



## Knowledge and attitude regarding STIs including HIV and RTIs among college adolescent girls in urban Udupi Taluk

Monica Rana<sup>1</sup>, Ramachandra Kamath,<sup>2</sup> Lena Ashok<sup>\*1</sup>, Bharatesh Shetty<sup>1</sup>, Vasudev Guddattu<sup>3</sup>, Varalakshmi Chandrasekaran<sup>1</sup>

### ABSTRACT

#### Background

Adolescents compared to individuals in any other age group are most susceptible to sexually transmitted infections (STIs) including HIV (Human Immunodeficiency Virus) and reproductive tract infections (RTIs). Adolescents are vulnerable to STIs including HIV that account for 31 percent of the AIDS burden in India.

#### Objective

To assess knowledge and attitude among adolescent girls regarding STIs including HIV/AIDS and RTIs.

#### Methods

A cross-sectional study was carried out among 17-19 year old college going adolescents studying in degree colleges in the urban area of Udupi taluk. A total of 410 adolescent girls were selected using cluster sampling with proportionate allocation method. A pre-tested, self-administered questionnaire was used to collect data, and anonymity was maintained. SPSS version 15 was used to analyze the data. Findings were depicted as percentages and proportions.

#### Results

Around 14% of the adolescent girls had comprehensive knowledge regarding HIV/AIDS. Poor knowledge was reported among adolescent girls regarding STIs/RTIs other than HIV/AIDS. Around 27% had heard of STIs while 15% had knowledge regarding RTIs.

#### Conclusion

The study identified lacunae in knowledge regarding STIs/RTIs and misconceptions on HIV transmission. Adolescents need to be educated regarding sexual and reproductive health and also to focus on capacity building of mothers and teachers to improve adolescents' knowledge and attitude.

**Keywords:** Adolescent Girls, HIV/AIDS, STIs, RTIs

### INTRODUCTION

The individuals in the age group 10-19 referred to as adolescents by WHO imbibe substantial psychological, social and biological changes, completing the growth from childhood to adulthood.

These developments and the fact that the individual's future health is dependent on how well he / she coped during the gradual transition, takes cognizance of the vital role and importance of health in the adolescent age group. With about 20% of India's current population within this age group, it is

GJMEDPH 2015; Vol. 4, issue 1

<sup>1</sup>Department of Public Health, Manipal University, Manipal

<sup>2</sup>Professor, Department of Public Health, Manipal University, Manipal

<sup>3</sup>Department of Statistics, Manipal University, Manipal

\*Corresponding Author:

Lena Ashok

Madhavnagar, Manipal - 576104

[lenaashok@gmail.com](mailto:lenaashok@gmail.com)

Telephone number: 0820-2923157

Conflict of Interest—none

Funding—none



recognized as one of the primary focus areas in the health domain.<sup>1,2</sup>

Adolescents compared to individuals in any other age group, especially girls, are most susceptible to HIV/STI and RTIs. WHO states that 333 million new cases of curable STIs occur worldwide each year, with the highest rates among 20-24 years followed by 15-19 age group.<sup>3</sup> According to a NACO report, youth including adolescents are vulnerable to STIs, including HIV accounting for 31 percent of AIDS burden in the country. It was also reported that 30 percent of women in the age group of 15-19 years have had a live birth by age 19.<sup>4</sup>

Preventive methodology focusing on adolescent health primarily has two aspects which includes the disbursement of information through various health initiatives undertaken by the Government of India and the effects of prejudices and attitude of recipients on the acknowledgement and use of that information. Gender disparities in education and nutrition, early marriage and discrimination, provide the major unnecessary bottlenecks in information channels to adolescent Indian girls rendering the health initiatives useless or with every little to show if at all.<sup>5</sup> It is also very important to focus more on adolescent girl's awareness regarding these issues as women have higher incidence of STIs than men because of their greater susceptibility.<sup>6</sup>

The present study aims to understand this gap between the disbursement of information and the attitude of intended adolescents, especially girls and aid in developing relevant interventions that will provide seamless flow of health information and equip adolescents to deal with the recognized health problems in a proficient and confident way in order to secure a better present for themselves and a safer and happier future to the next generation.

## OBJECTIVES

To assess the knowledge and attitude among adolescent girls regarding STIs including HIV/AIDS and RTIs.

## MATERIALS AND METHODS

A cross-sectional study was conducted between February and June 2013 in degree colleges in urban area of Udupi Taluk, Karnataka. Cluster sampling with proportionate allocation was adopted to obtain participants from the colleges. According to NFHS 3<sup>7</sup>, comprehensive knowledge regarding HIV/AIDS was 12.5% among adolescent girls between 15-19 years in Karnataka. The sample was calculated using the formula  $n = \frac{4pq^2}{l^2}$  where n is sample size, p is prevalence, q is p-1 and l is precision. Considering 12.5% as the prevalence, the sample size for the study was 410 female students studying in the degree colleges of urban Udupi Taluk. Permission to conduct the study from the concerned authorities and institutional ethics committee clearance were obtained to carry out the study.

A pre-designed, pre-tested, self-administered, semi-structured questionnaire was used for data collection. Relevant studies were reviewed including the CDC reproductive health questionnaire. The questionnaire was modified to suit the Indian cultural context.

As it was a sensitive topic, the concerned authorities were requested to provide a separate room for data collection to maintain privacy. Random selection of girls according to their roll numbers was done. The purpose of study was explained to all selected students. Written consent was obtained from the participants who were willing to participate. They were assured of confidentiality. A self-administered questionnaire was then distributed and necessary instructions were given. Anonymity was maintained by not including the names of the girls on the questionnaire.

Data was entered and analyzed using SPSS (Statistical Package for the Social Sciences, version 15.0, SPSS Inc., Chicago, IL). Frequency was assessed for each question to verify the responses.

## RESULTS

A total of 410 students participated in the study. The age of the respondents ranged between 17 to 19 years. Majority of the respondents were 19 years of age. Most of the students (85.6%) were Hindus, while 9.8% were Muslims and 4.6% Christians. Around 41%



students were from undergraduate courses in Commerce and Management. Most of the girls belonged to nuclear families (66.8%). Around 33% of the fathers of the girls had secondary level of education, and 39% of the mothers had primary level of education. It was found that 37% of the girls' fathers worked as semi-skilled professionals, while the majority (87%) of the adolescent girls' mothers were housewives.

Most (98%) of the students had heard of HIV/AIDS. The most common source of information was through the school, teachers, friends and media including radio, television, newspaper and magazines.

Table 1 depicts the knowledge of adolescent girls regarding HIV/AIDS. The various modes of transmission such as unprotected sexual intercourse, blood transfusion and vertical transmission was known to the majority of girls. Some of the misconceptions they had were transmission through mosquito bites (33.7%) hugging/ kissing (22.4%) and sharing toilets (18.3%). Overall knowledge regarding methods of prevention was inadequate among adolescent girls. Around 60% of them were aware that HIV/AIDS can be prevented by using condoms during sexual intercourse. Monogamy as a method of prevention of HIV/AIDS was known to around 44% girls.

**Table 1 Distribution of Respondents according to Knowledge on Transmission and Prevention of HIV/AIDS**

Variables	N (%) N = 410
<b>Mode of transmission of HIV/AIDS</b>	
Blood transfusion	387 (94.4)
Sharing of injections/needles	384 (93.7)
Infected mother to baby	372 (90.7)
Unprotected sexual intercourse	356 (86.8)
Sharing of shaving blades	302 (73.7)
<b>Misconceptions on transmission of HIV/AIDS</b>	
Shaking hands with an infected person	30 (7.3)
Sharing of food	50 (11.2)
Contaminated food and water	53 (12.9)
Sharing of towel/clothes	56 (13.7)
Sharing toilet	75 (18.3)
Hugging/kissing	93 (22.7)
Mosquito or mosquito bite	137 (33.4)
<b>Methods of Prevention of HIV/AIDS</b>	
Avoid blood transfusion	251 (61.2)
Using condom when having sexual intercourse	246 (60.0)
Avoid sharing needles	246 (60.0)
Having only one sexual partner	179 (43.7)
Avoid having sex	152 (37.1)

Comprehensive correct knowledge of HIV/AIDS as described by NFHS 3 is three pronged including having heard of HIV/AIDS, identifying that using condoms and limiting physical intercourse to a faithful, uninfected partner are two ways to prevent HIV/AIDS transmission; that transmission through

mosquito bites and sharing food with an infected person do not transmit HIV/AIDS; and knowing that a healthy looking person can have HIV/AIDS. Based on these parameters, analysis was done and the study reported that only about 13.65% (56 students) had comprehensive knowledge.



Overall, the participants had a positive attitude towards people living with HIV/AIDS (PLHIV). Around 85% of the students felt that they should help PLHIV and not stop socializing or meeting them. The participants were aware that they could maintain a normal relationship but should be cautious to protect themselves.

Table 2 depicts that participants lacked knowledge regarding STIs other than HIV/AIDS. As shown in the

table, very few students (27.3%) had heard about other STIs. Hepatitis B as one of the STIs was known to less than half of the respondents (47.8%) followed by syphilis (14.1%), herpes (13.4%), gonorrhoea (7.8%), genital warts (3.9%), granuloma (2.9%) and trichomonas (2.4%). On asking if proper use of condoms can prevent STIs, the majority (87%) of the participants were not aware of the same indicating poor knowledge on the preventive methods.

**Table 2 Distribution of Respondents according to Knowledge Regarding Sexually Transmitted Diseases (STDs)**

Variables	Number (%) N=410
Heard about STDs	112(27.3)
Awareness regarding following STDs (N=112)	
Hepatitis B	196(47.8)
Syphilis	58(14.1)
Herpes	55(13.4)
Gonorrhoea	32(7.8)
Genital warts	16(3.9)
Granuloma	12(2.9)
Trichomonas	10(2.4)
Chancroid	3(0.7)
Chlamydia	2(0.5)

As evident from Table 3, knowledge regarding RTIs was also very poor among the participants. Very few respondents (14.6%) had heard of RTIs. Regarding various symptoms associated with RTIs, majority, i.e., 63.3% knew about vaginal discharge followed by 40%

about lower abdominal pain and 36.7% and 38.3% about genital ulcer and burning micturition respectively. Very few adolescent girls (12%) associated low backache with RTIs.

**Table 3 Distribution of Respondents according to Knowledge Regarding Reproductive Tract Infections (RTIs)**

Variables	Number (%)
Heard about RTIs (N=410)	60(14.6)
Symptoms associated with RTIs (N=60)*	
Vaginal discharge	38(63.3%)
Lower abdominal pain	24(40%)
Burning micturition	23(38.3)
Genital ulcer	22(36.7%)
Low backache	7(11.7%)

## DISCUSSION

The study aimed to elicit the knowledge and attitudes of adolescent girls regarding important issues such as STIs including HIV and RTIs. Education

forms a very important platform for adolescents to enable them to make informed decisions about their sexual health confidently in future.



The present study showed that almost all the participants had heard of HIV/AIDS, the main source of information being schools, peers and the media. In other similar studies conducted in India, the media has been reported to be the main source of knowledge regarding HIV/AIDS.<sup>8-10</sup> The present study indicated that the participants had good knowledge regarding the main modes of transmission and prevention regarding HIV/AIDS. Though correct responses were identified by the participants, they still had many misconceptions. Around 66% of the participants stated that mosquito bites cannot result in spread of HIV/AIDS, 77% knew that hugging and kissing cannot result in HIV/AIDS and 88% said that sharing of food cannot spread HIV/AIDS. Level of awareness regarding HIV/AIDS was found to be good and could be attributed to regular health educational interventions. Similar results were observed in a study done by Lal et al.,<sup>9</sup> among college students in Kerala. The results showed that spread of AIDS through mosquito bite and through toilets and bathrooms was considered correct by 67.2% and 80.9% girls respectively. A study conducted by Vyas et al.,<sup>11</sup> among college going adolescent girls reported that the majority 80% and 76% were aware about unprotected sexual intercourse and about vertical transmission while 42% and 41% were aware about infected needles and blood transfusion respectively to be the main modes of HIV/AIDS transmission.

The present study depicted that more than half of the girls (54.2%) were not aware that a healthy looking person can have HIV/AIDS. In a similar study conducted by Aggarwal et al.,<sup>12</sup> in Haryana, 57% believed that persons with HIV/AIDS could be identified by their physical appearance. These results are of concern as it is very important to have knowledge that a healthy looking person can transmit HIV/AIDS. The present study showed that they had positive attitudes towards people living with HIV/AIDS. A similar study done by Lena A et al.<sup>13</sup> also reported similar findings where the majority (73.3 %) of the adolescents believed that they should not isolate people living with HIV/AIDS.

In the present study, only around 13.65% had comprehensive knowledge regarding HIV/AIDS which

is very poor. Similar finding was reported in NFHS 3 in Karnataka where comprehensive correct knowledge among adolescent girls (15-19 years age group) was 12.5%.<sup>7</sup>

The study indicated poor knowledge among girls on STIs other than HIV/AIDS. Similar findings were reported by other studies as well.<sup>8,9</sup> According to the District health and facility survey (2007-2008), Karnataka, 40.6% adolescent girls in the age group of 15-19 years reported that they had heard about STI/RTI.<sup>10</sup> Majority of the them did not know that condoms can prevent spread of STIs. McManus et al<sup>8</sup> reported in their study that 22% of adolescent girls were not aware that people who always used condoms could be protected from STIs. It is very important for young adolescent girls to be aware of the risk of STIs and also that condoms can prevent spread of STIs. In a study done for cost effective methods for prevention of spread of HIV/AIDS and other STIs in developing countries, it was reported that mass media campaigns, treatment of STIs and school-based interventions can yield health gains and are effective interventions.<sup>14</sup>

Few studies conducted in India reported RTIs among adolescent girls and lack of awareness regarding the same.<sup>15-17</sup> In the present study, knowledge regarding RTIs was very poor (14.6%) among adolescent girls as compared to a study carried out by Agarwal et al.<sup>12</sup> which reported that 57.4% girls aged 17-19 years had heard of RTIs. Vyas et al.,<sup>11</sup> reported that around 56% adolescent girls could name at least two RTIs and symptoms were known to 8.4% of them. In another study done by Jain et al.<sup>17</sup> among urban adolescent girls in Meerut, it was reported that 31.8% had heard of RTIs. These observations reflect lack of awareness among adolescent girls regarding RTIs in India. Therefore, there is an urgent need to impart knowledge regarding RTIs to both prevent report symptoms at the earliest.

## CONCLUSION

Though efforts are currently being made to increase awareness among adolescents regarding STIs including HIV/AIDS and RTIs, the study has identified lack of knowledge regarding STIs and RTIs. It is therefore necessary to educate adolescents



regarding sexual and reproductive health and develop a sustainable health awareness program for them. A multi-dimensional approach focusing on capacity building of peer educators, mothers and teachers on STIs and RTIs is recommended to improve adolescents' knowledge and attitude.

#### ACKNOWLEDGEMENT

We gratefully acknowledge the active participation of adolescent girls, the school authorities of Udupi Taluk for their co-operation to carry out the study.

#### REFERENCES

1. Adolescent Health [internet]2013[cited 2013 July28]. Available from [http://www.who.int/topics/adolescent\\_health/en/](http://www.who.int/topics/adolescent_health/en/)
2. Growing up global: the changing transitions to adulthood in developing countries. Washington, DC, The National Research Council and Institute of Medicine; 2005
3. Dehne LK, Riedner G. Sexually transmitted infections among adolescent: The need for adequate health services, Geneva: World Health Organization and Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ);2005.
4. Implementation guide on RCH II Adolescent Reproductive and Sexual Health strategy: For state and district Programme Managers. India: National Rural Health Mission (Delhi); 2006 May.
5. Parasuraman S, Kishor S, Singh KS, Vaidehi Y.A profile of youth in India-National Family Health Survey India: International Institute for Population Sciences (Mumbai);2009 Aug.
6. UNFPA: Sexually Transmitted Infections: Breaking the cycle of transmission. New York: United Nations Population Fund;2004.
7. National Family Health Survey 3 Karnataka. Ministry of health and family welfare, Government of India, Mumbai;2005-2006
8. McManus A,Dhar L.A cross sectional survey of urban adolescents school girls in South Delhi, India. BMC Women's Health 2008,8:12. Available from <http://www.biomedcentral.com/1472-6874/8/12>
9. Lal S.S, Vasan R.S, Sharma PS, Thankappan KR. Knowledge and attitude of college students in Kerela towards HIV/AIDS , sexually transmitted diseases and sexuality. National medical journal of India.2000;13(5):231-236
10. District Level Household and Facility Survey (DLHS-3) 2007-2008 Karnataka: International Institute of Population Sciences (IIPS).Mumbai;2010
11. Vyas S, Moitra M, Chaudhari V, Kantharia S. Adolescents' perception regarding HIV-RTI-STIS in Surat City. Int J Res Med 2013;2(1):106-109
12. Aggarwal A, Kumar R: Awareness of AIDS among school children in Haryana. Indian Journal of Public Health 1996;40:38-45.
13. Lena A, Rao RSP, Nair NS, Kamath V, Kamath A. HIV/AIDS education for adolescents – an experiment in rural setting in Udupi Taluk of Karnataka,India. AMJ 2010;3(10):644-649.
14. Hogan DR, Baktussen R, Hayaschi C, Lauer JA, Salomon JA. Cost effectiveness analysis of strategies to combat HIV/AIDS in developing countries. BMJ 2005; 331:1431-1437
15. Khanna A, Goyal RS, Bhawsar R. Menstrual practices and reproductive problems: A study of adolescent girls in Rajasthan. Journal of Health Management 2005;7(1)
16. Majumdar R, Ganguly SK. A Study of adolescent girls in Pune, Health and Population-Perspectives and Issues 2000;23(2):95-104
17. Jain K, Garg S.K, Singh J.V, Bhatnagar M, Chopra H, Bajpai S.K. Reproductive health of adolescent girls in an urban population of Meerut, Uttar Pradesh. Health and Population: Perspectives and Issues 2009;32(4):204-209.