



## Knowledge and Practice Regarding HIV among Urban-Rural Men in Bangladesh: A cross sectional study

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### Abstract

**Background:** Human immunodeficiency virus (HIV) is one of the very much concerning issues and nearly 30 million people have died because of HIV related causes, which are found mostly low and lower income countries of the world. **Objective:** The objective of this study was to evaluate knowledge and practice to reduce risk factors of getting HIV among urban and rural men in Bangladesh with the comparative analysis among them. **Methodology:** This is a cross sectional study among 3997 men (urban=1437 and rural=2560). Frequency and percentage on knowledge and practice to reduce risk factors of getting HIV were counted to describe and also urban-rural significance levels of knowledge and practice issues regarding HIV were tested. **Result:** Knowledge and practice regarding HIV among urban-rural men were comparatively different where 93.7% urban and 81.9% rural men heard about HIV; 88.3% urban and 74.8% rural men thought that HIV can get by using unsterilized needle or syringe; 90.3% urban and 75.6% rural men thought that unsafe blood transfusions resulted HIV; 78.3% urban and 62.2% rural men use condom always during sex; and these urban-rural knowledge and practice related differences are statistically significant at  $P < .000$ . **Conclusion:** In Bangladesh, there weren't massive differences between urban and rural men's knowledge and practice reducing risk factors of getting HIV; but urban men have comparatively more knowledge and practice levels than those of rural men have because of having urban men's higher level of socio-demographic and economic status. [*Bangladesh J Infect Dis* 2015;2(1):3-8]

**Keywords:** human immunodeficiency virus; acquired immune deficiency syndrome; sexually transmitted infection; injection drug user; urban-rural Bangladeshi woman

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## Introduction

Human immunodeficiency virus (HIV) causes acquired immune deficiency syndrome (AIDS), which is mainly transmitted because of unsafe sexual intercourse, intravenous injections with contaminated needles, unscreened or contaminated blood transfusions, and transmission from an infected mother to a child during pregnancy, delivery, or breastfeeding and has become one of the world's most serious healthcare challenges where approximately 34 million people currently live with HIV, and nearly 30 million people have died of AIDS related causes since the beginning of the epidemic though almost all those people living with HIV reside in low and lower income countries of the world<sup>1</sup>. Among the developing countries in Asia, Bangladesh still has a low level HIV epidemic status, where the adult prevalence of HIV infection is estimated to be below 0.1%<sup>2</sup>. In Bangladesh, the HIV infection rates are still low<sup>3</sup> but are now rising day by day in some populations because of some global development indicators such as income levels, literacy, status of women, nutritional levels and health related indicators such as infant or maternal mortality<sup>4</sup>. On the other hand, poverty, stigma, lack of access to care, low education<sup>5</sup>, gender inequality, and lack of a facilitative legal environment are various dimensions of exclusion of such high-risk groups that lead to risky sexual behaviours among them. Although Bangladesh has so far maintained a low prevalence of HIV, their high prevalence of risky behaviors might counterbalance the prevention efforts that have been put in place<sup>6</sup> and it is a low-epidemic country where HIV/AIDS is believed to be highly sensitive in terms of the socio cultural and religious contexts<sup>7</sup>.

Knowledge about HIV transmission is vitally important in the prevention of an HIV epidemic. Correct knowledge about HIV transmission increases safer sexual behavior and is considered an important step toward behavioral change<sup>8</sup>. At the same time, misconceptions can prevent individuals from safer sexual behavior and taking appropriate action against HIV acquisition and transmission. HIV and AIDS continue to be associated with many misconceptions and misinformed opinions where knowledge is an important prerequisite for preventing HIV transmission and for behavioral change<sup>9</sup>. Consequently, it is important to understand how accurate and inaccurate knowledge can contribute to HIV transmission<sup>10</sup>. Although many people have heard about HIV, their knowledge is limited with regard to how it is transmitted and how they can protect themselves. Many esteemed studies

have been conducted in both developing and developed regions to identify the relations between misconceptions and socio-demographic risk factors among women or the general population<sup>8,10-17</sup>. On the other hand, HIV epidemic continues to be associated with misconceptions and misinformed opinions, which increase the risk of HIV transmission<sup>18</sup>. Not surprisingly, awareness of AIDS was found to be positively related to literacy level<sup>19</sup>. This was also found to be the case in a study of 3687 women and 2272 men in rural Bangladesh where literacy was the most significant predictor of AIDS awareness<sup>20</sup>. Limited knowledge about HIV may also contribute to the spread of the HIV virus in Bangladesh because of having very low levels of awareness of HIV and even lower levels of knowledge of routes of transmission but by general population studies have found levels of awareness ranging from 19%<sup>21</sup> to 40%<sup>19</sup>. However, Bangladesh is still at the beginning of an evolving epidemic of HIV associated disease and opportunistic infections<sup>22</sup>. HIV affects economic growths by reducing the human capitals<sup>23</sup> so that useful and fruitful media campaigns to educate the people regarding the health consequences of STDs including HIV and integrated approach is strongly suggested for disseminating knowledge and awareness to control the spread of HIV among people in Bangladesh<sup>24</sup> with the appropriate treatment practices for sexually transmitted infections need to be encouraged and condom use promoted particularly in the context of casual sexual relations<sup>25</sup> and it is noted that consistent condom use is a major safeguard against sexually transmitted diseases including HIV<sup>26</sup> which can be reduced by providing proper information about the knowledge and practice regarding risk factors of getting HIV<sup>27</sup>. Therefore, the objective of this study was to evaluate knowledge and practice of reducing risk factors of getting HIV among urban and rural men in Bangladesh with the comparative analysis among them.

## Methodology

The cross sectional study was conducted by using data from Bangladesh Demographic and Health Survey (BDHS) 2011. As part of global Demographic and Health Survey (DHS) program, the BDHS 2011 is nationally representative household based survey conducted to obtain information on health and demography, and also on HIV/AIDS where all of the data were collected from seven divisions in Bangladesh. This is a cross sectional study among 3997 men where there were 1437 urban and 2560 rural men. Then first the data

were analyzed in frequency and percentage to describe the respondents' knowledge and practice to reduce risk of getting HIV. Second, Pearson Chi-Square test was applied for testing significance level among rural and urban respondents' knowledge and practice of reducing risk factors of getting HIV related issues. All the analysis was done by using Statistical Package for the Social Sciences (SPSS) version 16.

**Result**

A total number of study samples were 3997 men and among them there were 36% men from urban and 64% men from rural area. Age of the respondents was below 25 years 6%, 25-39 years respondents were 48% and 40-54 years respondents were 46% of this study. Among the total respondents 3966(99.2%) were married and left 31 (0.8%) respondents were widowed/ divorced/ separated men. The respondents' education levels were no education 25.8%, primary 33.5% and secondary or higher education receivers were 40.6%. There were 36.7% poor respondents, only 19.2% were middle in wealth index and 44.1% respondents were rich. There were 87.4% Muslim, 12% were Hindu and 0.6% were other religion followers (Table 1).

**Table 1 Sample Characteristics (n=3997)**

Variables	Frequency	Percentage
Type of Residence		
Place		
Urban	1437	36.0
Rural	2560	64.0
Age of the respondents		
<25	240	6.0
25-39	1920	48.0
40-54	1837	46.0
Marital Status		
Married	3966	99.2
Widowed/Divorced/ Separated	31	0.8
Education		
No education	1031	25.8
Primary	1340	33.5
Secondary/ Higher	2626	40.6
Wealth Index		
Poor	1464	36.7
Middle	769	19.2
Rich	1764	44.1
Religion		
Islam	3496	87.4
Hinduism	478	12.0
Other	23	0.6

**Table 2 Knowledge about HIV (n=3997)**

Variables	Frequency	Percentage
Ever heard about HIV		
Yes	3436	86.0
No	561	14.0
Can get HIV from mosquitoes bites		
Yes	1441	36.1
No	2556	63.9
Can get HIV by sharing food with person who has HIV		
Yes	1468	36.7
No	2529	63.3
A healthy looking person can have HIV		
Yes	2843	71.1
No	1154	28.9
Can get HIV by witchcraft or supernatural means		
Yes	341	8.5
No	3656	91.5
Can get HIV by using unsterilized needle or syringe		
Yes	3185	79.7
No	812	20.3
Can get AIDS virus through unsafe blood transfusions		
Yes	3232	80.9
No	765	19.1

Table 2 presents the information about the knowledge of HIV where 86% men heard about HIV but 14% men did not hear about HIV; 36.1% men think that HIV can get from mosquitoes bites and do not think 63.9%. There were 36.7% men who think that HIV can get by sharing food with the person who has HIV but 63.3% men do not think it; 71.1% men think that a healthy looking person can have HIV but 28.9% men don't. On the other hand, 8.5% men think that HIV can get by witchcraft or supernatural means but majority 91.5% men do not think that HIV can get by supernatural means. However, HIV can get by using unsterilized needle or syringe 79.7% respondents think but 20.3% do not think; 80.9% men think HIV can get through unsafe blood transfusions and 19.1% think negative of this statement.

Table 3 shows the practice information on reducing risk factors of getting HIV where always use

condom during sex 68% and do not use 32% of the total respondents of this study. On the contrary, there were 67.7% of the respondents who have only 1 sex partner but 32.4% men of this study found that they have more than 1 sex partner.

**Table 3: Practice factors to reduce risk of getting HIV (n=3997)**

Variables	Frequency	Percentage
Always use condom during sex		
Yes	2718	68.0
No	1279	32.0
Have 1 sex partner only, who has no other partner		
Yes	2700	67.7
No	1297	32.4

Table 4 contains the information of the men’s knowledge about HIV and type of residence place where among urban respondents 93.7% heard about HIV and did not hear 6.7% but among rural 81.9% respondents heard about HIV and did not hear 18.4% about HIV, which is significantly associated at P<.000. Urban 35.4% men think that HIV can get from mosquitoes bites and do not think 64.6% but rural men think 36.4% HIV can get from mosquitoes bites. HIV Can get by sharing food with the person who has HIV that was thought 33.8% men among urban respondents but rural thought 38.4%, a healthy looking person can have HIV thought by urban 78.1% and rural men thought 67.2%; HIV also can get by witchcraft or supernatural means what was thought by urban 7.4% and 9.1% rural men. On the other hand, HIV can get by using unsterilized needle or syringe thought urban 88.3% but 74.8% rural men; AIDS virus can get unsafe blood transfusions thought by urban 90.3% but 75.6% rural men of this study.

Table 5 presents the cross tabulation between practice to reduce risk factors of getting HIV and type of residence place where 78.3% urban and 62.2% rural men use condom always during sex but don’t use always condom urban 21.7% and 37.8% rural men during sex of this study. On the other hand, urban 73.7% but 64.1% rural men of this study have 1 sex partner only and they have no other sex partner.

**Discussion**

Demographic and socioeconomic factors are mostly related with the health of male and female but the urban-rural factor was more important than the

socioeconomic factor where health promotion and education programs can play an important role in improving the sexual and reproductive health knowledge situation<sup>28</sup>. Urban people know much about HIV than rural people found in this study where men’s education, wife’s education, family income, and wealth index are related.

**Table 4: Knowledge about HIV and Residence Place (n=3997)**

Variables	Residence Place		P value
	Urban (n=1437)	Rural (n=2560)	
Ever heard about HIV			
Yes	1347(93.7%)	2089(81.9%)	0.0001
No	90 (6.7%)	471(18.4%)	
Can get HIV from mosquitoes bites			
Yes			0.278
No	509(35.4%) 928(64.6%)	932(36.4%) 1628(63.6%)	
Can get HIV by sharing food with person who has HIV			
Yes			0.002
No	485(33.8%) 952(66.2%)	983(38.4%) 1577(61.6%)	
A healthy looking person can have HIV			
Yes			0.0001
No	1123(78.1%) 314(21.9%)	1720(67.2%) 840(32.8%)	
Can get HIV by witchcraft/supernatural means			
Yes	107(7.4%)	234(9.1%)	0.037
No	1330(92.6%)	2326(90.9%)	
Can get HIV by using unsterilized needle or syringe			
Yes	1269(88.3%)	1916(74.8)	0.0001
No	168(11.7%)	644(25.2)	
Can get AIDS virus through unsafe blood transfusions			
Yes	1297(90.3%)	1935(75.6%)	0.0001
No	140(9.7%)	625(24.4%)	

However, knowledge about HIV transmission and ways to prevent it are of little use if women feel powerless to negotiate safer sex practices with their

husbands. In this regard, an educated husband could play an effective role<sup>29</sup>.

**Table 5 Practice factors to reduce risk of getting HIV and Residence Place (n=3997)**

Variables	Residence Place		P value
	Urban (n=1437)	Rural (n=2560)	
Always use condom during sex			
Yes	1125(78.3%)	1593(62.2)	0.0001
No	312(21.7%)	967(37.8%)	
Have 1 sex partner only, who has no other partner			
Yes	1059(73.7%)	1641(64.1%)	0.0001
No	378(26.3%)	919(35.9%)	

In this study, it is noted that rural men are not aware about HIV than urban and also they don't have much knowledge reducing risk factors of getting HIV. By another study found that female injection drug users (IDU) in Bangladesh are at risk of a major HIV epidemic from both injection sharing and sexual risk behavior and sex worker IDU appear especially vulnerable<sup>30</sup>. It is also noted that eighty-nine percent of the respondents responded that a condom is a rubber material while 11% considered it a birth control material<sup>30</sup> and women who inject drugs are among the most vulnerable to HIV through both unsafe injections and unprotected sex<sup>31-32</sup>. On the other hand, all over the world, HIV is very much concerning one of the issues but then rural men have lacking about the knowledge and prevention of HIV. After all, the study found that Bangladesh has not been facing a huge number of HIV contained people but there are many possibilities to be increased the number of HIV survivors if the proper knowledge and practice of reducing risk factors don't provide immediately.

**Conclusion**

The overall study revealed that there weren't massive differences between urban and rural men's knowledge and practice reducing risk factors of getting HIV in Bangladesh; but urban men have comparatively more knowledge and practice levels than those of rural men have because of urban men having higher level of socio-demographic and economic status. In this study, there was very little information found on practice of reducing risk factors of getting HIV so that highlighting practice issues another well-designed research recommended to indentify proper and do effective evaluation. On

the contrary, there were many sensitive personal/family issues and the respondents might not have disclosed intentionally due to cultural and religious beliefs. This might affect outcome of the study leading to some bias in the result.

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