

# A study on knowledge about sexually transmitted infections (STIs) and AIDS among adolescents of rural areas of Jabalpur district

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## Abstract

**Background:** Adolescence is defined by the United Nations as the period of life from age 10 to 19 years. It is a significant period in an individual's changeover from childhood to adulthood. In 2009, there were 1.2 billion adolescents aged 10–19 years in the world accounting for 18% of the world's population.

**Objective:** To assess the knowledge of adolescents about sexually transmitted infections (STIs) and acquired immunodeficiency syndrome (AIDS) in rural areas of Jabalpur district.

**Materials and Methods:** A cross-sectional study was conducted in schools and anganwadis of rural areas of Jabalpur district. A total of 400 adolescents (200 boys and 200 girls) were randomly selected as study subjects. For obtaining quantitative data, a predesigned questionnaire was used. For obtaining qualitative data, two focus group discussions were conducted.

**Result:** In our study, less than 50% of adolescents were aware of the signs and symptoms of STI in rural areas. About 35.7% adolescents knew that STIs are curable, and 18.5% knew that many persons with STI do not show symptoms. About 53% boys and 42% girls had heard about AIDS.

**Conclusion:** This study has reflected poor level of knowledge regarding STI and AIDS in rural areas.

**KEY WORDS:** Adolescents, sexually transmitted infections (STI), acquired immunodeficiency syndrome (AIDS), focus group discussions (FGD)

## Introduction

Adolescence is defined by the United Nations as the period of life from age 10 to 19 years. It is a significant period in an individual's changeover from childhood to adulthood. In 2009, there were 1.2 billion adolescents aged 10–19 years in the world accounting for 18% of the world's population.<sup>[1]</sup>

Adolescence is described as a continuum of physical, mental, behavioral, and psychosocial change that is characterized by growing stages of individual autonomy, a growing sense of identity and self-esteem, and progressive freedom from grown-ups. This period results in sexual, psychological, and behavioral maturation.<sup>[1]</sup>

During adolescence, hormonal changes lead to onset of puberty, sudden and rapid physical growth, and development of secondary sexual characteristics. They could engage in wrong activities such as smoking, substance abuse, consumption of alcohol, and unprotected sex.

Half of new human immunodeficiency virus (HIV) infections in world occur in 15–24 year-olds, and one-third of new cases of curable sexually transmitted infections (STIs) affect people younger than 25 years.<sup>[1]</sup>

Today, 1.2 billion adolescents are at the junction between childhood and the adult world. Around 243 million are in India,

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accounting for nearly one quarter of the country's total population.<sup>[2]</sup>

Youth are susceptible to STIs including HIV and account for 31% of acquired immunodeficiency syndrome (AIDS) burden in the country.<sup>[3]</sup>

Comprehensive knowledge about HIV/AIDS is very low. Only 20% young women and 36% young men presented knowledge about AIDS. One in three young women and one in eight young men have not heard of AIDS at all.

This study is an effort to assess the knowledge of adolescent boys and girls about STIs and AIDS in rural areas of Jabalpur district.

## Materials and Methods

This cross-sectional study was conducted from June 1, 2014 to October 31, 2014. Ethical clearance was taken from college ethical clearance committee.

### Sampling Technique

Multistage random sampling technique was used.

### Study Subjects

Four hundred adolescents aged 15–19 years were selected as study subjects. Two hundred boys and 200 girls were selected from rural areas of Jabalpur district. Adolescents were selected randomly from anganwadis and schools of villages from randomly selected blocks of Jabalpur district. Informed consent was taken from all respondents who volunteered for study.

### Statistical Analysis

For obtaining quantitative data, a predesigned questionnaire was used.

For obtaining qualitative data, two focus group discussions (FGDs) were conducted and their statements coded under relevant headings. FGDs were conducted separately for boys and girls.

Frequency distribution tables were prepared, and statistical analysis was done using SPSS software, version 20.0. The  $\chi^2$ -tests were applied.

## Result

Table 1 shows that the most common symptom known was pain in lower back region (29.3%), followed by burning during micturition (27.5%), discharge (22%), itching in private parts (18.8%), and ulcer in pubic region (18.8%). There was statistically highly significant difference in knowledge of boys and girls ( $\chi^2 = 62.141$ ,  $p = 0.000$ ).

In the FGDs, it was observed that many adolescents have heard about these infections but did not know the correct cause.

Some statements by adolescents were...

*"I have heard about these diseases but don't know the cause."*

*"These infections are due to sexual contact among boys and girls."*

*"These infections are due to unhygiene."*

During FGDs, it was also observed that the participants perceived many of the symptoms as normal, and only a few of them reported sexual contact and unhygiene as the responsible factors for STI, while the rest had just heard about such infections and did not know the cause.

Table 2 shows that 35.7% adolescents knew that STIs are curable, and 18.5% knew that many persons with STI do not show symptoms. There was statistically highly significant difference in knowledge about STIs among boys and girls ( $\chi^2 = 18.047$ ,  $p = 0.001$ ).

Table 3 shows that, in rural areas, only 53% boys and 42% girls had heard about AIDS. Overall 47.5% adolescents have heard about AIDS. There was statistically significant difference in knowledge about AIDS among boys and girls ( $\chi^2 = 7.890$ ,  $p = 0.005$ ).

Table 4 shows that few adolescents knew more than one mode of transmission of AIDS. About 34.5% adolescents knew that AIDS is transmitted by unprotected sexual intercourse, followed by infected syringes and sharps (33.5%). About 25% adolescents knew that infected blood products and mother-to-child transmission are the other modes of transmission of AIDS. The difference in knowledge about transmission of HIV among boys and girls was statistically significant ( $\chi^2 = 8.909$ ,  $p = 0.031$ ).

During FGDs, it was observed that adolescents have heard about AIDS, but few adolescents had correct knowledge about transmission of AIDS. They had different views about what is AIDS.

Some statements by adolescents were...

*"AIDS disease is caused by due to sexual contact. This is a very dangerous disease and cannot be cured."*

*"I have read about AIDS in newspapers but don't know how is it caused."*

## Discussion

In our study, less than 50% adolescents were aware of the signs and symptoms of STI in rural areas. The most common symptom known was pain in lower back region (29.3%), followed by burning during micturition (27.5%), discharge (22%), itching in private parts (18.8%), and ulcer in pubic region (18.5%).

About 35.7% adolescents knew that STIs are curable. About 18.5% knew that many persons with STI do not show symptoms. During FGDs, it was observed that participants perceived many of the signs and symptoms as normal, and only a few of them reported sexual contact and poor hygiene as the responsible factors for STI, while the rest had just heard

**Table 1:** Distribution of adolescents according to their knowledge about signs and symptoms of STIs

Knowledge about signs and symptoms of STIs	Boys		Girls		Total	
	N	%	N	%	N	%
Discharge	41	20.5	47	23.5	88	22
Burning during micturition	53	26.5	57	28.5	110	27.5
Itching in private parts	37	18.5	38	19	75	18.8
Ulcer in pubic region	35	17.5	39	19.5	74	18.5
Swelling in groin region	35	17.5	23	11.5	58	14.5
Pain in lower back region	30	15	87	43.5	117	29.3
Menstruation-related problems	4	2	64	32	68	17

$\chi^2 = 62.141$ ;  $df = 6$ ;  $p = 0.000$ .

**Table 2:** Distribution of adolescents according to their knowledge about STIs

Knowledge about STIs	Boys		Girls		Total	
	N	%	N	%	N	%
STI is curable	68	34	75	37.5	143	35.75
STI may cause sterility	25	12.5	31	15.5	56	14
Using condom prevents STI	31	15.5	22	11	53	13.25
Treatment of both partners is essential	56	28	72	36	128	32
Many persons with STI do not show symptoms	53	26.5	21	10.5	74	18.5

$\chi^2 = 18.047$ ;  $df = 4$ ;  $p = 0.001$ .

**Table 3:** Distribution of adolescents according to knowledge about AIDS

Knowledge about AIDS	Boys		Girls		Total	
	N	%	N	%	N	%
Heard of AIDS	106	53	78	42	184	47.5
Not heard of AIDS	94	47	122	58	216	52.5
Total	200	100	200	100	400	100

$\chi^2 = 7.890$ ;  $df = 1$ ;  $p = 0.005$ .

**Table 4:** Distribution of adolescents according to knowledge about modes of transmission of AIDS

Knowledge about modes of transmission of HIV	Rural				Total	
	Boys		Girls		N	%
	N	%	N	%		
By infected syringes and sharps	68	34	66	33	134	33.5
By unprotected sexual intercourse	79	39.5	59	29.5	138	34.5
By infected blood products	48	24	54	27	102	25.5
From mother to child	38	19	62	31	100	25

$\chi^2 = 8.909$ ;  $df = 3$ ;  $p = 0.031$ .

about such infections and did not know the cause. About 53% boys and 42% girls had heard about AIDS, and the difference in knowledge about STIs and AIDS on gender basis was statistically significant (0.001).

About 34.5% adolescents knew that AIDS is transmitted by unprotected sexual intercourse, followed by infected syringes and sharps (33.5%). About 25% adolescents knew that infected

blood products and mother-to-child transmission are the other modes of transmission of AIDS. With increasing age, correct knowledge about AIDS transmission also increased. During FGDs, it was observed that many adolescents have heard about AIDS, but few adolescents had correct knowledge about AIDS. They had different views about what is AIDS.

These findings of our study were similar to a study on knowledge regarding reproductive tract infection (RTI)/STI by McManus and Dhar,<sup>[4]</sup> which showed that more than 30% of the adolescent girls in the study were unaware about the symptoms of RTI/STI and a study by Lal et. al.<sup>[5]</sup> in Kerala, where 34% college students had awareness of the symptoms of STIs. Similar findings were observed in a study conducted by Shahid et al.,<sup>[6]</sup> where it was observed that more than half of the respondents had no knowledge on STDs and HIV/AIDS and its spread. In a study of 500 adolescent boys and girls in rural Maharashtra in western India, the results showed that only 15% of married male adolescents and 8% of unmarried male adolescents had information about sexually transmitted diseases (STDs).<sup>[7]</sup> About 53% boys and 42% girls had heard about AIDS. But, Kotecha et al.<sup>[8]</sup> found in their study that only 40% of the boys and 30% of the girls aged 11–13 years had heard about HIV/AIDS when compared with more than two-thirds boys and girls belonging to the age groups of 14–16 years and 17–20 years.<sup>[6]</sup> The findings suggested increase in the level of knowledge with increase in age of the subjects .

In our study, 34.5% adolescents knew that AIDS is transmitted by unprotected sexual intercourse, followed by infected syringes and sharps (33.5%). But, the findings from other studies were different owing to difference in age of adolescents. In a study by Kotecha et al.<sup>[8]</sup> in 17–20 years age group, about three-fourths of the boys and girls knew that AIDS could be transmitted by receiving blood from an infected person; about two-thirds knew that it could be transmitted by having sexual relations with an infected person. Kotecha et al.<sup>[9]</sup> and McManus and Dhar<sup>[4]</sup> in their studies found that only 19.2% and 33% school-going girls were not aware about HIV/AIDS transmission. Mittal and Goel<sup>[10]</sup> found that 73.9% girls in urban areas knew the fact that sexual intercourse with an infected person and sharing needles for intravenous drug usage are the most common modes of transmission of STD/AIDS. These findings also show that the knowledge is very low among adolescents in rural areas when compared with urban areas.

## Conclusion

This study has reflected poor level of knowledge regarding STI and AIDS in rural areas. As the social norms still discourage discussion on issues related to sexual and reproductive health, adolescents are hesitant to share their problems. Adolescents are at a significant risk of experiencing negative consequences in their future life owing to ignorance on matters

related to STDs and lack of knowledge on such issues, and there is immediate need for gender-based sex education for adolescents.

## References

1. UNFPA. *Adolescent Sexual and Reproductive Health Toolkit for Humanitarian Settings*. New York: UNFPA, 2009. Available at: "http://www.unfpa.org" www.unfpa.org.
2. UNICEF, India, Adolescence - An Age of Opportunity, The state of the Worlds Children Report, 2011. (last accessed on October 30, 2015).
3. NACO. *HIV Fact Sheets Based on HIV Sentinel Surveillance Data in India*. New Delhi: Ministry of Health and Family Welfare, 2007. Available at: [http://www.nacoonline.org/upload/NACO%20PDF/HIV\\_Fact\\_Sheets\\_2006.pdf](http://www.nacoonline.org/upload/NACO%20PDF/HIV_Fact_Sheets_2006.pdf)
4. McManus A, Dhar L. Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education: (a cross sectional survey of urban adolescent school girls in South Delhi, India) *BMC Womens Health* 2008;8:12.
5. Lal SS, Vasan RS, Sarma PS, Thankappan KR. Knowledge and attitude of college students in Kerala towards HIV/AIDS, sexually transmitted diseases and sexuality. *Natl Med J India* 2000;13:231–6.
6. Shahid A, Pirzada AG, Memon AA. Perception regarding reproductive health among adolescents of rural Sindh, Pakistan. *S East Asia J Publ Health* 2012;2(1):223.
7. Das PK. The reproductive health of married adolescents in rural Maharashtra: a report of a state level workshop on building evidence from program and research. January 4–January 5, 2008; Pune.
8. Kotecha PV, Patel SV, Mazumdar VS, Baxi RK, Misra S, Diwanji M, et al. Reproductive health awareness among urban school going adolescents in Vadodara city. *Indian J Psychiatry* 2012;54(4):344–8.
9. Kotecha PV, Patel S, Makwana B, Diwanji M. Measuring knowledge about HIV among youth: a survey for Vadodara district. *Indian J Dermatol Venereol Leprol* 2011;77(2):252.
10. Mittal K, Goel MK. Knowledge regarding reproductive health among urban adolescent girls of Haryana. *Indian J Community Med* 2010;35(4):529–30.

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