

ADOLESCENT KNOWLEDGE AND AWARENESS ABOUT AIDS/HIV AND FACTORS AFFECTING THEM IN BANGLADESH

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Background: Adolescents are more vulnerable than adults of unplanned pregnancies, sexually transmitted diseases and HIV/AIDS. Among the adolescents, girls are more vulnerable to STDs including HIV/AIDS. Their knowledge about different diseases is very poor. This paper investigated adolescent's knowledge about sexually transmitted diseases including HIV/AIDS, its mode of transmission and ways of its prevention. **Methods:** Cross sectional study design was adopted for this study. A multistage cluster sampling technique was used to select the sample. Data on 3362 female adolescents irrespective of their marital status was analyzed. **Results:** The study found that a large proportion of adolescents were not aware about sexually transmitted diseases and AIDS. More than half (54.8%) of the adolescents ever heard about AIDS respectively. On an average, about one tenth of them had better knowledge on AIDS in terms of mode of transmission and prevention. The multivariate logistic regression analysis revealed that adolescent age, years of schooling and knowledge on STDs appeared to be important predictors of the awareness about AIDS ($p < 0.05$). **Conclusions:** Useful and fruitful media campaigns to educate the adolescents regarding the health consequences of STDs including HIV/AIDS and integrated approach is strongly suggested for creating knowledge and awareness to control the spread of HIV and AIDS among young people in Bangladesh.

Keywords: Adolescent, Knowledge, Awareness, STDs, AIDS/HIV, Bangladesh

INTRODUCTION

Sexually transmitted diseases (STDs) are increasing the likelihood of HIV transmission as well as having other reproductive health consequences such as chronic lower abdominal pain, infertility or life threatening ectopic pregnancies.¹ World Health Organization (WHO) estimates that at least one third of the 333 million new cases of curable sexually transmitted infections (STIs) each year occur among people under age 25 years.² It has been estimated that at the end of 2001, approximately 40 million people worldwide were living with HIV/AIDS. Of which, a total of 6.4 million people belonged to the Asian region. Young people bear a special burden in the HIV/AIDS pandemic. Adolescents are more vulnerable than adults of unplanned pregnancies, sexually transmitted diseases and HIV/AIDS.³ Among the adolescents, girls are more vulnerable to STDs including HIV/AIDS, especially through heterosexual intercourse with others than their male counterparts. This increased vulnerability is attributable to the fact beyond their control such as sexual violence and exploitation, early sexual initiation and inability to negotiate for safe sex. These further strengthened by strong discrimination, lack of education, lack of power, lack of access to contraception and reproductive health issues. So, it is nearly impossible for the adolescents to protect themselves from sexually transmitted diseases, HIV and unwanted pregnancies. On the other hand, the young people are not aware about the sexually transmitted diseases. Their knowledge about different diseases is very poor. There has been a host of studies which examined the

knowledge on STDs among various age and social groups. Very limited studies have investigated young peoples' level of knowledge about STDs and AIDS. Most of the studies explored just naming of the diseases. The ability of the peoples' either knowledge or mode of transmission and its prevention is very limited.⁴ Not only this, their knowledge is a mixture of facts, myths and rumours and is not always correct. An unfortunate misconception is prevailing among the young people. This sort of perception exists in different parts of the world.¹ It is therefore, an important area to understand from the adolescents' perspectives. In this study, it was explored adolescents' knowledge about HIV/AIDS, its mode of transmission and how to prevent them.

MATERIALS AND METHODS

This was a cross sectional study conducted in both rural and urban areas of Bangladesh. Female adolescents aged 10–19 years constituted the study population. The World Health Organization (WHO) has defined adolescents to be in the age range 10–19 years. A stratified two-stage cluster sampling design was adopted. At the first stage, the *mauzas* (clusters) were selected and at the second stage all households were covered under the study. A total of 64 clusters (on an average a cluster has 200 households) were randomly selected from the list of the clusters. All married and unmarried adolescents were selected in a cluster with a ratio of 2:1. A total of 3362 adolescents were included in the sample. Data were collected in face to face interview using a pre-designed interview schedule consisting of questions related to knowledge, perception about name, cause, mode of transmission and

prevention of AIDS. Uni-variate and bi-variate analyses were performed. Multivariate logistic regression analysis was used to identify socio-economic and demographic factors which are significantly related to knowledge on AIDS. SPSS 11.5 was used for data analysis.

RESULTS

Mean age of the respondents was 16.2±1.9 years with a range of 10–19 years. Among the respondents, 32.9% were unmarried and 67.1% were married. The mean years of schooling were 4.7±3.3 years. Among them 23.3% were illiterate, 35.8% had 1–5 years of schooling and the rest had 6 and above years of schooling. Regarding parental education, more than two fifths (43.9%) of the adolescents’ fathers were illiterate whereas more than two thirds (70.7%) of the adolescents mothers were illiterate indicating mothers were more illiterate than fathers. The mean family size was 5.2 persons. About 30.7% of the adolescents were currently engaged in income generating activities other than household work. Majority of the respondents were Muslims (89.4%) and 10.6% were non-Muslims. More than half of the adolescents (56.4%) were from nuclear family and the rest from joint/or extended family. The median family income was Tk 2500 and about three fifths (59.0%) of the families had family income less than Tk 3000 (Table-1).

Table-1: Socio-demographic characteristics of the adolescents (n=3362)

Characteristics	Frequency	%	Mean±SD
Age in years	10–14	695	20.7
	15–19	2667	79.3
Marital status	Unmarried	1106	32.9
	Married	2256	67.1
Residence	Rural	2056	61.2
	Urban	1306	38.8
Years of schooling (Respondents)	0	785	23.3
	1–5	1204	35.8
	>6	1373	40.8
Religion	Non-Muslim	356	10.6
	Muslim	3006	89.4
Literacy (Father)	Illiterate	1477	43.9
	Literate	1885	56.1
Literacy (Mother)	Illiterate	2378	70.7
	Literate	984	29.3
Work status	No	2329	69.3
	Yes	1033	30.7
Type of family	Nuclear	1895	56.4
	Joint	1467	43.6
Family size	2–3	818	24.3
	4–5	1206	35.9
	≥6	1338	39.8
Monthly family income (Tk)	<2000	661	22.8
	2000–3000	1049	36.2
	3000–4000	704	24.3
	≥4000	485	16.7

Out of 3362 adolescents, 54.8% did know about AIDS followed by syphilis (32.9%), ulcer in genitalia (27.1%), gonorrhoea (22.0%), Chlamydia (0.6%) and trichomoniasis (0.1%) (Figure-1).

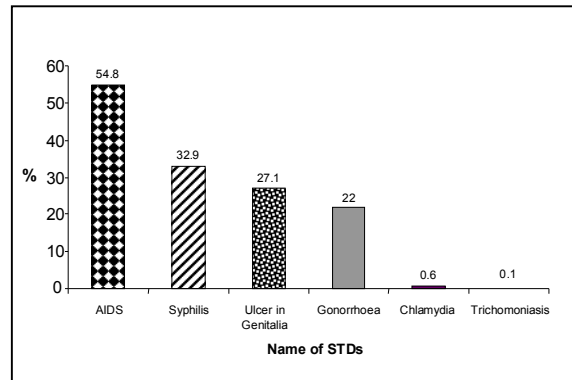


Figure-1: Knowledge on Sexually transmitted disease (n=3356)

The respondents who ever heard about AIDS were asked about the mode of transmission of AIDS. More than one tenth (13.9%) of the respondents did not know about the mode of transmission of AIDS. Half of the respondents reportedly mentioned that AIDS might be transmitted through sexual intercourse by sexual partners who habitually have multiple sexual partners followed by no protective measure taken during sexual intercourse in case of sex with risky partners (38.9%), sexual intercourse with infected persons (36.9%), through infected persons (30.5%), through infected blood (14.3%). Variety of other routes might transmit AIDS such as use of common toilet, use of others clothes, use of common soap, lack of hygiene etc. (Table-2).

Table-2: Adolescent’s Knowledge on Mode of Transmission of AIDS

Knowledge on mode of transmission of AIDS (n=1844)*	Frequency	%
Sex with multiple partners	945	51.2
No protection during sex	717	38.9
Through infected partners	680	36.9
Through sexual intercourse	563	30.5
Transmission of infected blood	503	27.3
Use of infected syringe	263	14.3
Lack of hygiene	101	5.5
Use of dirty toilet	24	1.3
Use of others clothing	19	1.0
No use of condom	4	0.2
Use of common soap	1	0.1
Sex with prostitute	2	0.1
Use of shared razor	23	1.2
Do not know	256	13.9

*Multiple responses

About one fifth (16.8%) did not know about the preventive measure against AIDS. Two thirds (65.3%) of them mentioned not to have sexual intercourse with multiple sexual partners (65.3%), not to have sexual intercourse with risky persons (33.2%), screening of blood before transfusion (19.6%), avoid used syringe (13.8%) and one fourth (25.5%) opined for hygienic use of clothes, toilets, soaps etc. (Table-3).

Table-3: Adolescent's Knowledge on Prevention of AIDS (n=1844)

*Knowledge on prevention of AIDS	Frequency	%
No sex with multiple partners	1204	65.3
No sex with risky persons	613	33.2
Maintain hygiene of clothes, toilets, soaps, etc	470	25.5
Screening before transfusion	361	19.6
Avoid used syringe	254	13.8
Do not know	309	16.8

*Multiple responses

Multivariate logistic regression analysis was carried out to assess the independent effects of the variables on knowledge about AIDS. The level of knowledge on AIDS was assessed according to their correct perception on mode of transmission and preventive measures against AIDS. Accordingly, having no knowledge or incorrect knowledge of transmission and or prevention of AIDS has been categorized as 'no/incorrect' knowledge and having correct knowledge of transmission and prevention of AIDS in single and or multiple responses was categorized as 'correct' knowledge. Four variables, out of 12 fitted in bi-variate analysis showed significant association with level of knowledge on AIDS which were entered into logistic regression model. Analysis revealed that older adolescents aged 15–19 years are significantly more likely to know about AIDS than their younger counterparts (OR=1.4; 95% CI: 1.1–1.8). Level of education was an important predictor of having correct knowledge on AIDS. Adolescents with 6 and more years of schooling were 1.4 times likely to have correct knowledge (OR=1.4; 95% CI: 1.0–1.9) compared to adolescents having 1–5 years of schooling and illiterate. Most interestingly, the adolescents with correct knowledge on STDs are 1.5 times more likely to have correct knowledge on AIDS (Table-4).

Table-4: Adolescent's awareness about AIDS: Multivariate analysis

Independent variables	β	p-value	Odds ratio	95% CI	
Age in years	10-14 (RC)	-	-	-	
	15-19	0.3491	0.0091	1.4178	1.0908–1.8428
Years of schooling	0 (RC)	-	-	-	
	1-5	0.0862	0.5606	1.0900	0.8155–1.4569
	≥6	0.3407	0.0269	1.4059	1.0397–1.9009
Literacy (Father)	Illiterate (RC)	-	-	-	
	Literate	0.1157	0.3258	1.1226	0.8913–1.4140
Knowledge on STDs	No or incorrect knowledge (RC)	-	-	-	
	Correct knowledge	0.4124	0.0025	1.5104	1.1557–1.9740
Model Chi-square	34.14				
df	5				
Significance	0.0000				
N	3362				
Constant	-2.3495				

*RC= Reference category

**Variables not included in the regression model are: Residence, marital status, religion, level of education of mother, working status, type of family, family size and monthly family income i.e. these are not statistically significant in bi-variate analysis.

DISCUSSION

The prevalence of acquired immune deficiency syndrome (AIDS)/human immunodeficiency virus is believed to be low in Bangladesh, although the infection rate is increasing since 1994, especially among heterosexual males and injecting drug abusers.⁵⁻⁷ However, epidemic has started in the last ten years in the South Asian region especially in India, Myanmar which border Bangladesh.⁸ Although relatively few HIV positive cases have been identified by the Government of Bangladesh, many hidden cases are likely to exist. Variety of societal factors such as rapid urbanization, rising unemployment and economic problems among different population segments are resulting in a greater risk of AIDS. Along with, poor medical facilities, lack of sufficient screening practices, unsafe sexual practices among some groups of our population is increasing the chances of HIV infection. The study found that 45.2% did not hear the name of acquired immune deficiency syndrome (AIDS). Compared to other countries, Bangladeshi adolescents are less aware than Nepalese and Cambodian adolescents.^{9,10} Ninety percent of Nepalese and 85% of Cambodian adolescents heard about AIDS, but the survey report of India revealed lower proportion of adolescent (41.0%) ever heard about AIDS.¹¹ Bangladesh Health and Demographic Survey (2000) showed a very low proportion of 17% of the adolescents ever heard about AIDS.¹²

The findings of the study also suggest that the adolescents of Bangladesh are not sufficiently aware about STDs/AIDS and their modes of transmission and also its prevention. Although, a bit higher proportion of adolescents had knowledge about AIDS (14.7%) than knowledge on STDs (11.7%), in fact, the knowledge about STDs/ AIDS is much low as it was observed; only 2.4% had sufficient knowledge about transmission and prevention of STDs and AIDS combined (data not shown). However, there is a gap in their perceived knowledge and belief that is large proportion of adolescents bear misconception about STDs/AIDS. For example, STDs/AIDS cannot spread in the environment unless there is a sexual contact or an exchange of blood with an infected person. Sexually transmitted diseases and AIDS do not spread by doing routine activities like sitting next to someone, shaking hands or working with others. It cannot be transmitted through sharing of public transportation, cup or drinking glass, plate or utensil, food, water or air, though toilet, touching, hugging, coughing and sneezing. These sorts of beliefs may develop negative attitude towards STD/AIDS patients. Negative attitude towards persons suffering from STDs/AIDS fear and cause them to isolate themselves from the society. This kind of attitude and negative behaviour of the community may affect the

success of STDs/AIDS control programme and it also not a humanistic approach.

The results have shown that the older adolescents had better knowledge than their younger counterparts. Similar pattern of results was observed by Khan¹³ and Clark *et al*¹⁴. This might be due to the fact that the older adolescents are more sexually active and more conversant with peer groups and other members of the family. It was also found that adolescents living in joint or extended families had better knowledge than the adolescents of nuclear families. Clark *et al* opined that age related increased knowledge on STDs/AIDS among the older adolescents might be unrelated to education; their increased knowledge level may be due to experiential factors such as having contracted STD rather than routine sexuality education.¹⁴ This was not identified in this study, but assessing biomedical markers of STDs might be helpful for exploring the fact which need to be further searched.

However, Khan found significant association of knowledge on AIDS with level of education of adolescents.¹³ The present study is consistent with the previous study findings. In fact, education is the pathway of communication for any message. Increased age with increased level of education give an opportunity to have more reproductive health information, more use of health care services and support from peer groups. Another aspect of the study was that adolescents having better knowledge on sexually transmitted diseases had better knowledge on AIDS. This creates an opportunity for programme implementation in the control and prevention of STDs and HIV/AIDS simultaneously, not in isolation or haphazardly.

CONCLUSION & RECOMMENDATIONS

The Government of Bangladesh has recognised adolescents' health as a priority target area and has included in Health, Nutrition and Population Sector Programme (HNPS). In addition, multi-sectoral National AIDS Committee (NAC) is providing technical assistance in developing strategies for control of HIV/AIDS. The findings of this study can help the health care providers in successful implementation of existing activities of STDs and HIV/AIDS programmes and in formulating appropriate techniques to improve

awareness for the prevention of STDs including HIV/AIDS among the adolescents in Bangladesh.

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REFERENCES

1. United Nations Family Planning Assistance (UNFPA). Making 1 billion count. State of World Population 2003. Investing in Adolescents Health and Rights. 2003.
2. World Health Organization. The Second Decade: Improving Adolescents Health and Development (WHO/FRH/ADH/98.18). Geneva. Adolescent Health and Development Programme, WHO.1998.
3. Gubhaju BB. Adolescents Reproductive Health in Asia. Paper presented at IUSSP regional Population Conference, "South-East Asia's Population in a changing Asian Context", Bangkok, Thailand. 2002.
4. Minichiello V, Paxton S, Cowling V, Cross G, Savage J, Sculthorpe A, *et al*. University Students' Knowledge of STDs: Level, symptoms and Transmission, *Int J STD AIDS* 1996;7:353-8.
5. Islam M, Mitra AK, Mian AH, Vermund SH. HIV/AIDS in Bangladesh: A national surveillance. *Int J STD AIDS* 1999;10:471-4.
6. Sarkar S, Islam N, Durandin F, Siddiqui N, Panda S, Jana S, *et al*. Low HIV and High STD among commercial sex workers in a brothel in Bangladesh: Scope for prevention of larger epidemic. *Int J STD AIDS*; 9:45-7.
7. Azim T, Islam MN, Bogaerts J, Mian MAH, Sarkar MS, Fattah KR *et al*. Prevalence of HIV and syphilis among high risk groups in Bangladesh. *AIDS* 2000;14:210-1.
8. Mian AH, Karim E. STD situation workshop on development of strategies for prevention and control of STD in Bangladesh. Dhaka: Prevention and control of STD project, Directorate General of Health Services, Ministry of Health and family welfare (MOHFW), Government of Bangladesh. 1993.
9. Women's Rehabilitation Centre. Nepali rural adolescent girls speak of their reproductive health concerns. Kathmandu, Nepal. 2000. p.1-60.
10. Sprechmann. Available at: http://www.unescobkk.org/ips/arh-web/case_studies/Cambodia/1.htm. Accessed on 03/05/2003.
11. International Institute for Population Science. National Family Health Survey, 1998-99. Mumbai: International Institute for Population science, 2000. p.230-9.
12. Bangladesh Demographic and Health Survey, (1999-2000). National Institute of Population Research and Training (NIPORT), Dhaka. 2001.
13. Khan MA. 2002. Knowledge on AIDS among female adolescents in Bangladesh: Evidence from the Bangladesh Demographic and Health Survey Data. *J Health Popul Nutr* 2002;(20)2:130-7.
14. Clark LR, Jackson M, Taylor LA. Adolescent Knowledge about Sexually Transmitted Disease. *Sex Transm Dis* 2002;29:436-43.

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