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Information and Knowledge about HIV/AIDS: Bangladesh Context

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Abstract: This study mainly based on the secondary data. The study reveals that wide socio-demographic disparities in knowledge about HIV/AIDS within the population indicate that the level of HIV/AIDS knowledge might be much lower among some vulnerable populations (women, youth and unmarried persons) and those with low levels of education and media exposure. Media exposure has a statistically significant positive influence on correct knowledge of AIDS transmission and prevention, net of educational and occupational effects. TV was the most dominant media exposure than radio and news paper exposure. The most frequently routes of HIV/AIDS transmission was through unsafe blood transfusion. The correct knowledge of ways of prevention of HIV/AIDS was use of condoms during intercourse (51% urban population believes) and abstaining from sexual intercourse (51% rural population believes). Multivariate logistic analysis revealed that urban married women more likely to use knowledge about HIV/AIDS than rural married women.

Key words: HIV/AIDS, logistic regression analysis, routes of transmission, blood transfusion, Bangladesh

INTRODUCTION

Bangladesh is the seventh most populous country in the world with a population of about 161.3 million. Acquired Immune Deficiency Syndrome (AIDS) is caused by the Human Immunodeficiency Virus (HIV). The first case of HIV and AIDS recorded in 1989 in Bangladesh. According to the UNAIDS, 13,000 people were living with HIV in the country at the end of 2003. The impact of HIV/AIDS reaches every concern of society in Bangladesh. HIV/AIDS also has become national concern in Bangladesh and the government has already developed a national strategy and an operational plan to address the country's needs.

It weakens the immune system and makes body susceptible to and unable to recover from other opportunistic diseases of human body. Consequently, it may go off a certain death of human being and world wide wreaking devastation on millions of people's communities. AIDS is the late clinical stage of infection with the HIV. The virus is generally transmitted through sexual contact, infected women to their unborn children, or through contaminated needles (infections) or blood (Rahman *et al*., 2005). HIV/AIDS poses a serious challenge to human kind. Rapid urbanization and industrialization have increased the scope of mobility within the country and job opportunity outside the country as well. During the past two decades, the urban population has grown from 6 in 1974 to 21million in 1994 and it is expected to grow to over 50 million by 2014. About two million migrant workers live in Middle East and South East Asian Countries. In many countries, AIDS has stalled or reversed decades of human development. Worldwide experience of HIV/AIDS disease has suggested that public knowledge on AIDS is the most fundamental weapon against the AIDS pandemic as long as a vaccine or cure has not been developed. The level of knowledge of the population is thus an important measure for understanding the magnitude of the challenges by Government and Non-government organizations. So far, the disease has no any reliable antibiotic medicine till today, but cure for HIV/AIDS infection remains an elusive goal despite the significant impact of current treatments. This is because of the virus' ability to adapt to and resist those treatments and bypass the immune system's natural defenses (Suhadolnik, 2007).

In 2007, it is estimated that 33,7,40,000 and 4.2 million people are living with HIV/AIDS in global, East Asia and South/South-East Asia respectively. About 5 millions people are living with HIV/AIDS in Asia, 75% of whom resided in three countries-China, India (the two most populous countries in the world) and Thailand. India alone is home to >45% of all people living with HIV/AIDS in the region (2,400,000 people) and is the third largest epidemic of any country in the world behind South Africa and Nigeria. HIV prevalence rates in East Asia, South/South-East Asia and global are 0.1, 0.3 and 0.8%, respectively. HIV in Asia is spread primarily through sex, with commercial sex largely driving transmission in much of the region. Injecting drug use is a major risk factor in several Asian countries and there is growing concern about the overlap of sex work and injecting drug use as

well as the transmission of HIV to the partners of those infected through commercial sex. Bangladesh, unlike its neighbors, still has low infection rates, may face a major threat in coming decades.

The spread of knowledge also needs innovative and carefully-designed education programmes to address a new set of sensitive topics in public. To monitor and evaluate any further progress towards desired targets and goals for reducing and stopping the spread of the AIDS epidemic, repeated high-quality sample surveys on changes in knowledge and risk behaviours at regular time intervals may become an indispensable tool.

It is also strongly needed to assess the current level of specific knowledge about HIV/AIDS prevention by women and other key socio-demographic factors to meet the targets and goals of HIV/AIDS prevention and control. Bangladesh is passing 'window of opportunity' and without HIV prevention program this country will have epidemic of HIV/AIDS, which would be disastrous for this poor country. The whole situation would be out of control. HIV/AIDS prevention program including mass awareness coupled with targeted behavioral intervention for high-risk groups, community based education program and capacity building are some of the steps urgently needed for tackling the HIV problem in Bangladesh. It is difficult to generate knowledge about the risks associated with HIV/AIDS transmission due to the conservative social environment and level of denial, which limit free and open discussion of sexual issues.

While knowledge does not always lead to safe behaviour, it is harder for people to protect themselves from HIV/AIDS, when they are unaware. This leads to the fact that strategies and campaigns to increasing correct information and knowledge about HIV/AIDS in Bangladesh related issues are too important to ignore in Bangladesh.

Objective of the study: In present study focus on:

- To identify the socio-demographic factors related to information and knowledge about HIV/AIDS
- To investigate the factors related to information and knowledge about the HIV/AIDS transmission and prevention

MATERIALS AND METHODS

The data for the present study have been derived from the Bangladesh Demographic and Health Survey (BDHS, 2007) was conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare (BDHS, 2007). At first we estimate percentage distribution of respondents, who have or not correct knowledge of HIV/AIDS. Secondly, to test any association between different phenomena that could be useful in the cross tabulation analysis by Pearson's chi-square (χ^2) statistic is considered. Finally, logistic regression was used to estimate the net effects of a number of determinants on the correct knowledge about HIV/AIDS.

RESULTS AND DISCUSSION

Sample characteristics: Of the total of 10996, adults aged 15-49 interviewed in 2007, 88% are males and about 12% are females (Table 1). The majority of respondents are rural residents (62%), aged 25-34 (about 33%), currently married (92%), unemployment (about 68%), have no education (32%) and have been exposed to mass media at a watch TV (about 56%).

Basic knowledge of HIV/AIDS transmission: Table 2 shows the urban-rural differences in the proportion of persons, who had correct knowledge about HIV/AIDS transmission. Among selected routes of transmission, the

Table1: Sample characteristic and distribution of persons aged 15-49

Selected characteristics	Sample size	Percentage
Total	10996	100.0
Residence		
Urban	4151	37.80
Rural	6845	62.20
Sex		
Male	9688	88.10
Female	1308	11.90
Age		
15-24	3522	32.00
25-34	3596	32.70
35-44	2814	25.60
45-49	1064	9.70
Marital status		
Currently married	10146	92.30
Formerly married	850	7.70
Education		
No education	3525	32.10
Incomplete primary	2291	20.80
Complete primary	962	8.70
Incomplete secondary	2649	24.10
Complete secondary	692	6.30
Higher	855	7.80
Occupation		
Unemployed	7461	67.90
Poultry cattle	1248	11.30
Home based manufacturing	371	3.40
Domestic servant	330	3.00
Semi skilled labour	464	4.20
Other	1122	10.20
Media exposure		
TV	6113	55.60
Radio	2551	23.20
Newspaper	1817	16.50

Computed from BDHS (2007)

Table 2: Percentage of people aged 15-49 with knowledge about routes of HIV/AIDS transmission by place of residence

Routes of transmission	Urban	Rural
Can get AIDS through unsafe blood transfusion	47.70	52.30
Can get AIDS via unsterilized needle or syringe	47.40	52.60

Computed from BDHS (2007)

Table 3: Odds ratios of having knowledge about HIV/AIDS routes of transmission by elected characteristics, persons aged 15-49

Characteristics	Blood transfusion	Unsterilized needle or syringe
Residence		
Urban	RC	RC
Rural	0.519***	0.559***
Sex		
Male	RC	RC
Female	0.812***	0.833***
Age		
15-24	RC	RC
25-34	0.991	0.983
35-44	0.996	0.894
45-49	1.00	0.929
Marital status		
Currently married	RC	RC
Formerly married	0.807*	0.790
Education		
No education	RC	RC
Incomplete primary	1.268*	1.369*
Complete primary	1.762***	1.935***
Incomplete secondary	3.243***	3.471***
Complete secondary	3.034***	3.743***
Higher	13.172***	9.492***
Occupation		
Unemployed	RC	RC
Poultry cattle	0.850*	0.876
Home based manufacturing	1.231	0.995
Domestic servant	0.954	1.054
Semi skilled labour	1.767***	1.698***
Other	1.354**	1.370***
Media exposure		
TV	3.448***	3.316***
Radio	1.638***	1.402***
Newspaper	1.376***	1.311***

Computed from BDHS (2007); Significance: ***p<0.01 (1% level of significant), **p<0.05 (5% level of significant), *p<0.1 (10% level of significant)

most frequently mentioned route was through unsafe blood transfusion: about 48% in the urban and 47% in the rural population.

Table 3 shows the multiple logistic regression models of factors related to correct knowledge about routes of HIV/AIDS transmission. Among all, the socio-demographic factors that are significantly associated except age groups with knowledge of HIV/AIDS, the effects of the respondent's residence, sex, schooling, occupation and media exposure appear to be the strongest. For example, respondents before taking into account other factors, the estimated odds of having correct knowledge about HIV/AIDS transmission through blood transfusion and unsterilized needle or syringe. The adjusted odds of having correct knowledge about AIDS transmission routes through blood transfusion 48% rural population and through unsterilized needle or syringe 34% less to have correct knowledge about transmission routes of HIV/AIDS than urban population (reference group). Again, female to have correct knowledge about HIV/AIDS transmission routes of through blood transfusion only 19% and through unsterilized needle or syringe only 16% than male (reference group). For knowledge about HIV/AIDS transmission routes of through blood transfusion age group 25-34 and 35-44 years are 0.991 and 0.996 times, respectively, while for transmission routes of through unsterilized needle or syringe age group 25-34 and 35-44 years are 0.983 and 0.894 times, respectively less to have knowledge about transmission of HIV/AIDS than that of the respondent of 15-24 years age group (reference group). Here, there is no age group who have experienced in different purpose of life had a significant acquaintance about HIV/AIDS transmission. Table 3 also shows that the adjusted odds of knowing about sexual intercourse as a route of AIDS transmission were significantly higher for currently married persons than formerly married persons. As unmarried persons and youth are more vulnerable to uncommitted sexual relationships than married and older persons, the significant differences in knowledge about sexual intercourse as a route of HIV/AIDS transmission by marital status and age are noteworthy. The adjusted odds of having correct knowledge about AIDS transmission for those with the highest level of schooling were more times as high as those with the lowest level of education. For respondent's occupation, semi skilled labour and other categories are more times to have knowledge about transmission of HIV/AIDS than that of the respondent of unemployment (reference group). In addition, the adjusted odds of having accurate knowledge about AIDS routes for respondents with TV media exposure were about more times those for respondents with radio and news paper media exposure (Table 3).

Knowledge of HIV/AIDS prevention: While specific knowledge about HIV/AIDS transmission had not reached the vast majority of the people in Bangladesh, even fewer knew about how to prevent it. The proportions of the rural population, who mentioned avoidance of using condoms during intercourse, limiting sexual intercourse to one uninfected partner who has no other partner and abstaining from sexual intercourse as means of preventing HIV/AIDS were about 49, 51 and 51%, respectively, while the proportions of the urban population were 51-49 and about 49%, respectively (Table 4). Further, according to popular correct knowledge of ways of prevention, 51% urban population believes it can be use of condoms during intercourse, where 51% rural population believes it can be abstaining from sexual intercourse (Table 4). The

Table 4: Percentage of people aged 15-49 with knowledge about ways of HIV/AIDS prevention by place of residence

Ways of prevention	Urban	Rural
Using condoms during intercourse	51.20	48.80
Limiting sexual intercourse to one uninfected partner who has no other partner	49.46	50.60
Abstaining from sexual intercourse	48.70	51.30

Computed from BDHS (2007)

Table 5: Odds ratios of having knowledge about HIV/AIDS prevention by selected characteristics, persons aged 15-49

Characteristics	Using condoms during intercourse	Limiting sexual intercourse to on uninfected partner who has no other partner	Abstaining from sexual intercourse
Residence			
Urban	RC	RC	RC
Rural	0.724***	0.843***	0.802***
Sex			
Male	RC	RC	RC
Female	0.844**	0.852***	0.937
Age			
15-24	RC	RC	RC
25-34	0.929	0.855***	0.914
35-44	0.940	0.963	0.999
45-49	0.686***	1.036	0.851
Marital status			
Currently married	RC	RC	RC
Formerly married	0.796*	0.880	0.979
Education			
No education	RC	RC	RC
Incomplete primary	1.057	1.122	1.078
Complete primary	1.339*	1.361*	1.198
Incomplete secondary	1.973***	2.092***	1.568***
Complete secondary	2.045***	1.950***	1.427**
Higher	5.224***	4.867***	2.566***
Occupation			
Unemployed	RC	RC	RC
Poultry cattle	1.058	1.108	1.079
Home based manufacturing	1.159	1.331**	1.100
Domestic servant	0.986	1.700*	1.110
Semi skilled labour	1.444***	1.447***	1.289***
Other	1.267***	1.122	1.140
Media exposure			
TV	2.160***	2.070***	1.670***
Radio	1.002	1.072	1.118**
Newspaper	1.245***	1.080	1.088

Computed from BDHS (2007); Significance: ***p<0.01 (1% level of significant), **p<0.05 (5% level of significant), *p<0.1 (10% level of significant)

increased level of knowledge is an interesting phenomenon. Such an increase in demonstrating correct knowledge could be partially related to the survey question format effect or survey learning effect (Fowler, 1988; De Bruin and Fischhoff, 2000). Nevertheless, it is evident that people could acquire correct knowledge about HIV/AIDS easily through increased publicity.

Multivariate logistic regression results show that education has a major effect on having correct knowledge about AIDS prevention independent of other variables. For example, the odds of knowing about correct using condoms during intercourse, abstaining from sexual intercourse and limiting sexual intercourse to one uninfected partner, who has no other partner with the highest level of education were more times as high as those with the lowest level of education (Table 5). In addition, the positive relationship between media exposure and the knowledge about AIDS prevention persists even after controlling for all other selected factors.

It is noteworthy that when other factors were taken into account, the odds ratios of knowing about condom use as a preventive method were significantly higher among currently married persons than among formerly married persons (Table 5). Unmarried and young adults are potentially most vulnerable to HIV/AIDS infection through unprotected sex (Balk *et al*., 1999), there is also a need to expand efforts to inform the public, especially unmarried and young adults, about safe sex with the use of condoms in order to prevent the spread of HIV/AIDS (Chen *et al*., 2003).

Further, after controlling for the effects of marital status and other factors, young adults (aged 15-24) were the least likely to agree that condom use could prevent AIDS. The statically significant effects of marital status and age on the knowledge of condom use as a way of HIV/AIDS prevention suggest that married (formerly) and young adults (currently married) had less information about condoms than married or older persons. This is not surprising because in Bangladesh information on contraceptives is disseminated mainly to married couples.

CONCLUSION

Perfect knowledge of HIV/AIDS has become the burning issue of the day. The correct knowledge of HIV/AIDS in Bangladesh has long been a topic of interest to population research because of its apparent direct relationship with lack of health facilities and indirectly with the poverty. The results of the study show wide differences in specific knowledge about HIV/AIDS between rural and urban areas. To reduce the risk of HIV/AIDS spreading in the future to the general population, there is a strong need to provide full and specific knowledge to the general public, especially the rural population. The results show that the wide urban-rural gaps in knowledge about HIV/AIDS diminished, when socio-demographic factors, especially education, occupation and media exposure, were taken into account. By running and interpreting the logistic regression analysis, study shows that residence, sex, age, marital status, education, occupation and media exposure of respondents and prevention is the major factor/ contributors of HIV/AIDS. Media exposure has a statistically significant positive influence on correct knowledge of AIDS transmission and prevention, net of educational and occupational effects. This indicates that diffusion of knowledge on AIDS prevention could be

successful with effective and efficient mass media coverage, given the existing infrastructure for long-term structural improvement in socio-economic status of the population. Sound health education programmes through television, radio, newspapers and magazines should be made more accessible to the people with little education in rural areas. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS of Bangladesh. Though, it is difficult in poor setting Bangladesh, the regarding authority should take proper steps in improving the situation of education in rural areas as well as throughout the country. However, there is a real needs sufficient funding resources and manpower to advocate and implement the campaigns and need for more in depth studies on this regard. Thus, necessary action in called for to reduce future level of HIV/AIDS in the country in order to achieve better living conditions in future.

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