when compared to the studies on girl students by Anurag Srivastava, Basir Gaash and Arindam Chakravarty regarding, not only the sexual route but also the other routes of transmission<sup>1,15,16</sup>. Their awareness on symptoms of HIV infection was at higher rate than in a study by Oto Ita (Nigeria)<sup>10</sup>. Their awareness on high risk group was higher than a study by Basir Gaash from Kashmir<sup>15</sup>. Most probably due to the AEP which was implemented in this school.

Even the miracle drug may not overcome the stigma and address some of the most painful parts of HIV infection-prejudice, rejection, hurt, ostracism etc. The stigma around the disease could be attributed to cultural/religious beliefs or lack of education<sup>17</sup>. In the present study only 25 from each class had positive attitude towards PLHA (16.66%) and rest of them felt that the society should, be harsh (13.66%), maintain distance (50.33%). 19.33% students didn't express any feeling. Even though around 70% knew how HIV does not spread, but still only 16.66% were sympathetic towards PLHA, stresses

the need of education to change their attitude. But studies from other parts showed higher percentage of positive attitude towards PLHA (Anurag Srivastava 47.%, P.Lal 77.8%, and Thanavanh 55.7%)<sup>1,12,18</sup>.

The percentage of students who knew that there was no vaccine for HIV/AIDS in this study (56.66%) was lesser than a study by Sanam Jindal (84%)<sup>19</sup>. Only 28.66% were aware of non-curability of HIV/AIDS. 14% thought it was curable and rest of them had no answer. Other studies revealed that more number of students thought it was curable. (Anurag Srivastava, Oyo Ita, Mc Manus & Murtala Mohammad Ruma)<sup>1,10,20,21</sup>. Text books & teachers were main source of information as in some studies (Sanam Jindal, Mc Manus & Murtala Mohammad Ruma)<sup>19-21</sup>.

The overall knowledge and awareness of group one over two was high. The obvious reason for this was inclusion of a lesson on HIV/AIDS in their curriculum. In this connection we recommended inclusion of a lesson on HIV/AIDS in the curriculum starting from 8<sup>th</sup> Std. up to higher classes. The awareness of 9<sup>th</sup> Std. students was because of the AEP which was conducted when they were in 8<sup>th</sup> Std. Hence we recommended that the AEP should be a continuous process. Teachers working in only girls' high school where socio-economically backward students were enrolled should take extra responsibility in shaping their character by conducting extra classes on sex health. The fact, that awareness on non-curability of HIV/AIDS and lack of vaccine for it was less, we stressed that more number of hours should be allocated to deliver the facts and to clarify the myths regarding HIV/AIDS.

## CONCLUSIONS

- 1.The awareness and knowledge of 10<sup>th</sup> Std. students on HIV/AIDS was high when compared to 9<sup>th</sup> Std. students.
- 2.Curriculum on HIV/AIDS played an important role on the awareness and knowledge of students on HIV/AIDS.
- 3.Inspite of good knowledge of students on the modes of transmission, positive attitude towards PLHA was less.
- 4.The awareness, as HIV/AIDS has no cure and no vaccine was also less.
- 5.Teachers & Text books were on top as source of information.



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