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Awareness of People on HIV/ AIDS in Banglades

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University of Rajshahi

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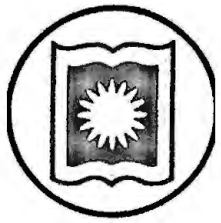

Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Department of Population Science and Human Resource Development of the University of Rajshahi, Bangladesh

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SUPERVISOR(S) CERTIFICATE
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DECLARATION OF ORIGINALITY

This dissertation entitled "Awareness of People on HIV/AIDS in Bangladesh" submitted by mine in the Department of Population Science and Human Resource Development, University of Rajshahi for the degree of Doctor of Philosophy is based on my research work.

To the best of my knowledge, this research work neither in part nor in full has been submitted to any other University or Institution for the award of any degree.

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Dedicated to

My Beloved Parents

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The Author
December, 2010

List of Abbreviation and Acronyms

AIDS	:	Acquired Immune Deficiency Syndrome
BBS	:	Bangladesh Bureau of Statistics
BBC	:	British Broadcasting Corporation
BDHS	:	Bangladesh Demographic and Health Survey
CARE	:	Cooperative for American Remittances to Europe
CIA	:	Cooperative Information Agents
CSW	:	Commercial Sex Worker
CW	:	Countries of the world
DFID	:	Department for International Development
DIC	:	Drop-in Centers
GNP	:	Gross National Product
GDP	:	Gross Domestic Product
HASAB	:	HIV/AIDS and SDT Alliance Bangladesh
HDI	:	Human Development Index
HIV	:	Human Immunodeficiency Virus
ICDDR,B	:	International Center for Diarrhoeal Disease Research, Bangladesh
IDU	:	Intravenous Drug Users
IMF	:	International Monetary Fund
LD	:	Leishman Donovan
PID	:	Pelvic Inflammatory Diseases
PLWHA	:	People Living With HIV/AIDS
PRB	:	Population Reference Bureau
NAC	:	National AIDS Committee

NER	:	North Eastern Region
NGO	:	Non-Government Organizations
RTI	:	Reproductive Track Infection
SFSW	:	Street-based female sex workers
STI	:	Sexually Transmitted Infection
STD	:	Sexually Transmitted Diseases
TB	:	Tuberculosis
TFR	:	Total Fertility Rate
TV	:	Television
UNDP	:	United Nation Development Program
UNICEF	:	United Nation Children Emergency Found
UNFPA	:	United Nation Fund for Population Activities
USAID	:	United States Agency for International Development
VCCT	:	Voluntary and Confidential HIV Counseling and Testing
WHO	:	World Health Organization
WPDS	:	World Population Data Sheet
WPP	:	World Population Prospects
CL	:	Counseling
EM	:	Electronic Media
est.	:	Estimation
INS.	:	Institute
MS	:	Multiple Source
PM	:	Print Media
TV	:	Televisions

Abstract

Attempts have been made in this study to examine awareness of people on HIV/AIDS in Bangladesh, using the data from field level and Bangladesh Demographic and Health Survey, 2007 (BDHS). Some statistical techniques are used to investigate the significance between selected dependent and independent variables. Raising awareness of respondents about the long run effects of these diseases is the principal objective of reproductive health programs recently executed in the world. This study gives an idea about floating and frequently moving and permanent resident respondent's perception about these types of health problems. It is expected that the result of this study will play a vital role to asses the national population policy and will help policy makers to formulate better policies in order to fight against the current situation. It has been found from the survey data that about 92 percent floating respondents heard the name of HIV/AIDS by various sources of media; On the other hand, the same amount (99.00%) frequently moving and permanent resident heard the name of HIV/AIDS by various sources of media. But 52 percent floating, 31 percent frequently moving and 28.40 percent permanent residents don't know the fearfulness of HIV/AIDS. It is also found that uncontrolled and unsafe sexual relation is the main cause of HIV/AIDS. Also, they know only safety way to avoid HIV/AIDS is condom during intercourse. Further, all the variables (respondent's age, marital status, educational level and occupation) of contingency analysis are significantly associated with HIV/AIDS in permanent resident respondents but the same variables were not seen in floating respondents. In multivariate logistic analysis, it has found that in case of floating respondents variables like respondent's age, marital status, educational level and occupation exert the significant effect on the knowledge about the fearfulness of HIV/AIDS whereas in respect of permanent residents variables like age and marital status exert the significant effect on the knowledge about the fearfulness of HIV/AIDS. Further, the study provide a brief impression of the major findings of respondents' personal experience regarding HIV/AIDS situation by the descriptive way through compare and evaluation with affected and non-affected respondent's personal opinion and vivid picture of respondents' perception about HIV/AIDS.

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CHAPTER - ONE

RESEARCH PERSPECTIVE

1.1 Introduction

Acquired Immune Deficiency Syndrome (AIDS) causes the Human Immunodeficiency Virus (HIV). 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 worldwide 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, from infected women to their unborn children or through contaminated needles (infections) or blood (Rahman et al., 2009). AIDS/HIV posses a serious challenge to human kind. At present it becomes a major public-health concern in many developing countries along with Bangladesh.

HIV still continues to be a very common complication worldwide. During the twenty-first century, it was the fourth cause of mortality, with more than 5 percent of deaths all over the world (Murray et al., 2001). In a study, up to 40 million people are estimated to live with HIV in the world. In addition, 25 million people have been reported to die (UNAIDS/WHO, 2006).

In many countries, AIDS has stalled or reversed decades of human development. The impact of HIV/AIDS reaches every concern of society in Bangladesh. HIV/AIDS also has become a national concern in Bangladesh and the government has already developed a national strategy and an operational plan to address the country's needs (Sarkar[a], 2009). Worldwide experience of HIV/AIDS disease has suggested that public knowledge on

AIDS is the most fundamental weapon against the AIDS pandemic although its vaccine or remedy has not been developed (UNAIDS China, 2002). 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 (United Nations, 2002). It is strongly needed to assess the current level of specific knowledge about HIV/AIDS transmission and prevention by women and other key socio-demographic factors to meet the targets and goals of HIV/AIDS prevention and control. In recent years, there has been an increasing incidence of research on the clinical and epidemiological aspects of HIV. A study of Swinne et al., (1991) focused on AIDS related infections and they were convinced that the pigeon coops of the city play a part in the contamination of HIV/AIDS patients. Epidemiological research mostly focused on attitudes of people of Iran and Turkish in relation to HIV transmission routes (Nakhaee, 2002; Ayranci, 2005). So far the disease has no reliable antibiotic medicine till today, but a cure for HIV 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 defences (Robert & Suhadolnik, 2007).

This study examines comparative study of the factors related to the awareness of HIV/AIDS and other sexual diseases among the three target population like: floating, frequently moving and permanent residents of three selected major metropolitan areas in Bangladesh. The selected metropolitan areas are Dhaka, Rajshahi and Chittagong and these areas have been selected for this study because of financial and time limitation. Generally we know that floating population are environmentally, biologically, sociologically and economically more vulnerable to HIV infection than frequently moving and permanent resident population. Socially the floating people are vulnerable due to their lesser role in decision making including when, where and how to engage in sexual intercourse and whether or not to use a condom. To meet the targets and goals of AIDS prevention and control, there is a strong need to assess the current levels of specific knowledge about AIDS transmission and prevention by various residence and other key socio-demographic factors. In this context, the study has been conducted on Awareness of HIV/AIDS among floating, frequently moving and permanent resident respondents in Bangladesh through socio-economic development that contribute significantly to reducing HIV/AIDS epidemic trends in Bangladesh.

1.2 Rational of the Study

It has been proven over time, all over the world that HIV/AIDS has major health, social, economic, political and legal consequences, which will touch almost all aspects of human life. This in turn threatens the national development and efforts to improve the quality of life of people. Knowledge regarding HIV/AIDS risk factors is the first step in preventing population from being victims of the pandemic. Poverty, illiteracy, superstition, cultural traditions and myths are some of the major underlying factors driving the HIV/AIDS epidemic in developing countries like Bangladesh. These factors are commonly found and the situation is worse in slum areas. The limited information about sexual health related diseases in slum areas indicate that there are most vulnerable poor families that need necessary information and services about HIV/AIDS. Poor communities, where people are highly vulnerable to HIV/AIDS due to the lack of information regarding HIV and AIDS, pose a great challenge to any organization. Although some interventions on preventing HIV and AIDS are taken by the government, NGOs and stakeholders but no comprehensive approach to develop the knowledge of poor people is seen in Bangladesh. It is difficult to generate awareness about the risks associated with HIV 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 raise awareness about HIV/AIDS related issues are too important to ignore in Bangladesh. Keeping these in mind this study is an attempt to know the awareness level of respondents regarding sexual health related diseases especially HIV/AIDS.

1.3 HIV/AIDS Situation: Global and National Level

Global Level: HIV/AIDS is a most deadly disease and it progressively destroys the body's ability to fight infections and certain cancers. It was first discovered in 1981 among homosexuals in Los Angeles and New York USA. Today the deadly disease has spread across all races, gender and age and is still spreading at an increasing rate. According to the United Nations' statistics, a minimum of 416 people get infected by HIV in the world every hour, about seven people every minute and in every fourteen seconds at least one person ages 15 to 24 gets infected. This led the United Nations to describe the disease as young persons' disease in 2003. The update of 2006 showed that

an estimated 1800 children get HIV everyday and there are about 4.3 million new cases worldwide and 2.9 million deaths attributed to HIV/AIDS.

In 2007, it was estimated that 33 million, 7, 40,000 and 4.2 million people were 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 percent of whom resides in three countries – China and India (the two most populous countries in the world) and Thailand (UNAIDS and UNAIDS/WHO, 2008). India alone is home of more than 45 percent of all people living with HIV/AIDS in the region (2,400,000 people), and is the third largest epidemic country in the world behind South Africa and Nigeria (UNAIDS and UNAIDS/WHO, 2008; UNAIDS). HIV prevalence rates in East Asia, South/South-East Asia and global is 0.1, 0.3 and 0.8 percent respectively. HIV in Asia is speeded 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 (UNAIDS, 2008). The infection rates in India, Thailand, Cambodia, and Myanmar are as high as 2-4% of their adult population. Bangladesh, unlike its neighbours, still has low infection rates, but may face a major threat in coming decades (Sultana, 2005).

Besides, gender, age and transmission through sex are key elements in the dramatic increase in the epidemic of the region. The faster rate of new infections is in the age group 15-24, and the epidemic is expanding rapidly amongst women, many below 18 years of age. An estimated 35 percent of the HIV positive people in the region are women and girls, and the number is growing as a result of their socio-economic, cultural and biological vulnerability to HIV/AIDS. This vulnerability is rooted in the limitations imposed by socio-economic and cultural conditions on the control, which women have over their life circumstances and choices, including sexual circumstances. These same underlying factors also heighten the vulnerability of women and girls being caught in the growing web of trafficking in the region, taking them into situations which remove the last vestiges of choice, violate their human dignity and security, and further increase the risk of exposure to HIV/AIDS.

National Level: Bangladesh is the seventh most populous country in the world with a population of about 161.3 million (UNFPA, 2008). 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 million in 1974 to 21 million 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 (World AIDS Day, 2001). In the context of HIV/AIDS, Bangladesh is considered as a "Low Prevalence but High Risk" country. The social and cultural environment is not favorable for the people, who have already been identified as infected or affected from HIV/AIDS. There are many Bangladeshi people, who believe that as our people strictly observe cultural values HIV infection would not spread. Denial of reality, stigma, fear, discrimination and violence of human rights increase the invisibility of the HIV/AIDS in the society. It is difficult to generate knowledge about the risks associated with HIV transmission due to the conservative social environment and level of denial, which limit free and discussion of sexual issues. While knowledge does not always lead to safe behavior; 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 raise awareness about HIV/AIDS related issues are too important to ignore in Bangladesh. Keeping these in mind this study is an attempt to know the knowledge about the fearfulness of HIV/AIDS among the floating, frequently moving and permanent resident population.

Bangladesh is highly susceptible to the transmission of the epidemic. Bangladesh Government indicates high-risk groups such as injecting drug users (4%), commercial sex-workers and truck drivers have 2% prevalence of HIV. Manipur of India and Myanmar surround Bangladesh with high prevalence (50%) of HIV (HIV in Bangladesh, 2002). The adult prevalence rate of Bangladesh is less than 0.1 percent (BBS, 2001). About 13,000 Bangladeshi people live with HIV/AIDS and died 650 (BBS, 2001). That 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. A comprehensive 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.

A statistics on the national and global epidemic of HIV/AIDS is produced below:

HIV/AIDS epidemic: global and national level

Global:

Number of people living with HIV/AIDS in December, 2008

Total	33.4 million (2.4 million- 3.0million)
Adults	31.3 million (29.2 million- 33.7 million)
Women	15.7 million (14.2 million- 17.2 million)
Children under 15 years	2.1 million (1.2 million- 2.9 million)

People newly infected with HIV/AIDS in December, 2008

Total	2.7 million (31.1 million- 35.8 million)
Adults	2.3 million (2.0 million- 2.5 million)
Children under 15 years	430 000 (240 000- 610 000)

AIDS-related deaths in 2008

Total	2.0 million (1.7 million- 2.4 million)
Adults	1.7 million (1.4 million- 2.1million)
Children under 15 years	280 000 (150 000-410 000)

AIDS-related deaths until 2008

Total	25 million

National:

HIV/AIDS Epidemic December 2009

Total HIV/AIDS positive case	1745
Newly infected in 2009	250
New AIDS case in 2009	143
Total AIDS case	619
Total death	204
Death in 2009	39
Estimated population living with HIV/AIDS	7500
HIV/AIDS Prevalence	<0.1% IDUs =7.9% (Central Dhaka)

Source: HASAB (2010).

1.4 Demographic and Socio-economic Situation: Global and National Level

Global Level: AIDS posing a challenge to the mankind already claimed the lives of more than 23 million all over the world and killing more than 3 million people every year. According to WHO report in 2002, an estimate shows that 42 million people throughout the world currently are living with HIV. Another 70 million men, women and children will die of AIDS in the next 20 years and 25 million children will be orphans by 2010.

African human civilization is threatened to extinction due to HIV. 28.5 million People are living with HIV positive, in which about 30 percent of the total adult population having this deadly virus and 7000 people die every day (BBC report, 2010). A study of African countries suggests for countries with HIV/AIDS prevalence levels above 20 percent, GDP is estimated to be 2.6 percentages per year. Recently it has been reported that last six months 220,000 people died due to AIDS (Channel News Asia, 2003).

India is the second most populous country in the world. In 2008 its population was 1,149.3 million with TFR 2.8 per woman, life expectancy at birth of 65 years for men and 66 years for women and an annual growth rate 1.43 percent (PRB, 2008). The gross and gross national product (GNP) per capita was US$ 971 in 2009. The literacy rate of male was 76.9 percent and female was 54.5 percent and total 66 percent in 2007 (UNESCO, 2009).

Pakistan, with an estimate of total population was 172.80 million and TFR of 4.1 per woman and the life expectancy at birth of 62 years for men and 64 years for women in 2008 (PRB, 2008). The GNP per capita income of US$ 107 billion in 2005 (CW, 2009) is striving hard control and its population growth rate is 2.8 percent per annum in 1993. The literacy rate of male was 68.7 percent and female 40.2 percent and total was 54.9 percent in 2007 (UNESCO, 2009).

Economically, Nepal is one of the least developed countries in the world. Nepal's population was 27 million with the TFR of 3.1 per women while the life expectancy at birth was 63 and 64 years for both men and women respectively in 2008 (PRB, 2008). An annual growth rate was 2.6 percent. The GNP per capita was US$ 7.28 billion in 2005 (CW, 2009) and the literacy rate of male was 70.3 percent and female 43.6 percent and total was 56.5 percent in 2007 (UNESCO, 2009).

Malaysia is one of the fast developing countries in Asia. Its economic development is impressive. The GNP per capita was US$ 12.6 billion in 2005 (CW, 2009). The population of Malaysia was about 27.7 million with the TFR of 2.6 per women, while the life expectancy at birth was 72 for men and 76 for women (PRB, 2008). The annual growth rate of about 2.3 percent was in 1995 and the literacy rate of male was 94.2 percent and female 89.6 percent and total was 91.9 percent in 2007 (UNESCO, 2009).

Myanmar is basically an agricultural country. Myanmar had a population of 49.2 million in 2008 with TFR 2.2 per women. The life expectancy at birth was 58 for men and 64 for women (PRB, 2008). The female literacy rate was 82.8 percent compared to the male rate 89.6 percent and total was 86.2 percent in 2005 (UNESCO, 2009).

The population of Philippines was 90.5 million with TFR 3.3 per women. The life expectancy at birth was 66 for men and 77 for women (PRB, 2008). A large proportion of women were literate and the female literacy rate was 93.7 percent compared to the male rate 93.1 percent and total was 93.4 percent in 2007 (UNESCO, 2009). The GNP of Philippines per capita was US$ 108 billion in 2005(CW, 2009).

The population of Thailand was 66.1 million with TFR 1.6 per women and the life expectancy at birth was 68 for men and 75 for women in 2008 (PRB, 2008). The total literacy rate of Thailand was 94.1 percent compared to male was 95.9 percent and female was 92.6 percent in 2007 (UNESCO, 2009). The GNP of s per capita was US$ 1.97 billion in 2005(CW, 2009).

The population of Cambodia was 14.7 million with TFR 3.5 per women and the life expectancy at birth was 59 for men and 66 for women in 2008 (PRB, 2008). The total literacy rate of Cambodia was 76.3 percent compared to male was 85.8 percent and female 67.7 percent in 2007 (UNESCO, 2009).

The population of Australian was 8.4 million with TFR 1.4 per women and the life expectancy at birth was 79 for men and 84 for women in 2008 (PRB, 2008). About 100 percent Australian was literate in 1995 (UNESCO, 2009) and the GNP of per capita was US$ 655 billion in 2005 (CW, 2009).

The population of Africa was 967 million with TFR 4.9 per women and the life expectancy at birth was 53 for men and 55 for women in 2008 (PRB, 2008).

National Level: Bangladesh is one of the most densely populated counties with a population of over 160 (Problems in Bangladesh, 2010) million, which counts for a density of 1,061 people per square kilometer at the growth rate 1.41% (CIA, 2008) This intense population pressure creates different socio-economic problems such as poverty, hunger, environmental degradation, loss of biodiversity, urban and industrial pollution and ill health and malnutrition etc. In the 2004 UNDP Human Development Report, Bangladesh ranks 138 among 177 countries with an HDI score of 0.509, which places it among countries considered to have achieved medium human development. However, Bangladesh has achieved considerable improvement since the independence in 1971 when its key indicators like birth rates, life expectancy, school enrolment of girls, and child immunization were abysmal. Infant mortality rates have fallen from 140 per 1,000 live births in 1970 to per 1,000 live births. Life expectancy at birth is now 63 years compared to 43 years for females and 45 years for males in 1970. Child immunization has risen from 10 to 70 percent in just five years. The country has made consistent progress against poverty. From 1991-92 about 43 percent, the share of people below poverty line has fallen to 36 percent. Percentage of the poor declined from 59 to 53 percent during the same period. Increasing inequality, however, mars overall rate of poverty reduction and 63 million people continue to live below the poverty line. The IMF and World Bank predict GDP growth over the next 5 years will be about 4.5 percent out of 7-8 percent that they feel is needed to lift Bangladesh out of its severe poverty. The literacy rate is overall 43.1 percent and 53.9 percent for male 31.8 percent for female (2003 est.). The post-September 11, 2001 global economic downturn hit. But still Bangladesh is facing challenges against different diseases; HIV/AIDS is one of them. Although overall HIV prevalence is low, behavior pattern and extensive risk factors facilitated the rapid spread of the infection is prevalent, making Bangladesh highly vulnerable to an HIV/AIDS epidemic (Kamal et al., 1992). These risky factors are gender discrimination, lack of basic sexual knowledge, lack of proper awareness/knowledge of sexually transmitted diseases (STDs/STI). Lack of knowledge may create many problems for Bangladesh on HIV/AIDS epidemic in future.

1.5 Activities of Government and Non-Governments on HIV/AIDS

The service of both government & NGOs has expanded of which at least 385 NGOs are actively engaged in HIV/AIDS- related activities in the country, particularly in working with marginalized and hard-to-reach groups (Sultana, 2005). Bangladesh receives international support from various development partners.

UNDP: UNDP has been historically involving the UN agencies in case of supporting the National Response. Currently it is developing activities in the following areas:

- Support to NAP-staff and capacity building.
- Blood safety
- NGO support

World Bank: The World Bank supports the Governments two-pronged strategy: First, increasing HIV/AIDS advocacy, prevention, and treatment within the Government's existing health problems, and second, scaling up interventions among high risk groups. The World Bank and other donor agencies have supported advocacy and policy dialogue regarding the control of HIV/AIDS. Advocacy and policy dialogue have been included under the next sector program of the world Bank-sponsored Health, Nutrition and Population Sector Program (HNPSP, 2005-2010). The aim is to increase the availability and utilization of user-centered, effective, efficient, equitable, affordable and accessible quality services, having essential services package, improved hospital services, nutritional services or other selected services.

UNICEF: UNICEF is developing activities in the areas of IEC and adolescent health with support from the UNAIDS secretariat.

UNFPA: UNFPA is actively integrating HIV/AIDS/STD in the different components of its RH programme.

WHO: WHO offers capacity building on programme management.

DFID: DFID has been supporting the Shaki project of CARE, which works mainly with vulnerable populations, but also provides technical and financial assistance to other NGOs. Through its regional approach, DFID seeks support of policy-makers and want to focus on migration.

USAID: With USAID support, the Social Marketing Company distributes more than 160 million condoms a year. In addition, the Social Marketing Company will initiate condom social marketing for HIV/AIDS and sexual transmitted infection prevention. Two areas in which USAID has played a key role on behavioral surveillance and mapping of NGO-response to HIV in the country (In collaboration with DFID). More recently USAID has been supporting the following activities.

- Expansion of current USAID activities to ensure national coverage by prevention programs for male and female sex workers, their clients, men who have sex with men, and injecting drug users;
- Improvement of sexually transmitted infection services for at-risk populations;
- Nongovernmental organization capacity building in HIV prevention programs;
- Ensuring access to and affordability of condoms and promoting their correct and consistent use.
- Voluntary counseling and testing for at-risk population;
- Financial and technical support for behavioral surveillance activities
- Monitoring and evaluation
- Operations research; and
- Policy and advocacy to create an enabling environment.

ADB: Asian Development Bank (ADB) funded "Urban Health Care Project" has a component of the HIV/AIDS prevention. Through its continual and worldwide spread, AIDS presents different challenges wherever it arises.

CARE: To prevent a future HIV epidemic, CARE-Bangladesh has had an HIV/AIDS prevention program since 1995 to support the Government's HIV/AIDS control program, which aims to create a common platform to tackle HIV/AIDS. CARE's HIV program promotes responsible and safe behavior of people in general and risk people in particular, in partnership with different organizations to enhance their technical and organization al

abilities to carry out the program. CARE acts as a resource organization rather than providing direct delivery services. Major interventions of the HIV program of CARE are

- Technical and management help to NGOs and CBOs for capacity building
- Outreach Activities
- Monitoring, Evaluation and Survey
- Advocacy and Networking
- Drop-In Centers: There are 83 Drop-In Centers where clinical, non-clinical and social services are offered to at-risk communities.

ICDDR, B: International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) has been conducting National Serological Surveillance for HIV in the country on behalf of the Govt. of Bangladesh in collaboration with other partners. So far 5 National Sentinel Surveillance was carried out on high-risk groups. The data from surveillance has been used to monitor the progress of the epidemic changes in risk behaviour over time and this data has also been used effectively in mobilizing and directing resources appropriately and to identify possible new groups that may be at risk of an epidemic, provide an understanding of the dynamics of certain behaviors, conduct laboratory studies on STI s, HIV and hepatitis.

1.6 Review of Literature

Western theoreticians, academicians and scholars have done many researches on AIDS awareness. Studies on AIDS awareness by the Indian scholars are also significant and praiseworthy. But Studies on particular area of AIDS field in Bangladesh are very scanty. The studies, which have been done in Bangladesh, are fully or directly related to our problem. However, the studies, which are more or less relevant to our study, are carefully reviewed here:

Ahmed & Mahmood (2010) shows tuberculosis (TB) is the major opportunistic infection of acquired immunodeficiency syndrome (AIDS) in developing countries. The objective of this paper is to exemplify and review the findings associated with TB in patients with AIDS. 80 TB/AIDS-focused articles from latest internet and literature, including 3 leading Bangladesh daily newspapers between 1999-2009 were analyzed. According to the data provided by a Bangladesh Sheikh Mujib University, the number of detected

people living with HIV/AIDS reached 204 as of December 2002. Most of them died of TB indicating the relationship between AIDS and TB. Measures needed in the future, if TB and HIV/AIDS are to be eliminated in Bangladesh. Tuberculosis (TB) is at least as old as human kind, one of the world's deadliest diseases and the history of the disorder is intertwined inevitably with the history of civilization. Break down in health services, the spread of HIV/AIDS and the emergence of multi drug resistant TB causing organisms are contributing to the worsening impact of this disease. Physicians say TB is one of the major syndromes of HIV infection. About 74,000 Bangladeshi people go abroad for jobs every year, which might be the sources of spreading HIV/AIDS, when they come back to the country. It has been known for some time that TB and AIDS are bedfellows. But as the government and civil society still seem impervious to this state of affairs, when the pandemic hits our shores. The AIDS program in Bangladesh and possibly others elsewhere, could consider adapting this experience, to support NGOs serving communities at highest risk towards greater funding for and co-ordination of the national NGO response. Given the link between TB and AIDS, such TB program could also work more closely with AIDS program to absorb some of the HIV surveillance responsibilities of the AIDS program, integrate clinical training and build in cross-referral systems. TB and AIDS target the marginalized; we should all be able to visualize the scale of the problem we would face. If TB and HIV/AIDS are not taken seriously soon, it will ravage our society.

Aleksandar, et al. (2007) showed that for men and women, use of condom at first intercourse and positive attitudes toward condom use were the most robust predictors at last intercourse and consistent condom use. In addition, for women, having peers with less traditional attitudes regarding sexuality was associated with consistent condom use. Risky sexual behaviors are common among young adults in Croatia. Pragmatic and comprehensive sex education programs should target young people before they become sexually active.

Ben, et al. (2005) showed to provide preliminary data on HIV/AIDS knowledge, attitudes and opinions among young people in the state. Although 93 percent of respondents had heard of HIV/AIDS, it did not appear to improve their knowledge and perceptions about the disease. One-third to one-half of respondents believes that a person can get infected with HIV through mosquito bites. They also believe that an infected teacher or student

should not be allowed to continue teaching or attending school and talking about HIV/AIDS with their boy friend or girl friend or their parents. About 60 percent of respondents admitted that none or few of their friends used condoms in sexual encounters. Among other strategies, the need for sustained culturally sensitive educational intervention to decrease the incidence of HIV/AIDS in the region is stressed.

Bogale, et al. (2010) showed that more than 85% of Ethiopia's population lives in rural areas and literacy levels in the country are relatively low. Despite this, little is known about levels of knowledge in regard to HIV/AIDS and condom use among illiterate and low-literate rural individuals. The study conducted a cross-sectional study among 200 illiterate to semi-literate women, ages 13 to 24, from two rural communities in the Amhara region of northwestern Ethiopia. Nearly all the women had heard about HIV and AIDS. Among the illiterate individuals (n = 54), 24% did not know that HIV was the cause of AIDS and 48% did not know that HIV could be transmitted by sexual intercourse without a condom with an HIV-infected person. Among the same group, 59% did not know what a condom is. Literacy had a strong positive association with knowledge of HIV transmission and condoms. Thus, due to a generally higher level of literacy (grade 5–8 attainment), very young women (ages 13–20) had better knowledge of HIV transmission and condoms than did women ages 21–24 who by comparison were less literate. Given poor knowledge of HIV transmission and condoms among illiterate and low-literate women in Amhara, targeted HIV-revention interventions are needed in this region.

Bruce, et al. reported on a 1993-1997-research project investigated in Chittagong city and two more rural areas of Chittagong division in Southeast Bangladesh. It was found that around half of all males having a lower level of extramarital than premarital sex. The factor heightening Bangladesh's risk of an epidemic is that one-quarter of single males and a significant but lower level of married males has had relations with prostitutes. This is one explanation for quite high levels of STD's in Bangladesh.

Chowdhury, et al. (2010) shows that HIV/ AIDS is an alarming influential cause of death in worldwide facing the growing rate at risk with epidemic concern. This study is used to analysis the women awareness about HIV/AIDS in Bangladesh. Primary data have been used by using multi-stage sampling design. The results reveal that majority women know

the name of AIDS and preventive measure with consistent used of condom. The Chi-square (χ^2) test result implies those parents' education and occupation; watching television (TV) and regular meeting with health workers are highly significantly associated with heard the name of AIDS, knowledge about AIDS and preventive knowledge of AIDS. Logistic analysis indicates the women who watching TV have 10.621 times higher knowledge about AIDS than the women who do not watch TV. Literate women are 2.237 times more likely to know condom prevent AIDS than illiterate women and the women who watching TV, their preventive knowledge 9.917 times higher than the women who haven't watched TV. Therefore, we should create opportunity for available access to electronic media with upholds overall education.

Chaudhry, et al. (2005) found that 50% of the truck drivers did not know whether needles had any role in the spread of HIV/AIDS. 30-40% thought that needles had nothing to do with the transmission of AIDS. Forty to fifty percent of respondents had the misconception that AIDS can be contracted by casual contact and by being in the same room with a person with AIDS. Two third of the truck drivers did think that monogamy and condom use is an effective method for AIDS prevention. An association between low knowledge of AIDS and high negative attitude towards persons with AIDS was found to exist, which was statistically significant.

Deji & Enuenwemba (2005) investigated the level of awareness of HIV/AIDS among the rural dwellers in Ife zone, Osun State. It was found that the level of education (P= 0.02) and marital status (P = 0.02) was significantly related to the awareness of HIV/AIDS by the respondent. A small majority (67.1%) indicated their awareness of the diseases, among which 36.3% indicated radio, while 14.1% indicated television, as their sources of awareness. In conclusion, there was an average level of awareness about HIV/AIDS in the studied rural areas, indicating the need for more campaigns against the disease, especially in the rural areas.

Dijkstra, et al. (2007) mainly studied on the knowledge about HIV/AIDS and policy knowledge in a South African state hospital. More than a quarter of the medical staff in a state hospital appears to have insufficient knowledge of HIV/AIDS. Moreover, half of medical staff did not know that HIV/AIDS is a notifiable disease. The medical staff was also not confident in working with the current hospital HIV/AIDS policy. Education of

medical staff may be insufficient due to several factors, including lack of accessibility to information, lack of training and counseling, and lack of knowledge about HIV/AIDS policy.

Gebney, et al. (2001) found that little is known about infection rates for human immunodeficiency virus (HIV) and other diseases that can be transmitted sexually in Bangladeshi women who may be at intermediate levels of risk-that is women who are not commercial sex workers (CSWs) but whose sexual contacts may include men at high risk for STD. The women who had physical examination were detected trichomoniasis in 19.5%, chamydia in 3.4%, gonorrhea in 5.4, bacterial vaginosis in 37.2% and candidiasis in 10%. Almost 50 percent of the subjects had ever been exposed to hepatitis B, 3.6 percent and 1.6 percent had hepatitis C and hepatitis D.

Gibney, et al. (2010) behavioural risk factors for HIV/AIDS in Bangladesh were reviewed in a foregoing article in this journal1. Omitted from that review was a discussion of potential biomedical risk factors including: (i) an unregulated blood supply system in which blood used in transfusions is not screened for HIV and is donated primarily by professional donors: (ii) unsterile injections in non-formal and formal health-care settings; and (iii) a high prevalence in high-risk groups of other sexually transmitted diseases (STDs) which may function as co-factors for HIV transmission, particularly if chronically untreated. Studies elsewhere in the world suggest that the unregulated blood supply system, in particular, poses a serious danger in terms of the spread of the HIV epidemic. While certain socio-cultural factors may be contributing to low levels of HIV in Bangladesh, the prevalence of biomedical and behavioural risk factors suggest the importance of implementing targeted cost effective interventions now.

Haider, et al. (1997) shows the findings of the study that the female adolescents in Bangladesh are not sufficiently aware of AIDS. Of great concern is that a sizeable proportion of adolescents had misconceptions about the fatality and avoidance of AIDS. In addition, the prevalence of STIs among them is relatively high. The study also shows that 39 percent of husbands of adolescents that have symptoms of syphilis, and 7 percent reported using condom, indicating that most of them were exposed to unsafe sex.

Hanifi, et al. (1990) shows that limited knowledge about HIV/AIDS may also be contributed to the spread of the HIV virus in Bangladesh. Numerous, knowledge, attitudes and practice studies have found very low levels of awareness of HIV and even

lower levels knowledge of routes of transmission. In the general population studies have found levels of awareness lower ranging from 19% to 40% particularly alarming have been studies showing that the highest risk groups appeared to have little awareness of HIV/AIDS and illustrated in a 1990 survey, commonly had misconceptions about how AIDS is transmitted, perceived susceptibility to infection and the consequence of having HIV/AIDS.

Hawkes, et al. (1999) opined that during a 5 month period, they investigated all women complaining of abnormal vaginal discharge and seeking care at maternal and child health/family planning centers in Matlab, Bangladesh, for the presence of laboratory-diagnosed reproductive-tract infections and STIs. The result showed that the prevalence of endogenous infections seen was 30 percent.

Hawkes, et al. (1997) carried out a study during April-August 1997 in rural Bangladesh showed that only 7 percent of female and 16 percent of male population had heard of AIDS, but 70 percent of men and 80 percent of women who had heard of AIDS did not know how one gets AIDS and how to prevent it.

Hosain & Chatterjee (2005) showed that although most commercial sex workers (CSWs) had heard of AIDS, correct knowledge of transmission and symptoms was lacking. HIV/AIDS was viewed as a remote threat, over-ridden by immediate economic and survival concerns. Although the majority of CSWs knew that condoms afforded protection against STDs/AIDS, only one-third of sex acts on the last day of work were protected through condom use. CSWs who were married, had been a CSW for less than 5 years, were with a new client, or had two or more clients in last working day reported significantly higher condom use. Client dissatisfaction was the major reason for not using condoms. Many did not obtain treatment for STDs in a timely fashion, if at all. So, Bangladesh needs a comprehensive HIV programme that combines clinical and screening measures with behaviour change and communication interventions, along with change in social norms and attention to the rights of CSWs in order to avert a widespread epidemic.

Jalswal, et al. (2005) focus on HIV/AIDS and STI related knowledge, attitude and practice among high school students in Kathmandu valley. They determine a school education programme would bring about statistically significant positive change in the knowledge, attitude and practices regarding HIV/AIDS and STI. They analyzed the knowledge on some aspect of the disease was quite low in the study group. 45.8 percent

had prior knowledge of HIV, 65.2 percent knew that HIV/AIDS could be transmitted by sharing same needle, 46.2 percent knew that vaccine was not yet available for HIV/AIDS. Knowledge about STI was also quite low, 41.5 percent knew that pus in the urine was symptom of STI and 41.7 percent knew that STI was curable. 4.2 percent of the study group had previous sexual intercourse, 64.2 percent had sexual intercourse with friend and 35.17 percent had sexual intercourse with commercial sex workers. 1.8 percent would commit suicide if they contracted HIV/AIDS. According to sex wise distribution of sample, female's knowledge about HIV was low 43.2 percent as compared to male 48 percent, male's knowledge about transmission of HIV/AIDS from pregnant mother to child was low, 89.7 percent as compared to female knowledge 94.2 percent. Female's knowledge about commercial sex worker as high-risk group was low (87.8%) as compared to male's knowledge 90.6 percent.

Khan, (2002) review the knowledge on acquired immunodeficiency syndrome (AIDS) among female adolescents in Bangladesh, this study used data extracted from the Bangladesh Demographic and Health Survey (BDHS) 1996-1997. Of 1,446 ever-married women included in the study, most were currently married (96%), Muslims (92%) and from rural areas (91%). Only one in six adolescents had ever heard of AIDS. Of them, 57% reported AIDS as a fatal disease almost always, while only 22% believed that AIDS could be avoided. Multivariate analysis revealed that knowledge on AIDS was strongly and positively associated with education of female adolescents and their husbands and varied significantly across different parts of the country. Knowledge on AIDS was higher among relatively older and urban residents who had access to television or radio and whose husbands were using condom. Strong efforts are needed to improve awareness and to clarify misconceptions about AIDS. Improved access to education, mass-media, and promotion of condom use could prevent AIDS among female adolescents in Bangladesh.

Khan, et al. (1996) showed that the adolescents whose husbands were using condom were one of the most AIDS-aware groups in the adolescent community. Despite the multiple benefits of condom use, such as protection from STIs/HIV/AIDS and regulation of birth, only 4% of them reported that their husbands were currently using condom as primary method of contraception. The most serious challenge for condom promotion is the full-scale campaigns on its use during pre and extra marital sex.

Kahabukal, et al. (2007) investigated the awareness of the oral manifestations of HIV/AIDS and general issues about HIV and AIDS among people living with HIV (PLHIV) in Dares Salaam, Tanzania. A total of 13.4 percent of the participants were completely unaware of the oral manifestations of HIV/AIDS whereas all participants were fully aware of general symptoms of AIDS. There were no significant associations between awareness of oral manifestations and general awareness of HIV/AIDS, or level of education. Participants were relatively well aware of the different types of oral manifestations (e.g. oral ulcers 87%, oral candidacies 84%) while their knowledge of the management of specific oral manifestations and the problems associated with oral manifestations was more limited.

Khosla (2009) showed Bangladesh has maintained a low HIV prevalence (of less than 1%) despite multiple risk factors. However, recent serological surveillance data have reported very high levels of HIV infection among a subgroup of male injecting drug-users (IDUs). This suggests that an HIV/AIDS epidemic could be imminent in Bangladesh. Although biomedical and behavioural change projects are important, they do not address the root causes of observed risky behaviours among 'high-risk' groups. In Bangladesh, these groups include sex workers, IDUs, males who have sex with males and the transgender population—hijra—who are all excluded groups. Using a social exclusion framework, this paper analyzed existing literature on HIV in Bangladesh to identify social, economic and legal forces that heighten the vulnerability of such excluded groups to HIV/AIDS. It found that poverty and bias against women are major exclusionary factors. The paper presents areas for research and for policy action so that the social exclusion of high-risk groups can be reduced, their rights protected, and an HIV epidemic averted.

Kumar (2009) focuses on using educational media for HIV/AIDS awareness and training to school students in India: Innovative Strategies. The paper discusses in detail about the possibilities and strategies for using these educational media for providing HIV/AIDS awareness and training to school students and their parents/ teachers in India.

Lal, et al. (2008) showed that all the students had heard of HIV/ AIDS although only 51.4 percent were able to write the full form of AIDS and only 19.9 percent were able to write the full form of HIV. In a study done amongst 2400 secondary school students from Mumbai, in which only 50 percent of students knew about the sexual route of

transmission gaps were seen in the awareness about other modes of transmission wherein only 31.1 percent and 23.4 percent cited blood transfusion and mother to baby transmission as routes of transmission, respectively. Moreover, 14.9 percent had knowledge about condoms as a means of protection, which awareness was significantly higher amongst boys.

Meheus (1992) investigated that women are also likely to suffer more serious consequences from STDs than to men. Data suggest that 10-20 percent of untreated gonorrheal infection of the cervix and 8-10 percent of untreated Chlamydia infection of the cervix will ascend to the upper reproductive tract and cause pelvic inflammatory diseases (PID).

Mitra, et al. (1997) showed that Bangladesh demonstrated a low level awareness of STIs, including HIV/AIDS, among rural women, with a quarter of married women of reproductive age having heard of any STI, including HIV/AIDS. Knowledge on the mode of transmission and means of prevention was even lower among rural women investigated only 19 percent of ever-married women had ever heard of AIDS. 49.3 percent were spontaneously aware of condoms and an additional 36.3 percent were aware when prompt (urban awareness) was greater than rural. Of the 31.2 percent currently using any method of contraception, 2.5 percent use condoms, where 2.0 percent are rural and 5.9 percent urban women with higher education and /or greater household wealth are more likely to use condoms, pills and traditional methods than women of low education.

Mondal, et al. (2009) a seven round behavioral and serological surveillance found that the HIV epidemic had remarkably increased to 7% among intravenous drug users (IDU) in central Bangladesh, indicating the urgent need to increase prevention. The study results reveal that Bangladesh is a low prevalence country which is turning into one with a concentrated epidemic due to the high HIV prevalence rate of IDU (7%) among the most-at-risk groups. Within this at-risk population, IDU have the highest prevalence rate of HIV transmission, followed by female sex workers, clients of sex workers, and men who have sex with men. If the transmission rate continuous to increase, the situation will be uncontrolled. Therefore, there is an urgent need for a comprehensive prevention program to control the spread of HIV.

Mondol, et al. (2008) studied the socio-demographic correlation of knowledge and awareness about HIV/AIDS among the garments worker in Gazipur district, Bangladesh.

For this a total number of 178 garments worker have been interviewed through a structured questionnaire by purposive sampling Technique. The results show that about half of them do not know how to read and write and also do not use condom during sexual intercourse. The chi-square (χ^2) analysis between having knowledge and awareness about HIV/AIDS and some selected background characteristics is performed. The result reveals that among the selected variables 6 variables are statistically associated with having knowledge about HIV/AIDS of the garments workers. A logistic regression model is employed which reveals that respondent's age, education, marital status, place of birth, listening about HIV/AIDS and media information about HIV/AIDS highly significant effects on knowledge and awareness about HIV/ASDS of garment workers.

Mondal[1], et al. (2008) They analyzed the sexual behavior and sexually transmitted diseases (STDs) of street-based female sex workers (SFSWs) of Rajshahi city and examined their socio-demographic profiles. Among the SFSWs attending three drop-in centers (DIC) named PIACT, PROVA, and Suraksha Madhumita in Rajshahi, 150 self-motivated and willing individuals were interviewed through a structured questionnaire to obtain obstetric histories and socio-demographic information. Among these SFSWs, 56.7% were infected with two or more pathogens of STDs, with gonorrhea, chlamydia, herpes, syphilis, and trichomoniasis observed in 23.3, 27.3, 24.0, 17.3, and 20.0%, respectively. We found a strong association between the prevalence of STDs among SFSWs and their socio-demographic profiles. Illiterate and comparatively older SFSWs who spent very little money for health purposes, had larger numbers of children, and used condoms inconsistently were observed to be at higher risk of STDs. These results observed with bivariate analysis were also confirmed by logistic regression analysis.

Murshed & Ullah (2000) revealed that to date little is known about awareness of HIV/AIDS. The study revealed that among commercial sex workers, 32 percent of them had ever heard of AIDS, while 11 percent had the knowledge of transmission of HIV/AIDS by unsafe sex.

Nafisa, et al. (2005) Results of the baseline survey showed that 36% of female workers were married, and half of them were using modern contraception. Sexually transmitted infections-related knowledge was limited to AIDS only.

Nath, et al. (2010) showed that Acquired Immunodeficiency Syndrome (AIDS) is a complicated disease that can pass on from person to person and can damage the human body's immune system. The study showed that to measure the impact of education of both husband and wife and residential type on the knowledge about the transmission of HIV in the North Eastern Region (NER) and to compare the knowledge regarding transmission of HIV among the rural and urban people of the North Eastern Region (NER). The result reveals that the misconception of the people about HIV/AIDS is more in the northeast India than those with complete knowledge. As expected, the awareness level is less amongst the rural people compared to their urban counterpart. However, in Manipur where the prevalence of HIV cases is high, more people have complete knowledge about HIV/AIDS. The men with education, has more chance of having complete knowledge about the disease which is however not the case with women. This is true for both rural and urban women of the region.

Plourde (1992) found by another study of women attending on STD clinic in Nairobi women reporting a history of genital ulcers were 3.8 times as likely to be HIV sero positive. Since the same behaviors that increase in risk behaviors between the two groups could contribute to the differences in the HIV and STD rates. A small number of studies have suggested that oral contraceptive use in conjunction with the presence of some STDs increases the risk of HIV infection. When genital ulcers occurred in combination with the use of oral contraceptives, women have been found to be 25.7 times as likely to be HIV sero positive.

Rahman, et al. (1999) conducted a research among people from Bangladesh seeking work overseas. Only 26% of the respondents knew of AIDS and out of 13 basic facts concerning HIV/AIDS the mean score of the sample was 1.63 correct responses. Most of those who knew of HIV had some false beliefs about the mode of HIV transmission for example believing that HIV could be contracted by touching an AIDS patient, or sharing bathing facilities or eating utensils. Sex with brothel based commercial sex worker (100%) sharing contaminated needles (93.6%) and blood transfusion from infected individuals (93.6%) was seen as the main route of HIV transmission. Printed media was the main source of AIDS information. Multiple logistic regression analysis showed that having a non-agricultural occupation ($\rho < 0.04$), being resident in Dhaka, Chandpur, Noakhali, Comilla, and Chittagong ($\rho < 0.01$), being in the habit of reading newspapers

(ρ <0.05), using condoms (ρ <0.04), having heard about condoms (ρ <0.003), having seen condoms (ρ <0.005) and knowing where to buy condoms (ρ<0.0005) were significantly associated with AIDS awareness. There is insufficient AIDS awareness among overseas job seekers which calls for public initiatives to provide AIDS information to them before they leave Bangladesh to work abroad.

Rahman (2008) focuses on Male's Knowledge and Awareness about AIDS/STDs in Rajshahi District of Bangladesh. The findings revealed that about 87 percent men were aware about HIV/AIDS and comparatively women were found same aware of AIDS. Only 54.8 percent men are found aware of STIs, and more than 45 percent of the respondents have no knowledge of STIs. This indicates about these diseases. He show that majority of the male said uncontrolled sexual relation is the major reason of spreading AIDS. Also show that education, residence, religion, occupation and mass media facility are the significant factors to influence AIDS knowledge among men.

Samant, et al. (2006) showed that data represents the first phase of six-year study being conducted at a Medical College in Mumbai, India. Information from this phase of the study will be used to demonstrate the need for an HIV-specific training module for the first year medical students. A response rate of 87% was obtained (174 out of 200). Overall, females showed less knowledge pertaining to issues related to human sexuality and HIV transmission when compared to their male peers. Anal intercourse was reported as a risk for HIV transmission by 3 % of females as compared to 20% of males ($p<0.05$). Furthermore, 28 % of females reported no relationship between the risk of contracting HIV and the type of sexual intercourse compared to 3 % of males ($p<0.05$). In general, there were considerable misconceptions regarding the spread and risk of HIV transmission among all medical students. Sixty six percent (66%) of females were comfortable having HIV infected doctors and nurses (co-workers) in clinics and hospitals compared to 36% of males. Forty-four percent (44 %) of the medical students preferred not being friends with HIV infected individuals. Sixty-two (62%) percent of the students favored abstinence only messages for prevention of HIV among teenagers.

Sarkar[a] (2009) study shows that there is no way to get rid of the unbearable sufferings from this killer disease, HIV/AIDS: prevention is the only solution to get rid of it. Increasing knowledge of respondents about the long-term effects of this disease is the principal objective of reproductive health programs recently being carried out in the

world. This study gives an idea about this type of health problem. This study is mainly based on secondary data. The study reveals that currently married women (71%) have heard more of HIV/AIDS than formerly married women (about 57%), and that TV is the most dominant source for getting information about HIV/AIDS. In this study, it is also proved that avoiding unsafe blood transfusion is one of the best possible ways of preventing HIV/AIDS. Almost all the variables of contingency analysis are significantly associated (highest significant) with HIV/AIDS. Multivariate logistic analysis revealed that currently married women are more likely to use knowledge about HIV/AIDS than formerly married women.

Sarkar[b] (2009) this study is 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 newspaper. The most frequently routes of HIV/AIDS transmission were 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.

Sarkar, et al. (2010) this study mainly based on the primary data. The study gives an idea about three types of populations like floating, frequently moving and permanent resident respondents. Raising knowledge of transmission and prevention about HIV/AIDS of respondents about the long run effects of these diseases is the principal objectives of reproductive health programs recently executing in the world. This study reveals that permanent resident respondents are more aware than the floating and frequently moving population. It also shows that about 92% floating respondents heard the name of HIV/AIDS by various sources of media on the other hand the same amount (99.00%) frequently moving and permanent resident heard the name of HIV/AIDS by various sources of media. In this study it also found that uncontrolled and unsafe sexual relati

the main causes to AIDS answer by the respondents. Further, > 50% respondents think avoiding way about HIV/AIDS is using condom during intercourse, < 15% respondents indicate transmission way is by blood and appreciation of sex.

Shrotri, et al. (2003) mainly show to determine the level of HIV/AIDS knowledge of pregnant women in India. The study was conducted on 707 randomly selected antenatal clinic patients related to HIV/AIDS knowledge. Of these, 283 were further interviewed to document any social or physical difficulties they experienced. Over 75 percent of women displayed knowledge of primary transmission routes. Nearly 70 percent of women demonstrated knowledge of maternal to child transmission; however, only 8 percent knew of any methods of prevention. TV and written material were more strongly related to knowledge than access to radio messages or conversations with individuals. Thirty per cent of the women experienced physical or mental abuse or their spouse's alcohol and/or drug problems. Women reporting such abuse were more than twice as likely to have adequate HIV/AIDS knowledge compared with women reporting no such abuse. We found no relationship between reported household abuse and educational level of woman, husband, and occupation of either partner language or religion. We found no relationship between HIV status and knowledge of HIV and no relationship between HIV status and risk of abuse in the household.

Shah, et al. (2010) described two cases of post-kala-azar dermal leishmaniasis in HIV-positive patients. Both the patients had papulonodular lesions on upper extremities and back with low CD4 count. Slit skin smear with giemsa stain revealed Leishman Donovan (LD) bodies and skin biopsy of both the patients revealed lymphohistiocytic infiltrate with numerous intracytoplasmic LD bodies.

Case-1

A 45-year-old HIV-positive man presented with nodules and plaques on nasal area, dorsum of left wrist, right index finger, and back with cervical lymph adenopathy [Figure 1]. Patient had history of fever 6 months back when he was working in state of Bihar. Patient also complained of mild pyrexia off and on and weight loss. Routine blood and urine examination did not reveal any abnormalities. Enzyme-linked immunosorbent assay test for HIV was positive, and CD4 Count was 210/μL. Slit skin smear with giemsa stain revealed abundant intra- and extracellular leishman donovan bodies. Skin biopsy was

taken from lesions on back, which shows dermal infiltrate composed of lymphocytes and histiocytes with numerous intracytoplasmic leishman donovan bodies.

Case-2

A 52-year-old HIV-positive man from Rajasthan presented with multiple papulonodular lesions mainly on dorsum of hand, forearm, thighs, and back for past 3 months [Figure 2]. Differential diagnosis of Hansen's disease, sarcoidosis, and leishmaniasis were performed. Routine blood parameters were in normal limits. His CD4 count was 170/μL. Slit skin smear revealed multiple intra- and extracellular leishman donovan bodies with giemsa stain. Biopsy of lesion revealed mixed dermal lymphocytes and histiocytes showing intracellular leishman donovan bodies [Figure 3]. Both the patients were referred to ART center for the management of HIV infection. They were given capsule rifampicin 600 mg od along with ketoconozole 200 mg od for 3 months along with first-line anti-retroviral therapy.

Figure 1.1 Infiltrated plaques on nose, left dorsum of wrist and on index finger of right hand

Figure 1.2 Nodular lesions on dorsum of both hands

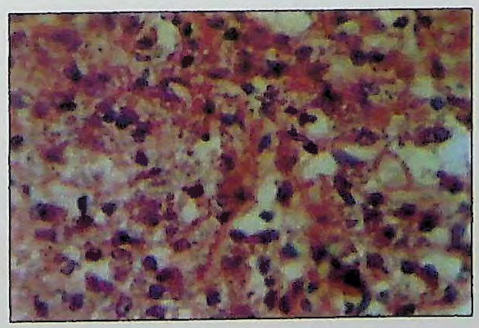


Figure 1.3 H and E shows macrophages containing leishman donovan bodies

Sasha (2008) focus on HIV/AIDS related knowledge and practices of adults following Government-Initiated education campaigns in Kep, Cambodia and this paper critically analysis the majority person of respondents had an accurate knowledge of modes of transmission and methods of prevention of HIV. Shortfalls in understanding included knowledge of mother-to-child transmission.

Sereenen, et al., (2007) shows that the prevalence of HIV/AIDS in Mongolia is still low. Past studies conducted in Mongolia indicated that sexually transmitted infections (STIs) had been spreading rapidly among high-risk groups, which highlights an urgent need for prevention mainly targeting these groups. A total of 342 sex workers (199 females from Darkhan and 143 females from Ulaanbaatar city) with the mean age of 25.8 years participated in the study. In Darkhan, HIV/AIDS related knowledge of SWs was higher (99.0%) and the prevalence of syphilis was lower (3.5%) than in Ulaanbaatar (88.8% and 36.0%, respectively). No new HIV cases among the female SWs have been detected despite high syphilis rates (17.4%) among the study subjects. Although condom use at last sex with paying clients was high (92.3%), the rate was low with non-paying, non-regular sex partners (56.9%). These findings indicated that despite relatively good HIV/AIDS related knowledge, high risk sexual behaviors were still common among the female SWs.

Singhal (2006) focuses on impact of awareness campaign on HIV/AIDS by ICHAP. The paper is a report, highlighting the special campaign of HIV/AIDS awareness during the fair for the first time. Understanding the religious connotation attached to the fair, all the activities conducted and designed are devoid of any offensive material. The report critically describes the Strategies/ Activities of ICHAP and the background of the fair, implementation process which includes the exhibition, Street plays and Qwallis and how youth has contributed in the campaign. The report also talks about the feedback received from visitors

Singh, et al., (2008) focus on HIV/AIDS awareness of auto rickshaw drivers in ludhiana city, Punjab – India. They showed that out of total 600 auto rickshaw drivers, 384 (64.0%) had heard about HIV/AIDS. Awareness level increased with increase in educational status. Out of 384, 74.2% drivers knew that unprotected sex is the main mode of transmission. TV (63.0%) was the common media as source of information. Only 36.2% knew that the disease is not curable.

Singh, et al., (2007) conducted a research to assess the level of correct knowledge about HIV/AIDS and the misconceptions associated with it among girl students of Kanpur district. Though the causative agent and correct mode of acquiring infection was not known to most of the students yet significant proportion had adequate knowledge about the vulnerable age group that is youth as stated by (72.90%) of the respondents. Knowledge regarding correct modes of transmission of infections (82.78%), high-risk groups (82.88%) and common symptoms of disease (80.11%) was satisfactory.

Sultana (2009) shows the descriptive cross-sectional study was carried out on 'HIV/AIDS awareness' among the blood donors of Dhaka Medical College Hospital. The aim of the study was to assess the level of awareness among blood donors on HIV/AIDS and to assess their knowledge regarding its prevention and control. A total of 110 (87.3% male, 12.7% female) donors participated in this study. Their mean age was 24.9 ± 5.2 years. More than 60% of the respondents had primary or secondary level of education. Two-thirds (66.11%) of them donated blood for their relatives, while the rest did it for donation's sake. Although 93.6% of the respondents heard about AIDS (TV being the most common source), none had a good or excellent level of awareness about the disease. About mode of transmission, 20.9% had average and very few had a good level of knowledge regarding its prevention. When asked for an opinion about the country's risk for HIV/AIDS, more than half (54.2%) had the view that the country was at a risk from the disease and nearly three quarters (72.5%) were of the opinion that mass awareness campaigns on HIV/AIDS could improve the situation.

Unnikrishnan, et al. (2009) To assess the awareness and attitude of the general public toward people living with HIV/AIDS (PLWHA) in Mangalore, a city in Coastal Karnataka. The study is community-based cross-sectional study of population included 630 individuals aged 18 years and above. The results shows that about one-third of the study population thought that one could get infected by merely touching an HIV positive individual. Approximately 45% stated that they would dismiss their maid on finding out her HIV positive status. About 54% were willing to undergo the HIV test. The respondents with less than secondary school education had a discriminatory attitude toward HIV positive people, with regard to them deserving to suffer, dismissing a HIV positive maid, hesitating to sit next to a HIV positive person in the bus, divorcing the infected spouse, and willingness to get tested for HIV, which was found to be statistically significant.

Walker (1986) observes that many maternal deaths are also the result of postpartum infections that are associated with ongoing STD infections. One of the most common consequences for women, however, is infertility. Infertile women may find themselves abandoned by their husband and stigmatized and financial resources, particularly in culture that value female seclusion in the home.

Wasserheit (1989) carried on a research on currently married women of reproductive age in Comilla district villages, non users of contraceptives were most likely to refuse examination for diagnosis of perceived RTI.

Xiaoming, et al. (2010) Data were collected in 2000 from 1081 students from eight colleges in China to assess the overall level of AIDS knowledge, and to explore regional, gender and grade differences in AIDS knowledge. The data indicate an inconsistent level of AIDS knowledge among students, with a significant gender and grade difference. More than one-third of the students perceived themselves as having limited knowledge of AIDS. While the students could identify transmission modes, they were less knowledgeable about symptoms, activities that did not transmit the virus, treatment and preventive measures. The majority of the students reported having discussed AIDS issues with their peers and friends, but few of them had done so with their parents or teachers. AIDS knowledge varied among students by site of residence, with the highest knowledge among students from the urban areas and the lowest among those from rural areas. The data underscore the urgent need for HIV/AIDS-related health promotion and prevention efforts targeting college students as well as younger age groups in China.

Zadi, et al. (2004) shows in Bangladesh a comprehensive system providing the complete range of voluntary counselling with testing (VCT) for HIV was lacking till 2002. Being a low prevalence country, efforts are focussed on HIV prevention in Bangladesh and the smaller number of people who are living with HIV/AIDS (PHA) lack services. As VCT is an entry point for care and support of PHA, a VCT Unit at ICDDR,B called Jagori was established in 2002. Description: During January 2002 and January 2004, Jagori established units in three cities; Dhaka, Chittagong and Sylhet. At the Dhaka unit, Jagori has counselling services, testing facilities and a clinician who provides out-patient consultation. In the other two cities, counsellors are present and samples are sent to Dhaka for testing. Services for clinicians are obtained through other organisations. During

this period, 259 people have sought VCT services among whom 194 were male, 62 female and three hijras. Of these, 47 were HIV positive, of whom four were children. Of the PHA, 34 were adult male and 29 of these were migrants returning from jobs overseas. Of the 9 adult female PHA, 8 were wives of PHA and seven were wives of migrants. All four children were from HIV positive migrants. Lessons learned: Migrants returning from jobs abroad are very vulnerable to HIV infection and they receive inadequate information about HIV before they leave the country. Maintaining confidentiality, having access to general medical services, access to jobs, and being able to have an active conjugal life and access to treatment are key issues affecting PHA. Recommendations: Knowledge about HIV transmission needs to be provided specifically to migrants before leaving the country. VCT services need expansion and clinical care should be made available for PHA. Confidentiality has to be ensured at all levels of care provision.

Zhao, et al. (2010) Showed that HIV/AIDS Awareness and Knowledge among Secondary School Students in China and data from 995 secondary school students in Nanjing. The study examined the students' sources of HIV/AIDS information and assessed the overall level, and possible gender and grade (middle school vs. high school) differences, in their HIV/AIDS awareness and knowledge. Data in the current study indicated an overall low and inconsistent level of AIDS knowledge among secondary school students in China. Most of the students could identify models of HIV transmission, but a large proportion held misconceptions regarding symptoms, activities that did not transmit the virus, treatment and preventive measures. The level of using school, family and peers for obtaining information about HIV/AIDS was generally low. There was a discrepancy between the level of utilization and trust of mass media as the main source of HIV/AIDS knowledge. Findings are discussed in terms of implications for HIV/AIDS prevention and education among adolescents in China.

Besides, in international level Holtzaman et.al, (2003), Brown, (2002), UNAIDS chaina (2002), United Nations (2002), Wu, et.al (1999), Balk et.al, (1999) and Ingham (1995) work on Awareness of AIDS. They mainly focus on the socio-demographic factors related to knowledge about AIDS and about prevention. So far as I know, there is no such

comparative study of floating, frequently moving and permanent resident population based research work has been done upon any areas of HIV/AIDS in University of Rajshahi as well as in whole country and world wide expect.

1.7 Objectives of the Study

General Objective

To assess the overall HIV/AIDS situation in Bangladesh.

Specific Objectives

With clear understanding of the research, the study will be conducted by the following specific objectives:

i) To identify factors affecting raising awareness of Bangladeshi people on HIV/AIDS.

ii) To observe the factors related knowledge about the fearfulness of HIV/AIDS and its prevention.

iii) To formulate future plan on HIV/AIDS.

1.8 Published Papers/Articles

1. **Sarkar, P., Mostofa, M., Rahman, M. (2010).** Knowledge of Transmission Routes and Prevention way of HIV/AIDS: Bangladesh Context. The Social Sciences 5 (6): 525-531. ISSN: 1818-5800. © Medwell Journals, 2010 (See Appendix-I).
2. **SARKAR, P.** Knowledge and Prevention of HIV/AIDS in Bangladesh: Evident from Bangladesh Demographic and Health Survey-2007. Journal of AIDS and HIV Research (JAHR), Vol. 1(1) pp. 008-017 October, 2009 Academic Journals, 2009 (See Appendix-II).
3. **SARKAR, P.** Information and Knowledge about HIV/AIDS: Bangladesh Context, International Journal of Molecular Medicine and Advance Science, 5 (1-4): 10-14, ISSN: 1813-176X, 2009 (See Appendix-III).

1.9 Organization of the Study

The study contains eight chapters. In order to accomplish a meaningful representation the present study is organized in the following chapters:

Chapter One

Chapter one is the introductory chapter having description on the AIDS/HIV situation: global and national level, socio-economic background: global and national level, AIDS/HIV activities: national level, rational of the study, review of literature, objective of the study.

Chapter Two

Title of this chapter are data sources and analytical method having description on the study area setting, data source, method of analysis, preparation of questionnaire, data processing, analytical method, concept of terminology, definition of selected variables and limitation of data.

Chapter Three

Background characteristics, sources of information, risk population and knowledge of HIV/AIDS included in chapter three.

Chapter Four

Awareness of AIDS by different characteristics through cross-tabular analysis is under taken in chapter four. Also shows the fearfulness about HIV/AIDS and knowledge of transmission routes, risk population, prevention way etc.

Chapter Five

Chapter five contains Knowledge of fearfulness about HIV/AIDS: Application of logistic regression analysis on survey data.

Chapter Six

Knowledge of HIV/AIDS in urban Bangladesh: Application of logistic regression analysis on BDHS, 2007 data.

Chapter Seven

A study of some selected HIV/AIDS affected and non-affected respondents personal opinion.

Chapter Eight

Finally, summery and policy implication are included in chapter eight.

CHAPTER - TWO

DATA SOURCES AND ANALYTICAL METHODS

2.1 Introduction

Research methodology is the philosophy of research to systematically solve the problems. In this methodology, we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It is necessary for the researcher to understand not only the research methodology but also consider the logic behind the methods which is used in the context of the research study and explain the research is conducted. The present chapter is confined to indicate a brief description of the selected population data i.e., sources of data, sample design, development of questionnaire, fieldwork and data processing and background characteristics, analytical methodology and all other issues relevant to the study and so on.

2.2 Study Area Setting

The People's Republic of Bangladesh is the high densely populated country in the world, and one of the developing countries. Poverty remains widespread throughout the country. Most of areas are rural and few of them are urban. However, present study area is implanted mainly in urban area. In this study data were collected from three metropolitan cities in Bangladesh, such as, Dhaka, Rajshahi and Chittagong, based on floating from railway stations, bus terminals

and slam areas, frequently moving from other noisy place and permanent resident from households. The study areas are shown in figure 2.1.

Figure 2.1: Study Areas Setting

2.3 A Conceptual Framework

According to the frame work, awareness of HIV and AIDS is determined by mainly five factors. These are: (1) knowledge about HIV and AID (2) knowledge of fearfulness about HIV and AIDS (3) use of condom (4) knowledge about STI/STD (5) receiving HIV and AIDS and other sexual health related service. The framework examines the factors that determine women's practice of prevention from HIV/AIDS. Also, the framework includes a set of factors that influence women's experiences, including demographic and socioeconomic factors.

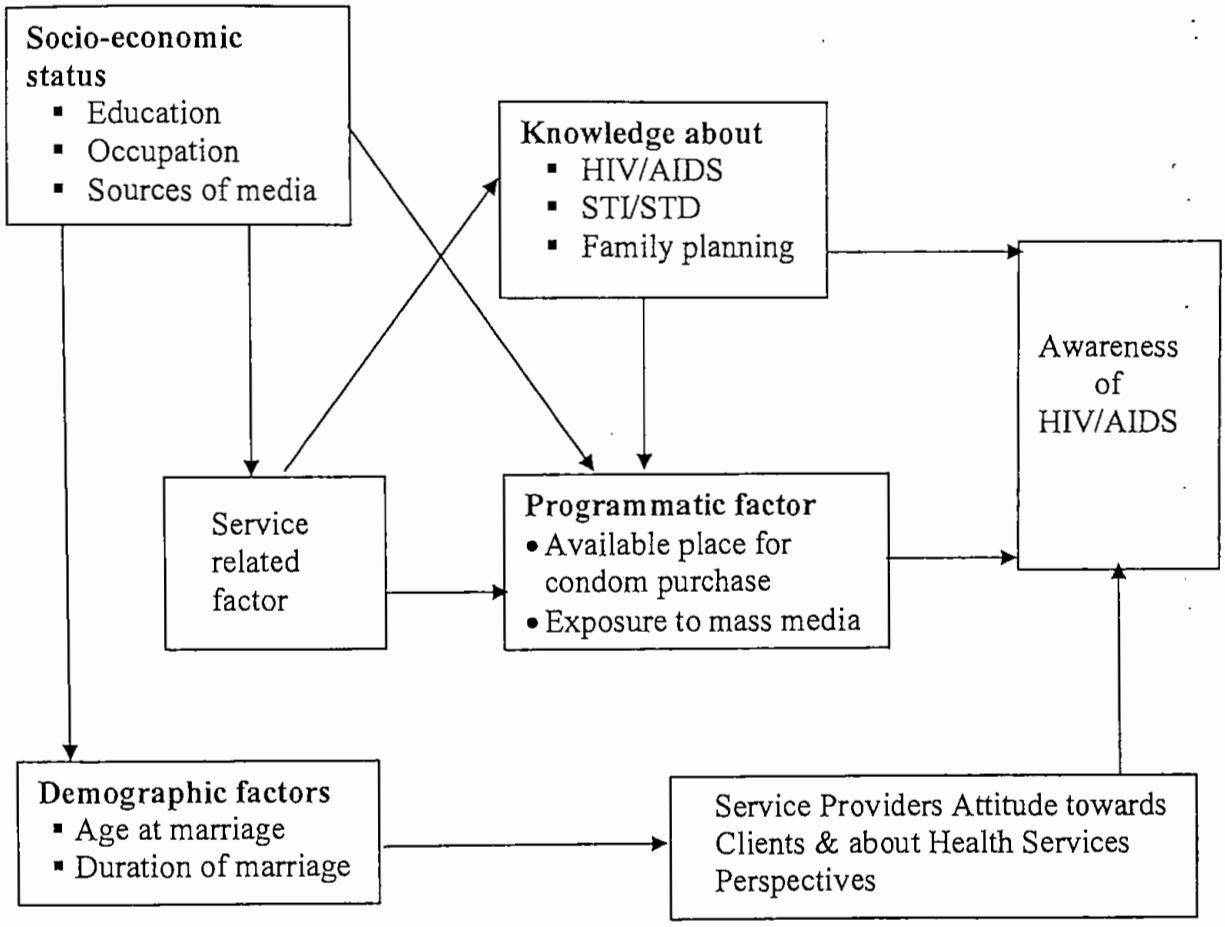


Figure 2.2: Conceptual framework

2.4 Data Sources

This study is based on primary and secondary data. Primary data are collected from selected areas and secondary data are collected from Bangladesh Demographic and Health Survey (BDHS, 2007).

Present study interviewed 1896 respondents considered as primary data from three Metropolitan cities of Bangladesh. Out of 1896 respondents some of them showed hesitation to provide answers to some very sensitive questions in the questionnaire. This study ignored those questions for avoiding the uncomfortable situation during interview period. Only 18 and over aged person's concepts about HIV/AIDS awareness were accepted in this study. Some elite persons were not willing to provide answer of some questions in the questionnaire. Present study applies quota-sampling technique to collect necessary data because poor people of Metropolitan areas move frequently one place to another for their daily work. Another reason to apply quota-sampling technique is that floating population is not stable for long time in a place. Out of 100 respondents from quota sampling, 20 are floating, 40 are frequently moving and 40 are permanent residents. Due to unavailability of floating respondents regarding HIV/AIDS issues this study took under consideration about 16 percent floating, 42 percent frequently moving and 42 percent permanent residents from three Metropolitan City Corporations. The pieces of information are collected on the basis of structured question from floating[1], frequently moving[2] and permanent resident[3] population. All the respondents were interviewed during 1st October to 20th December, 2008. To find out the awareness of HIV/AIDS, the variable "knowledge of fearfulness about HIV/AIDS" had been considered. The distributions of sample are given below:

[1] a section of the population does not permanently reside in a place.
[2] a section of the population who is frequently moving in here and there
[3] a section of the population permanently reside in a place

Table 2.1: Sample size

Categories	Division						N
	Dhaka	*Nos.	Rajshahi	*Nos.	Chittagong	*Nos.	Total
Floating	Kamlapur	16	Seroil	10	Chittagong Station	10	
	Demra	10	Court	10	Coxbazer	10	
	Shahbag	12	RU Station	10	Ramu	10	
	Sadarghat	10	RU	05	Uthia	09	
	Tongi	10	Alupathi	10	Patenga	11	
	Airport	10	Padma Dam	10	Coxbzer	12	
	Gabtali	07	Terminal	10	Rangamathi	08	
	Norsingdi	05	Parbatipur	10	Bibirhat	10	
	Maymonsingh	10	Rangpur	10	Noakhali Station	10	
	Jinjira	05	Hili	10	Sitakunda	05	
	Airport	05	Santaher	05	Santirhat	05	
		100		100		100	300
Frequently moving	Azimpur	40	Panchagar	25	Chittagong Station	30	
	Tongi	25	Thakurgaon	25	Coxbazer	40	
	Hirajhil	25	Nilphamary	25	Patenga	45	
	Farmgate	30	Khulna	35	Uthia	25	
	Matijhil	44	Faridpur	25	Noakhali	35	
	Norsingdi	20	Nator	25	Santirhat	25	
	Maymonsingh	30	Santaher	30	Ramu	33	
	Mirpur	22	Hili	30	Noakhali Station	33	
	Sahabag	30	Parbatipur	26			
			Bogra	20			
		266		266		266	798
Permanent resident	Mirpur	75	Rajshahi	70	Chittagong	100	
	Hirajhil	75	Rangpur	100	Patenga	50	
	Airport	50	Panchagar	25	Ramu	50	798
	Matijhil	40	Thakurgaon	25	Noakahli Sador	40	
	Rampura	26	Nilphamary	25	Uthia	26	
			Dinajpur	21			
		266		266		266	798
Total							1896

*Nos. means the number of respondents

2.5 Variables Included in the Awareness of HIV/AIDS

Dependent variable

The dependent variable is whether or not respondent is aware about HIV/AIDS. This measure comes from the knowledge, use of condom.

Independent variables

The independent variables considered in the model include socio-economic background characteristics of the respondents, exposure to the mass media and use of condom. The following explanatory variables are used in the analysis:

1. Socio-economic variables
   - Education
   - Occupation

2. Demographic variables
   - Age at marriage
   - Duration of marriage
3. Knowledge variables
   - Knowledge about transmission of HIV/AIDS
   - Sources of information about HIV/AIDS
   - Risk population of HIV/AIDS
   - Transmission of HIV/AIDS
   - Prevention from HIV/AIDS
   - Fearfulness about HIV/AIDS.
4. Programmatic variable
   - Available place for condom purchase
   - Exposure to mass media
5. HIV/AIDS related health services variable
   - Provider's attitudes towards the respondents
   - Household visits by health/family planning workers
   - Access to service at hospital/clinic

2.6 Awareness of HIV/AIDS

To find out the awareness of HIV/AIDS, five outcome variables were considered. These are (1) knowledge about HIV/AIDS (2) knowledge of fearfulness about HIV/AIDS (3) use condom (4) knowledge about STI/STD (5) receiving HIV and AIDS and other sexual health related service from different health care centers.

(1) Knowledge about HIV/AIDS
To know the knowledge level, each of the respondents was asked to say the name, sources, risk population, transmission and prevention of HIV/AIDS.

(2) Knowledge of fearfulness about HIV and AIDS
To know the how much knowledge about HIV and AIDS of each of the respondents asked to say some question's about fearfulness of HIV/AIDS.

(3) Use condom
In terms of practice, respondents were asked about condom use to prevent HIV/AIDS they were using that time.

(4) Knowledge about STI/STD
In the study, women were asked if they know the signs and symptoms of STI/STD.

(5) Receiving HIV and AIDS and other sexual health related service from different health care centers.

Women were asked if they knew the sign and symptoms of STI/STD, whether they had visited to doctors/upazila health complex during the problems they faced. If so, when and how many times they had visited for last six months preceding the survey date. In this study, respondents were asked about the importance and complexities of health problems of mother after occurring delivery. To understanding the knowledge about sexual health related diseases, respondents were asked about the places from where they would receive care.

2.7 Concept of Terminology

HIV: HIV stands for Human Immunodeficiency Virus. It is a parasite and is so small that it can only be seen through an electronic microscope. HIV destroys special cells in human body permanently. Those special cells are responsible for combating germs entering the body and defined the body against attacks by bacteria and virus. You can get HIV by:

- Coming in contact with HIV-infected blood (for example sharing needles for drugs).
- Through sexual contact with people who are already infected with HIV.

HIV-positive mothers can also pass the virus to their children during pregnancy, delivery, or through breast milk (Bronfman M: Mexico and Central America, International Migration, 1998: AIDS Crossing Borders: The Spread of HIV Among Migrant Hispanics).

AIDS: AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is the condition diagnosed when there are a group of related symptoms that are caused by advanced HIV infection or when someone has less than 200 CD4 cells (immune cells). AIDS makes the body vulnerable to life-threatening illnesses called opportunistic infections.

Awareness: In biological psychology, awareness comprises a human's or an animal's perception and cognitive reaction to a condition or event. Awareness does not necessarily imply understanding, just an ability to be conscious of, feel or perceive.

In general, "awareness" may refer to public or common knowledge or understanding about a social, scientific, or political issue, and hence many movements try to foster "awareness" of a given subject. For example AIDS awareness.

Floating: A section of the population does not permanently reside in a place.

Frequently Moving: A section of the population who is frequently moving in here and there.

Permanent Resident: A section of the population permanently resides in a place.

Fearfulness of HIV/AIDS: Fearfulness is measured by some variables such as kissing, touching body, mosquito bites, through sneeze, spittle and cough. A person having knowledge of accurate information about the transmission and way to prevention of HIV/AIDS and then obey the situation of avoiding those activities is called to have fearfulness. Otherwise, they have had no fearfulness about HIV/AIDS.

Symptoms of HIV: Many people with HIV have no symptoms for years. You must be tasted to know if you have HIV for sure. Early symptoms of HIV may include:

- Feeling tired all the time
- Diarrhea that will not go away
- Swollen glands in your neck, armpits, or groin
- Sweating at night
- A fever that lasts more than 10 days
- Unexplained weight loss
- Purplish or discoloured lesions on skin or mucous membrane that don't go away
- Persistent, unexplained cough or score throat
- Shortness of breath
- Easy bruising or bleeding that can not be explained

The symptoms of HIV are the same as the symptoms of other illness. If you have any of these symptoms, you may have HIV or another illness.

2.8 Method of Analysis

To conduct this study, primary data were gathered from structured questionnaire. All questionnaires are made and then interviewers were gone all through the questions. will be required. Finally the interviewers provided with training and then the primary data were collected from field. After editing and coding the relevant information are made to process the analysis that are appropriate with pertinent rational. In this research paper there are some analytical methods like as univariate, bivariate and multivariate analysis of logistic regression were used.

2.8.1 Preparation of Questionnaire

According to the goals of this research problem, a questionnaire was made. Data has been collected through individual questionnaire. The questionnaire was designed considering the following characteristics:

- Number of questions in the questionnaire were limited as much as possible;
- Assurance was given to the respondents that they were saved from the propaganda and no answer (s) of any question would not be against of their interest;
- A continuous was adopted for avoiding of long and confusing questions, double band and formulate simple and short questions;
- Questions of the questionnaire were started with easy and sequential and then put the more difficult ones;

Maintaining sequences is essential in the questionnaire for the research work. To avoid unnecessary trouble and hazardous situation, pre-testing of the schedule was done and modification of the contents of the schedule was made in the light of pre-testing. A draft questionnaire was first prepared and pre-testing of the same was completed. It was then finalized for field survey by eliminating the anomalous and inconsistencies present in the draft questionnaire. Questions are arranged in logical sequence and all questions relating to one aspect are grouped under one sub-head. Most of the questions are close-ended and the answers chosen by the respondents were indicated by the tick mark. Some open-ended questions are included to find out the opinions of the respondents with having space provided for writing the answers. Considering the difficulties of analysis of open-ended questions, we kept the number of open-ended to minimum. While designing the questionnaire, attention was given to the wording of the questions so that the respondents found it simple and understand easily. In certain situation local dialect of some terminology are used.

2.8.2 Data Collection

The data were collected by keeping the objectives of the study in mind. The study selected 32 points from Dhaka City. From each point 5 respondents were interviewed per day. Only one person was engaged to collect data for each point. Therefore, total 32 personnel were used to collect floating and frequently moving

population data. Thereafter, same population data were collected from railway stations and some noisy places in Dhaka city. Later on, quota sampling was applied to collect the necessary data regarding permanent resident population in Dhaka city. Similar technique was also used to collect the necessary types of population data from Rajshahi and Chittagong cities. The editing of completed questionnaires helped in amending and recording errors or eliminating data that were obviously erroneous and inconsistent. All kinds of mistakes have been corrected as found in questionnaires and all answers have been observed carefully. As a result, there was no irrelevant information. The tendency should not collect too many data, but the important matter is that some things are never subsequently examined and analyzed. In this survey the method of direct interview was used. The enumerators were mainly responsible to collect information and record them properly. Attention was given to record factual and true statements made by the respondents.

2.8.3 Data Processing

The easiest procedure of analyzing the data is to use computer program. At present nobody thinks to analyze the data without a suitable computer program. No other alternative is available to analyze the data quickly, easily and correctly. So, we have selected suitable computer program for data entry and analysis. For the data processing and analysis following stages are followed:

Editing: The data which we carefully checked each schedule of the questionnaire. The data were edited rigorously to make correction of any existing in insistences is data to minimize the non-sampling error of the study. During the edition period following consideration were kept in mind:

- The data should be complete;
- The data should be consistent;
- The data should be accurate;
- The data should be homogeneous.

Coding: After editing the questionnaire, the data were coded according to code plan. After the completion of coding, the data are ready for processing in the computer.

Statistical Software: Edited data are processed next in the computer. Different software has been used to complete this study. The entire analysis of the study is done by most extensively using software SPSS (Statistical Package for Social Sciences) for windows (version 15). Excel 2000 and Ms Word 2000 are used simultaneously as they are also found to be necessary in different aspects. Some first hand analysis such as frequencies, cross tabulations, construction of different tables, descriptive analysis, and chi-square tests are performed through SPSS 15. Besides these, SPSS 15.5, Excel 2003 is used to construct some of the graphical outputs. The word processing software is used to prepare as well as presents all the outputs that are presented in this paper.

2.9 Analytical Method

After investigation of the data, to identify the study people with their educational and social structure we will investigate the impact of socio-economic factor among the floating, frequently moving and permanent resident population. The analyses use the following demographic and statistical techniques and methods as per requirement of the study.

Bivariate Analysis: Bivariate analysis, examines the independent variables individually, and gives only a preliminary notion of how important each variable is by itself. The examination of percentage in a bivariate analysis is an advantageous first step for studying the relationship between two variables, these percentages do not allow for qualification or testing of that relationship. For this purposes, it is useful to consider various index that measure the extend of association as well as statistical test of the hypothesis that there is no association, chi-square test of independence is performed to test the existence of interrelationship among the categories of two qualitative variables. In this study, some of the covariance is quantitative such as mothers' age at birth, preceding birth interval. In view of performing differential analysis, it is required to take these variables into categories on the basis of their respective standard ranges.

To determine which of the factors influence on the use of maternal health care service and treatment seeking behaviors of the study population, data is analyzed by the variables, which affect maternal health care service.

Contingency Analysis: According to contingency analysis, we make design to test any association between different phenomena that could be useful in the socio-economic condition of the respondent. Here, we assume the hypothesis of independence or homogeneity as the null hypothesis (Gupta & Kapoor, 1994). The expected frequency under the hypothesis is calculated as:

$$E_{ij} = \frac{O_i \times O_j}{N}$$

Where, O_i = number of elderly at the ith row of respective contingency table;

O_j = number of elderly at the jth column of respective contingency table;

N = total number of elderly.

All the contingency tables are prepared on the basis of classification of variables. From each contingency table examination of association between component and the various segment of the component are made by computing chi-square using the formula given by:

$$\chi^2 = \sum_{ij} \frac{O_{ij}}{E_{ij}} - N$$

Which follow chi-square distribution with (r-1) (c-1) degrees of freedom.

Where, O_{ij} = the observed number of elders in (I,j)th cell;

O_{jj} = the expected number of elders in (I,j)th cell;

r = number of rows;

c= number of columns.

Logistic Regression Model: Logistic regression analysis is a useful tool for statistical multivariate analysis when the dependent variable is qualitative. It does not require any distribution assumptions for both dependent and independent variables. In this regard it is very convenient analysis. The logistic regression model can be used not only to identify risk factors but also to predict the probability of success. This model expresses a qualitative dependent variable as a function of several independent variables, both qualitative and quantitative (Fox, 1984).

Let Y_i denote the dichotomous dependent variable for the ith observation and $Y_i = y_i = 1$, if he/she know the fearfulness about HIV/AIDS and $Y_i = y_i = 0$, if he/she does not know the fearfulness about HIV/AIDS. Also let p_i be the probability of knowing the fearfulness

about HIV/AIDS given that independent variables X_i and can be expressed for logistic regression model as,

$p_i = E\{y_i = 1 \mid X_i\} = \frac{1}{1+e^{-(\beta_0+\beta_1 X_i)}}$, where X_i is explanatory variables and

$1 - p_i = E\{y_i = 0 \mid X_i\} = 1 - \frac{1}{1+e^{-(\beta_0+\beta_1 X_1)}} = \frac{e^{-(\beta_0+\beta_1 X_1)}}{1+e^{-(\beta_0+\beta_1 X_1)}}$

or, $\frac{p_i}{1-p_i} = \frac{1}{1+e^{-(\beta_0+\beta_1 X_1)}} \times \frac{1+e^{-(\beta_0+\beta_1 X_1)}}{e^{-(\beta_0+\beta_1 X_1)}}$

i.e. $\frac{p_i}{1-p_i} = e^{(\beta_0+\beta_1 X)}$ .....(1)

Now if we take natural log of equation (1) we obtain,

$L_i = \log_e\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 X_i$ .....(2)

Here, $p_i / (1-pi)$ given in (1) is simply the odds ratio and L_i given in (2) is known as log-odds. Instead of single explanatory variable, we can count k explanatory variables X_{i1}, X_{i2}, ..., X_{ik} for the ith response and the model (2) becmes,

$L_i = \log_e\left(\frac{p_i}{1-p_i}\right) = \sum_{j=o}^{k} \beta_j X_{ij}$ .....(3)

Here, $X_{i0} = 1$ and β_j is the parameter relating to X_{ij}. The function (3) is a linear function of both the variable X and the parameter β. L is called the logia and hence the model (3) is called logistic regresión model.

CHAPTER - THREE

DESCRIPTIVE ANALYSIS OF THE RESPONDENTS' KNOWLEDGE ABOUT HIV/AIDS

3.1 Introduction

The existence of HIV/AIDS posses a serious challenge to human kind. To date, there is neither a vaccine nor a cure for HIV/AIDS. It requires response from each and every one of us especially for the floating poor. As a result, the socio-demographic awareness as well as health determinants of transmission of HIV/AIDS must be addressed.

Disseminating HIV/AIDS information is very important to raise the consciousness of the people. This chapter aimed to reveal and provide the data analysis related to awareness of floating, frequently moving and permanent resident based population about HIV/AIDS of Dhaka, Rajshahi and Chittagong three Metropolitan Cities. In this regard, the study afforded to collect, analyze and interpret data on some important issues and variables such as socio-demographic characteristics, sources and awareness of HIV/AIDS, symptoms, risk population, HIV/AIDS transmission, way to escape from AIDS. This chapter purports to represent the analytical findings chronologically by subsections which are background characteristics, social and demographic, age distribution, education, occupation, marital status and so on.

3.2 Background Characteristics: Social and Demographic

Socio-economic and demographic characteristics of the study population are essential for interpretation of collected data and examination of any cause-effect relationship among different variables. It also helps in comparing findings with similar characteristics in other

independent study findings. Following tables and figures provide the descriptive summary of some selected socio-economic and demographic characteristics of the study population.

3.2.1 Age Distribution

Age distribution is an important factor in the demographic research in many respects. Proper analysis of its can be helpful for population policy makers to implement a possible accurate population policy for a nation. The present study find that more than one fourth (28.30%) of the floating persons are in the age group 50+ years, about less than half (38.50%) of the frequently moving persons are in the age group 30-39 years, about less than half (43.60%) of the permanent resident persons are in the age group 18-29 years and less than half (37.70%) of the total respondents are in the age group 30-39 years. Table 3.1 and Figure 3.1 indicate that most of the respondent's age group belong 30 to 39.

Table 3.1: Age distribution of respondents

Age Group	Population			
	Floating	Frequently Moving	Permanent Resident	All
18-29	70 (23.30)	202 (25.30)	348 (43.60)	620 (32.70)
30-39	76 (25.30)	307 (38.50)	332 (41.60)	715 (37.70)
40-49	69 (23.00)	139 (17.40)	99 (12.40)	307 (16.20)
50+	85 (28.30)	150 (18.80)	19 (2.40)	254 (13.40)
N	300	798	798	1896

Note: Figure in parenthesis indicate the percentage distribution

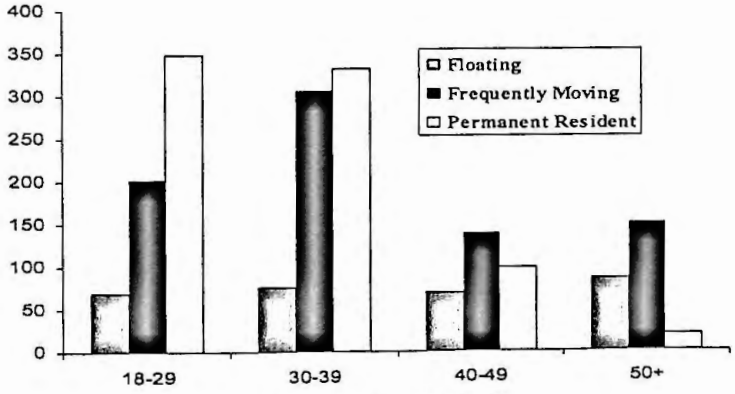


Figure 3.1 Age Distribution

3.2.2 Education

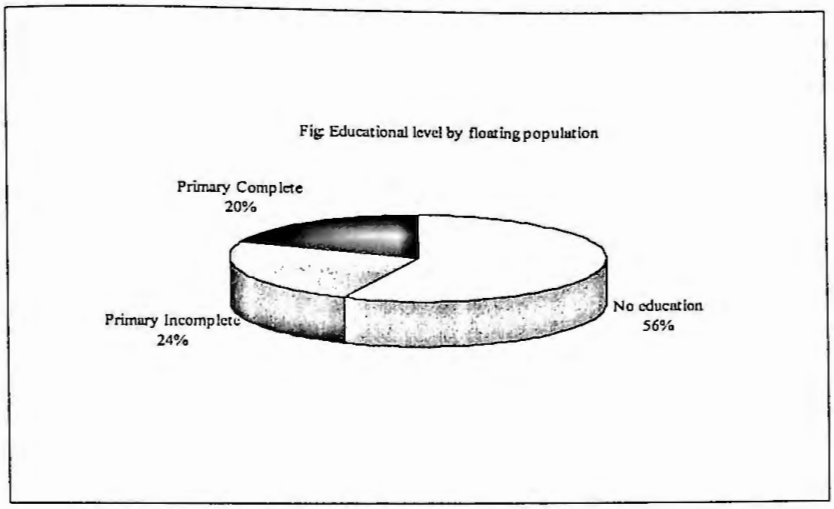
Education is one of the most important indicators of increasing awareness. As the education level increases, the awareness of HIV/AIDS also rises (Rahman, 2008). The status of literacy among different people is shown in Table 3.2. About 56 percent i.e. the majority of the floating respondents never attended in school but the corresponding percentage for frequently moving and permanent resident person are only about 22 and 8 respectively. Here, notable that the tendency of school going floating population rate is comparatively lower than permanent resident and frequently moving people due to their surrounding atmosphere and insufficient socio-economic condition. For this reason permanent resident and frequently moving population are more educated than floating population. On the other hand, about 24 percent floating respondents were found primary incomplete and 20 percent primary complete. Whereas, 24 percent was primary incomplete and 14 percent was primary complete for frequently moving respondents. Again for respondents of permanent resident, about 23 and 15 percent were found primary incomplete and complete respectively. Data indicates that a significant part of the floating populations (56%) were illiterate (no education). It may conclude that populations having primary incomplete are less aware about HIV/AIDS compare to the other educational levels by different categories of populations. The distribution of educational levels by different category of population is shown in Figure 3.2.

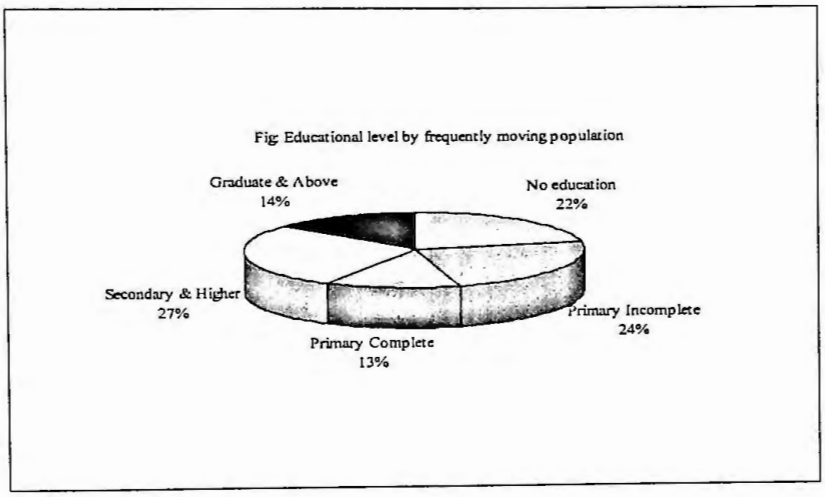
Table 3.2: Distribution of respondents by educational background

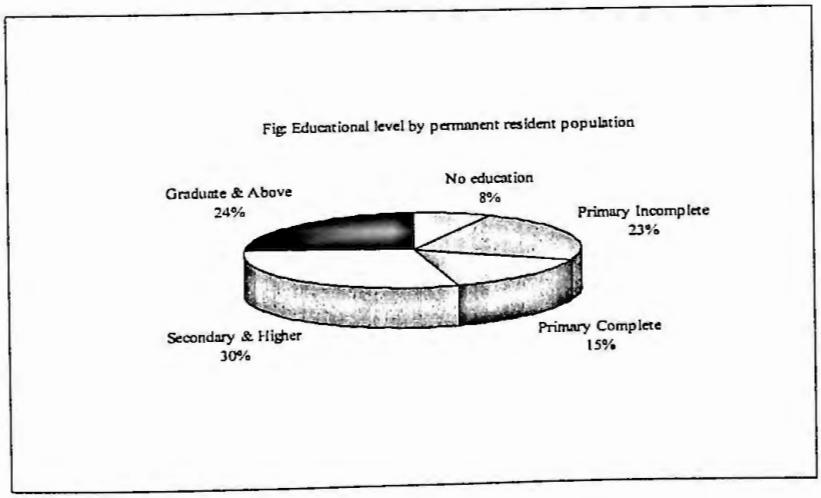
Educational Level	Population			
	Floating	Frequently Moving	Permanent Resident	All
No education	169 (56.30)	178 (22.30)	61 (7.60)	408 (21.50)
Primary Incomplete	72 (24.00)	193 (24.20)	180 (22.60)	445 (23.50)
Primary Complete	59 (19.70)	108 (13.50)	123 (15.40)	290 (15.30)
Secondary & Higher	-	224 (28.10)	246 (30.80)	470 (24.80)
Graduate & Above	-	113 (11.90)	188 (23.60)	283 (14.90)
N	**300**	**798**	**798**	**1896**

Note: Figure in parenthesis indicates percentage

Figure 3.2: Educational level by different population.







3.2.3 Occupation

The professional characteristics are the subject matter of analysis, which influences the socio-demographic performance and identification of issue of HIV/AIDS in Bangladesh. Table 3.3 presents the profession of populations for three metropolitan cities of different categorical populations. Data indicates that out of total floating population, about 64 percent are others occupation, 18 percent are rickshaw & auto rickshaw driver followed by business man (12.30%) and sex worker (6.00%). On the other hand, out of total frequently moving population, about 34 percent are rickshaw & auto rickshaw driver, about 23 percent are others occupation followed by business man (16.90%), service man (16.30) and so on (Table 3.3). Approximately same percentage has found among all categories of occupation except driver (8.10) and sex worker in case of permanent resident. It is notable that sex worker category not available in frequently and permanent resident respondents but available in floating respondents. It may be cause of free intimacy. More details are shown in Table 3.3.

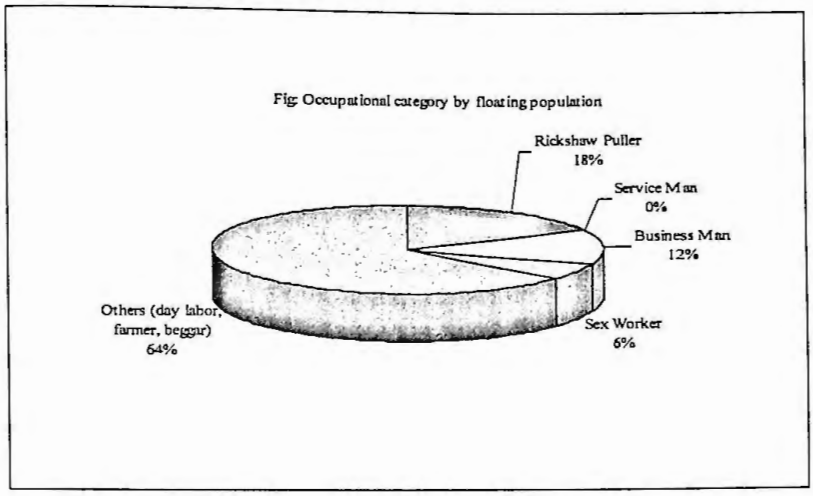
Table 3.3: Distribution of respondents by occupation

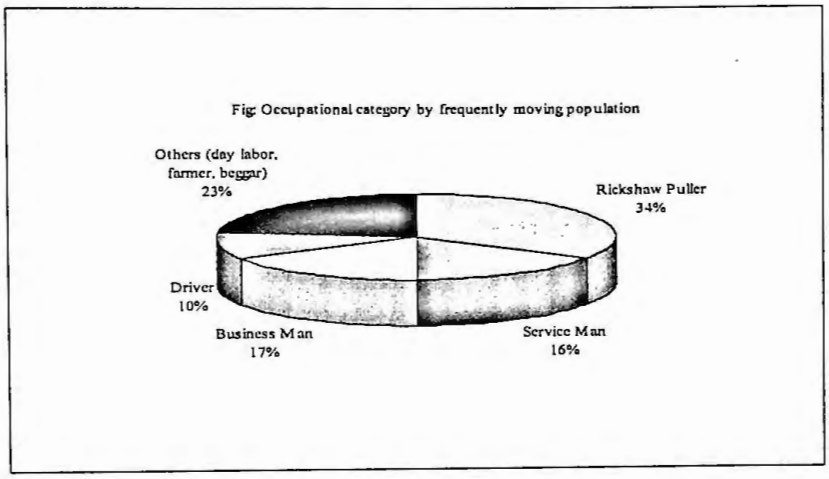
Occupation	Population			
	Floating	Frequently Moving	Permanent Resident	All
Rickshaw & auto rickshaw driver	54 (18.00)	269 (33.70)	174 (21.80)	497 (26.20)
Service Man	-	130 (16.30)	176 (22.10)	306 (16.10)
Business Man	37 (12.30)	135 (16.90)	179 (22.40)	351 (18.50)
Driver	-	82 (10.30)	65 (8.10)	147 (7.80)
Sex worker	18(6.00)	-	-	18 (0.90)
Others[1]	191 (63.70)	182 (22.80)	204(25.60)	577 (30.40)
N	300	798	798	1896

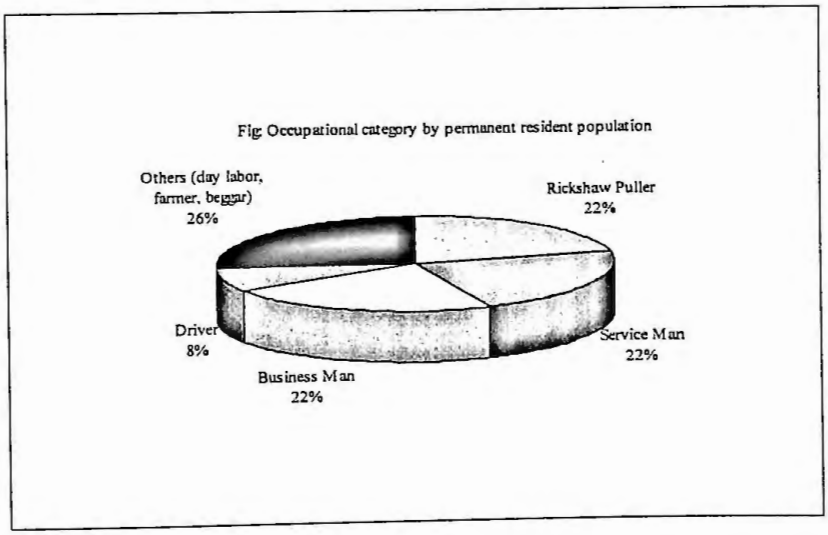
Note: Figure in parenthesis indicates percentage.

[1] day labor, farmer, beggar

Figure 3.3: Occupational Categories by different population







3.2.4 Marital Status

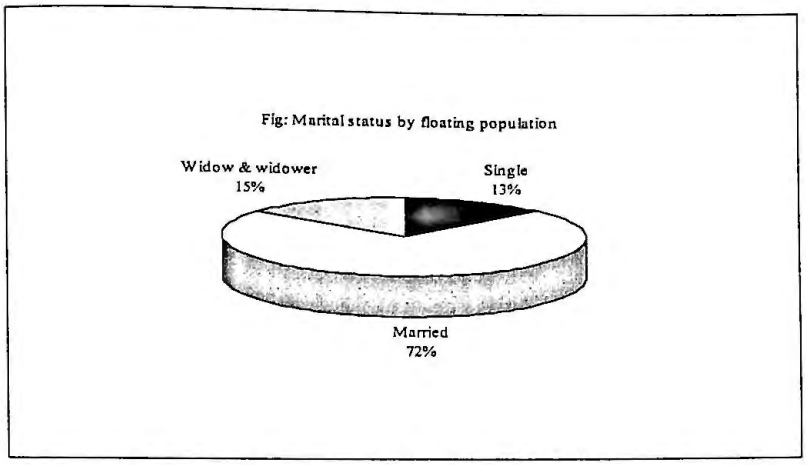
Among three groups, single respondents has found about 13 percent in floating and frequently moving and permanent resident have found about 12 and 25 percent respectively. It is also observed that according to married respondents, floating (71.70%), frequently moving (85.60%), permanent resident (73.70%) and all (78.40%) are contain a significantly higher percentage. More details are found in Table 3.4.

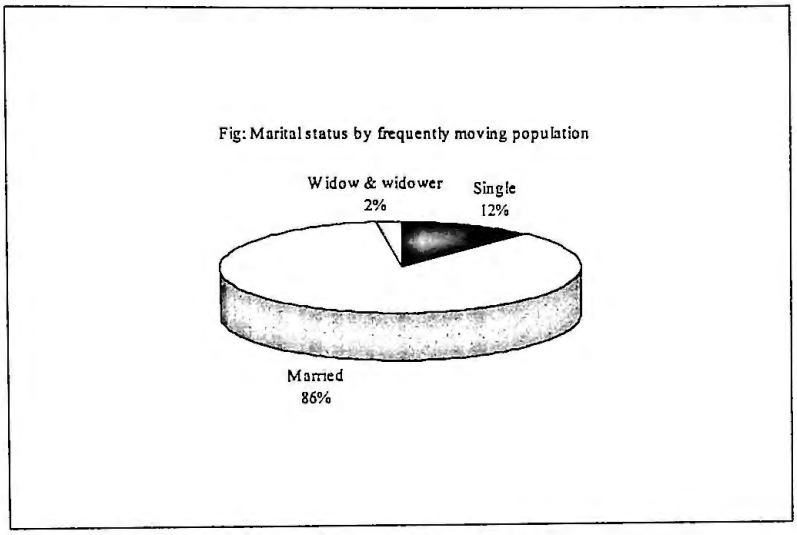
Table-3.4: Distribution of respondents by marital status

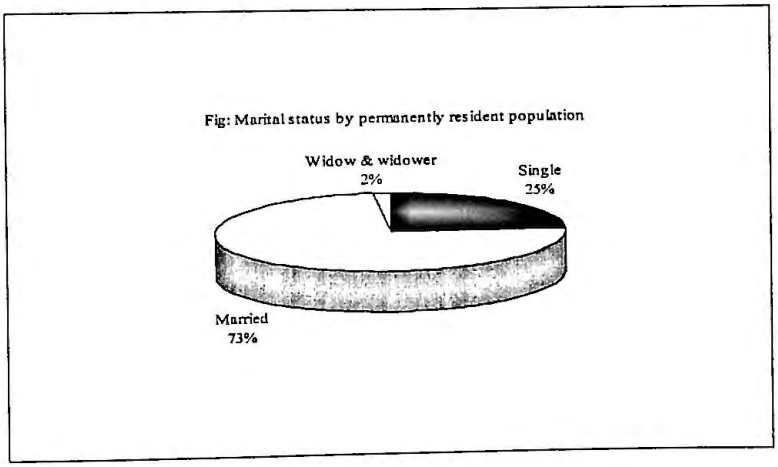
Marital Status	Population			
	Floating	Frequently Moving	Permanent Resident	All
Single	40 (13.30)	97 (12.20)	196 (24.60)	333 (17.60)
Married	215 (71.70)	683 (85.60)	588 (73.70)	1486 (78.40)
Widow & Widower	45 (15.00)	18 (2.30)	14 (1.80)	77 (4.10)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage.

Figure 3.4: Marital Status by different population.







3.3 Awareness of HIV/AIDS

The study is made with an attempt to asses the awareness of HIV/AIDS among the floating, frequently moving and permanent resident respondents by perception. The following subsections contain in details description regarding this issue.

3.3.1 Perception of HIV/AIDS

Although, Bangladesh is a low HIV prevalence country, the prevalence rate of HIV/AIDS in Bangladesh is rising on. A vast number of people don't know what the impacts of these diseases are and how to avoid these (Sarkar, et al., 1997). Different Govt. and non-government organizations (NGOs) are undertaking awareness on HIV/AIDS issue through raising health programs to make consciousness among the people. This study attempts to asses the awareness about HIV/AIDS among the respondents. Table 3.5 shows that about 92 percent floating respondents heard the name of HIV/AIDS through various sources of media. On the other hand, the same number (99.00%) frequently moving and permanent resident heard the name of HIV/AIDS by various sources of media. But 52 percent floating, 31 percent frequently moving and 28.40 percent permanent resident doesn't know the fearfulness of HIV/AIDS. More details are shown in Table 3.5.

Table-3.5: Distribution of respondents by knowledge

Knowledge of HIV/AIDS	Population			
	Floating	Frequently Moving	Permanent Resident	All
Heard about HIV/AIDS				
Yes	275 (91.70)	790 (99.00)	790 (99.00)	1855(97.80)
No	25 (8.30)	8 (1.00)	8 (1.00)	41 (2.20)
Knowledge about fearfulness of HIV/AIDS				
Yes	144 (48.00)	550 (68.90)	571 (71.60)	1265 (66.70)
No	156 (52.20)	248 (31.10)	227 (28.40)	631 (33.30)

Note: Figure in parenthesis indicates percentage

3.3.2 Sources of HIV/AIDS Information

The public awareness about HIV/AIDS can be raised through different sources of information on this issue. The public should be reassured that HIV/AIDS is a dangerous disease but they can lead secure life through the appropriate prevention measures taken. The use of mass media could also be a successful strategy in reaching different population with information on HIV/AIDS, particularly those who are living in floating area. The sources of information about HIV/AIDS are divided into two-sub classification like-single source and multiple sources. Single source include electronic media (radio and TV), print media (news paper and poster), counseling (health worker, friends and community meeting) and institute (religious, educational and NGO). Multiple source include (i) radio and TV (ii) TV and friend (iii) TV and health worker (iv) radio, TV, religious institute, health worker, community meeting and friend (iv) radio, poster and friend.

Table 3.6 shows electronic media is the most dominant source of hearing about HIV/AIDS among three target groups populations like floating (41%), frequently moving (50.60%) and permanently resident (39.20%). It may be that radio and TV are the most preferable source about hearing HIV/AIDS of respondents. Again, about 8 percent floating respondents does not know HIV/AIDS sources of information, whereas only 1 percent frequently moving and permanent resident respondents does not know about HIV/AIDS sources of information. It may be notable that frequently moving and permanent resident populations are more awarded than floating population. Electronic media (44.30%), multiple source (27.40%), institute (13.90%), Counseling (7.20%) and Print media (5.10%) were the five leading HIV/AIDS sources of information in case of overall estimate. Again, among the three target groups, several trends emerged regarding sources of HIV/AIDS information, mostly attributable to differences in living standards, employment, personal attitudes and literacy. It is also interesting to note that just 13.90 percent get information from institute that include educational institute and only 7.20 percent from counseling that include health facilities. It may be cause of weakness of

those media. A complete distribution of different sources of information is shown below in Table 3.6.

Table-3.6: Distribution of respondents by sources of information

Source of AIDS Information	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know	25 (8.30)	8(1.00)	8 (1.00)	41 (2.20)
Electronic media	123 (41.00)	404 (50.60)	313 (39.20)	840 (44.30)
Print media	11 (3.70)	41 (5.10)	44 (5.50)	96 (5.10)
Counseling	37(12.30)	53 (6.60)	46 (5.80)	136 (7.20)
Institute	5 (1.70)	62 (7.80)	196 (24.60)	263 (13.90)
Multiple source	99 (33.00)	230 (28.80)	191 (23.90)	520 (27.40)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.3.3 HIV/AIDS Risk Population

"Predictions that HIV would reach epidemic proportions in Bangladesh if the high-risk behavior continued has come true. This year the fourth round of serological surveillance has detected 4% HIV infection among injection drug users in Central Bangladesh-just short of the 5% mark of a concentrated epidemic" (HIV in Bangladesh, 2003). 'Risk Population' is the probability of being affected in future by a specific diseases or social event. Data shows a significant portion of the probability of being affected has found about 40 percent by sex workers for the combine estimate. Now comparing the three target population groups, most of the permanent resident respondents (52.00%) are known sex worker as the risk population of HIV/AIDS whereas this figure for both floating and frequently moving population is 29 and about 32 percent respectively. It may be because sex worker is the principle routes of HIV/AIDS transmission (Sarkar, 2010). Again comparing among those groups, the percentage of the probability of affected HIV/AIDS by rickshaw puller and frequently moving respondents have found the lowest (0.50%), whereas permanent resident and floating respondents have found approximately 2 percent respectively. Table 3.7 depicts the details figure on this issue.

Table 3.7: Distribution of respondents by risk population on AIDS

Risk population	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know	25 (8.30)	8 (1.00)	8 (1.00)	41 (2.20)
Disobedient of religious belief	10 (3.30)	5 (0.60)	31 (3.90)	46 (2.40)
Addict person	66 (22.00)	51 (6.40)	38 (4.80)	155 (8.20)
Illiterate person	5 (1.70)	2 (0.30)	39 (4.90)	46 (2.40)
Truck driver	16 (5.30)	51 (6.40)	23 (2.90)	90 (4.70)
Rickshaw puller	5 (1.70)	4 (0.50)	17 (2.10)	26 (1.40)
Sex worker	88 (29.30)	254 (31.80)	415 (52.20)	757 (39.90)
Floating person	-	24 (3.00)	30 (3.80)	54 (2.80)
Multiple answer	85 (28.30)	399 (50.00)	197 (24.7)	681 (35.90)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.3.4 Transmission of HIV/AIDS

There is still misunderstanding about how HIV is transmitted from one person to another (Sternberg and Hubley, 2004). Epidemiological studies have shown that the only routes of AIDS transmission are through sexual intercourse, transmission of blood, injections, HIV-contaminated needles of syringes and transmission from an infected mother to her infant (Fisher et al., 2002). To meet the goal of AIDS prevention and control, there is strong need to asses the current levels of specific awareness about AIDS transmission by urban-rural residence and other key socio-economic factors (Rahman, 2008). Study results pertaining to awareness are found in Table 3.8 significant differences regarding the routes of HIV transmission have observed among different types of population like floating, frequently moving and permanent resident. Most of the respondents (94.10) are known HIV/AIDS as transmitted diseases among floating, frequently moving and permanent resident population of the overall count. About 32 percent permanent resident and 10.30 percent floating respondents believe illegal intercourse is the main conductor of HIV/AIDS spread, whereas 9.10 percent permanent resident respondents believe mother

to child transmission is responsible for spread of HIV/AIDS. Likewise, a significant number of respondents known transmission route is multiple among the floating (29.30%), frequently moving (56.50%) and permanent resident (31.70%) population. This route may be main route of spreading HIV/AIDS. Table 3.8 shows the distribution of respondents by transmission of HIV/AIDS.

Table-3.8: Distribution of respondents by transmission of HIV/AIDS

Routes of transmission	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know specific way	62 (20.70)	12 (1.50)	37 (4.60)	111 (5.90)
Mosquito bite	6 (2.00)	20 (2.50)	4 (0.50)	30 (1.60)
Illegal intercourse	31 (10.30)	63 (7.90)	251 (31.50)	345 (18.20)
Blood & vaginal secretion	7 (2.30)	17 (2.10)	43 (5.40)	67 (3.50)
Injection	17 (5.70)	21 (2.60)	11 (1.40)	49 (2.60)
Free intimacy	3 (1.00)	28 (3.50)	23 (2.90)	54 (2.80)
Sex worker	18 (6.00)	48 (6.00)	53 (6.60)	119 (6.30)
Mother to child transmission	17 (5.70)	73 (9.10)	96 (12.00)	186 (9.80)
Shaking hand	6 (2.00)	20 (2.50)	6 (0.80)	32 (1.70)
Sharing food	16 (5.30)	11 (1.40)	6 (0.80)	33 (1.70)
Toilet seats	18 (6.00)	17 (2.10)	9 (1.10)	44 (2.30)
Hugging	10 (3.30)	17 (2.10)	6 (0.80)	33 (1.70)
Multiple routes	89 (29.30)	451 (56.50)	253 (31.70)	793 (41.80)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.3.5 HIV/AIDS Symptoms

Respondent's knowledge is not familiar with all different symptoms of HIV/AIDS (Akther, 2008). They identified the common symptoms as the outcome of HIV/AIDS infections. Usually in Bangladeshi context, whenever any one fell into any kind of disease, he or she will suffer from fever, headaches, weight loss and extreme fatigues which they identify as the symptoms of HIV/AIDS. But other critical symptoms such as mental depression and vision loss were quite unknown to them (Akther, 2008). The

following subsections, describes awareness of HIV/AIDS symptoms of the respondents through knowledge pattern by two-sub classification like major symptoms and minor symptoms.

3.3.5.1 Major symptoms of HIV/AIDS

Table 3.9 shows the respondents knowledge about major symptoms of HIV/AIDS. About 34 percent floating respondents have no knowledge about major symptoms of HIV/AIDS whereas only about 5 percent frequently moving and 3 percent permanent resident respondents have no knowledge about major symptoms. It is notable that frequently moving population more aware about HIV/AIDS symptom than floating and permanent resident respondents due to moving different palace. Again, the knowledge of major symptom about HIV/AIDS, about 30 percent floating respondent's belief multiple symptom is the major cause of HIV/AIDS diseases, whereas similar percentage of frequently moving belief more than one month continuous fever with headache, joint & hand-leg pain and 42 percent permanent resident belief that the body weight loss (Table 3.9). More details are found in Table 3.9.

Table-3.9: Distribution of respondents by Major symptoms of AIDS

Big problem	Population			
	Floating	Frequently moving	Permanent Resident	All
Doesn't know	101 (33.70)	38 (4.80)	25 (3.10)	164 (8.60)
Body weight decreases 10%	29 (9.70)	187 (23.40)	335 (42.00)	551 (29.10)
Fever continue more than 1 month with headache, joint & hand-leg pain	53 (17.70)	238 (29.80)	217 (27.20)	508 (26.80)
Diarrhea continues for more than one month.	14 (4.70)	90 (11.30)	42 (5.30)	146 (7.70)
Red color in the skin of body	14 (4.70)	109 (13.70)	32 (4.00)	155 (8.20)
Multiple symptom	89 (29.70)	136 (17.00)	147 (18.40)	372 (19.60)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.3.5.2 Minor symptoms of HIV/AIDS

Table 3.10 presents the respondent's knowledge about minor symptoms of HIV/AIDS. About 33 percent floating population doesn't know the minor symptoms of HIV/AIDS on the other hand, similar percentage (5%) of both frequently moving and permanent resident doesn't know same symptom. In case of the knowledge of minor HIV/AIDS symptom, 28 percent floating and 20 percent frequently moving respondents belief multiple symptom is the main cause, whereas 35 percent permanent resident respondents belief anti-biotic power loss symptoms. More details are found in Table 3.10.

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Table-3.10: Distribution of respondents by minor symptoms of AIDS

Do you know Small symptoms of AIDS?	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know	100(33.33)	37 (4.60)	35 (4.40)	172 (9.10)
Light blue-violet vesicle on body skin which doesn't go away.	1 (0.30)	3 (0.40)	18 (2.30)	22 (1.20)
Simple lymph Organ	3 (1.00)	11 (1.40)	10 (1.30)	24 (1.30)
White spot of ulcer on mouth or neck	10 (3.30)	36 (4.50)	26 (3.30)	72 (3.80)
Dry cough for more than one month	12 (4.00)	81 (10.20)	27 (3.40)	120 (6.30)
Ulcer from high-low vesicle and herige which spread on the lip and other parts of the body	5 (1.70)	80 (10.00)	141 (17.70)	226 (11.90)
Losing anti-biotic power	64 (21.30)	159 (19.90)	282 (35.30)	505 (26.60)
Sweetening at night	2 (0.70)	87 (10.90)	127 (15.90)	216 (11.40)
Physically & mentally exhaustion	17 (5.70)	87 (10.90)	18 (2.30)	122 (6.40)
Eye pale	2 (0.70)	56 (7.00)	13 (1.60)	71 (3.70)
Multiple symptom	84 (28.00)	161 (20.20)	101 (12.70)	346 (18.20)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.3.6 Prevention of HIV/AIDS

Awareness of HIV/AIDS prevention among floating, frequently moving and permanent resident population can be helpful to lead a safe life from HIV/AIDS contamination. "*The majority person of sex worker in Bangladesh is known valid way to avoid AIDS. They mainly use condom during intercourse*" (Ahmed, 2004). Now a day, condom has been considering as popular methods of HIV/AIDS protection. During the interview period, when respondents were asked how to avoid HIV/AIDS virus, it seems that they want to rely on personal opinion about the way of avoiding HIV/AIDS. In this study, about 18

percent floating respondent belief prevention way is use condom during intercourse, whereas both frequently moving and permanent resident beliefs only about 8 and 12 percent respectively on the same issue (Table 3.11). Again, Table 3.11 pointed that all respondents are known about various ways to avoid HIV/AIDS except only about 2 percent floating respondent. Again, about 21 percent floating respondents mention by avoid homo sex is the highest way whereas 30 percent frequently moving and 22 percent permanent resident by multiple way is the highest HIV/AIDS avoiding way. This information is presented in Table 3.11.

Table-3.11: Distribution of respondents by prevention of HIV/AIDS

Do you know, Which ways to avoid HIV/AIDS?	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know specific way	5 (1.70)	-	-	5 (0.30)
To obey command of religious belief	36 (12.00)	86 (10.80)	128 (16.00)	250 (13.20)
Abstain from sexual relation	10 (3.30)	12 (1.50)	16 (2.00)	38 (2.00)
Use condom during intercourse	55 (18.30)	61 (7.60)	94 (11.80)	210 (11.00)
Doctor advice	12 (4.00)	8 (1.00)	41 (5.10)	61 (3.20)
Avoid multiple sex partner	4 (1.30)	62 (7.80)	5 (0.60)	71 (3.70)
Abstain sex from prostitute	21 (7.00)	25 (3.10)	2 (0.30)	48 (2.50)
Avoid homo sex	62 (20.70)	32 (4.00)	12 (1.50)	106 (5.60)
Avoid contaminated syringe & razors	18 (6.00)	166 (20.80)	173 (21.70)	357 (18.80)
Avoid kissing	20 (6.70)	17 (2.10)	10 (1.30)	47 (2.50)
Blood transfusion	6 (2.00)	87 (10.90)	131 (16.40)	224 (11.80)
Avoid mosquito bites	7 (2.30)	-	7 (0.90)	14 (0.70)
Multiple way	44 (14.70)	242 (30.30)	179 (22.40)	465 (24.50)
N	**300**	**798**	**798**	**1896**

Note: Figure in parenthesis indicates percentage

3.3.7 Preferred way to avoid HIV/AIDS

Emphasis is given on making knowledge how to avoid HIV/AIDS as there is no cure to get rid of the unbearable sufferings from these diseases. To bring change in developing healthy sexual relationship is essential for preventing these diseases. In this study all respondents are known preferred way to avoid HIV/AIDS except only about 2 percent floating respondents. Table 3.12 is giving information's among floating, frequently moving and permanent resident persons knowledge about the best ways to avoid HIV/AIDS. It seen that about 40 percent floating, 38 percent frequently moving and about 49 percent permanent resident respondents considered condom is the preferred way to avoid HIV/AIDS during intercourse. It may be condom methods are the preferred way to avoid HIV/AIDS. Again, about 18 percent floating, about 6 percent frequently moving and 25 percent permanent resident respondents considered preferred way to avoid HIV/AIDS by obey command of religious belief. More details are found in the following Table.

Table-3.12: Distribution of respondents by preferred way to avoid of HIV/AIDS

Do you know, Best way to avoid AIDS?	Population			
	Floating	Frequently Moving	Permanent Resident	All
Doesn't know	5 (1.70)	--	-	5 (0.30)
To obey command of religious belief	54 (18.00)	44 (5.50)	203 (25.40)	301 (15.90)
Abstain from sexual relation	28 (9.30)	33 (4.10)	42 (5.30)	103 (5.40)
Use condom during intercourse	118 (39.30)	303 (38.00)	390 (48.90)	811 (42.80)
Doctor advice	18 (6.00)	137 (17.20)	72 (9.00)	227 (12.00)
Avoid multiple sex partner	11 (3.70)	107 (13.40)	43 (5.40)	161 (8.50)
Abstain sex from prostitute	43 (14.30)	150 (18.80)	21 (2.60)	214 (11.30)
Avoid homo sex	1 (0.30)	-	6 (0.80)	7 (0.40)
Avoid contaminated syringe & razors	13 (4.30)	19 (2.40)	17 (2.10)	49 (2.60)
Blood transfusion	2 (0.70)	5 (0.60)	4 (0.50)	11 (0.60)
Avoid mosquito bites	7 (2.30)	-	-	7 (0.40)
N	300	798	798	1896

Note: Figure in parenthesis indicates percentage

3.4 Conclusion

Given the current focus of HIV/AIDS awareness in Bangladesh, the limitation in resources especially in floating awareness, prevention of HIV/AIDS transmission knowledge, injecting drug use and other situations of high risk of population are rare. In their individual risk assessment of people with high-risk behavior clearly underestimate the risk of contracting HIV. These indicators all point towards an unmet need for information and education about HIV/AIDS and how HIV is transmitted, and particularly how it is not transmitted, in order to reassure people about risk-free daily interactions with HIV positive people. The study clearly shows that the average level of awareness about HIV/AIDS transmission is relatively low and those serious misperceptions, such as they belief that transmission can occur through mosquito bites are fairly common. Unfortunately, the lacks of proper knowledge about HIV/AIDS, the general people are victim of high-risk of HIV/AIDS. Preventing stigma and discrimination is a collective task shared by all and successes in this regard will not only benefit people living with HIV, but also prevention efforts and society as a whole.

CHAPTER – FOUR

AWARENESS OF HIV/AIDS BY DIFFERENT CHARACTERISTICS: CROSS-TABULAR ANALYSIS

4.1 Introduction

We all know that information is power and awareness empowers one to protect from HIV/AIDS. Although prevalence of HIV/AIDS is low in Bangladesh, the risk of an emerging HIV/AIDS epidemic cannot be ignored. Bangladesh is at a critical moment in the course of HIV/AIDS epidemic. However the country's vulnerability is high. With the risk of an expanding epidemic in certain vulnerable position in Bangladesh, there is difficulty in trying to generate awareness 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 doesn't 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 raise awareness about HIV/AIDS related issues are important to implement in Bangladesh. Thus, this chapter purports to represent the cross-tabular analysis in the subsections like knowledge of HIV/AIDS by sources of Knowledge, prevention methods, transmission and remove way of government policy.

4.2 Knowledge of HIV/AIDS by Background Characteristics

Knowledge of HIV/AIDS and background characteristics are highly linked. Table 4.1 shows the percentage of respondents who have heard the name of HIV/AIDS and

indicates that knowledge varies substantially by background characteristics. About 97 percent floating respondents in age group 30-39 who have heard the name of HIV/AIDS whereas the percentage of those not hearing the name of HIV/AIDS are low and the differentials is not statistically significant. In both case of frequently moving and permanent resident population almost approximately 100 percent respondents in all age groups heard the name of HIV/AIDS and the association is highly significantly differ from those not heard the name of HIV/AIDS. Table 4.1 also shows that married floating respondents who heard the name of HIV/AIDS were significantly higher than those not heard whereas in case of frequently moving and permanent resident respondents about 99 percent have heard the name of HIV/AIDS respectively and the different with those not heard the name of HIV/AIDS is statistically not significant. In both frequently moving and permanent resident respondents awareness is increasing as educational level increase except in floating respondents under primary educational level. For in this three cases the different between the respondents heard the name of HIV/AIDS and not heard were statistically highly significant. It may be concluded that more educated person is more aware about HIV/AIDS than the illiterate. Again, 100 percent floating sex worker have known about HIV/AIDS whereas 100 percent permanent resident respondents who are service holder known about HIV/AIDS. In all occupational categories the percentage of the respondents heard the name of HIV/AIDS contain higher percentage than those not heard the name of HIV/AIDS and in frequently moving, the relation between occupation and knowledge are statistically highly significant but in both cases (floating and permanent resident) there is no association observed between occupation and knowledge.

Table 4.1: Knowledge of HIV/AIDS: Floating, frequently moving and permanent resident population

Background Characteristics	Have you heard the name of HIV/AIDS								
	Floating (N=300)			Frequently moving (N=798)			Permanent resident (N=798)		
	Yes	No	N	Yes	No	N	Yes	No	N
Age									
18-29	94.30	5.70	70	97.00	3.00	202	98.80	1.20	348
30-39	97.40	2.60	76	100.00	0.00	307	97.00	3.00	332
40-49	88.40	11.60	69	99.30	0.70	139	94.70	5.30	99
50+	88.40	11.60	85	99.30	0.70	150	99.00	1.00	19
	χ^2= 7.186; d.f=3; ρ=0.066			χ^2=11.273; d.f=3; ρ=0.010			χ^2=11.238; d.f=3; ρ=0.011		
Marital status									
Unmarried	90.00	10.00	40	100.00	0.00	97	100.00	0.00	196
Married	94.40	5.60	215	98.80	1.20	683	98.60	1.40	588
Widowed	80.00	20.00	45	100.00	0.00	18	100.00	0.00	14
	χ^2= 10.295; d.f=2; ρ=0.006			χ^2=1.361; d.f=2; ρ=0.506			χ^2=2.886; d.f=2; ρ=0.236		
Education									
No education	85.80	14.20	169	99.40	0.60	178	91.80	8.20	61
Primary incomplete	100.00	0.00	72	99.50	0.50	193	98.90	1.10	180
Primary complete	98.30	1.70	59	94.40	5.60	108	99.20	0.80	123
Secondary & higher	-	-	-	100.00	0.00	224	100.00	0.00	245
Graduate & above	-	-	-	100.00	0.00	95	100.00	0.00	188
	χ^2=17.567; d.f=2; ρ=0.000			χ^2=26.594; d.f=4; ρ=0.000			χ^2=36.272; d.f=4; ρ=0.000		
Occupation									
Rickshaw puller	87.00	13.00	54	99.60	0.40	269	97.70	2.30	174
Service	-	-	-	100.00	0.00	130	100.00	0.00	176
Business	97.30	2.70	37	100.00	0.00	135	100.00	0.00	179
Driver	-	-	-	92.70	7.30	82	98.50	1.50	65
Sex worker	100.00	0.000	18	-	-	-	-	-	-
Other	91.10	8.90	191	99.50	0.50	182	98.50	1.50	204
	χ^2=4.768; d.f=3; ρ=0.190			χ^2=37.083; d.f=4; ρ=0.000			χ^2=7.180; d.f=4; ρ=0.127		

Notes: N= number of respondents and tables value indicate percentage of with in different background characteristics group and (-) not available.

4.3 Knowledge of Fearfulness about HIV/AIDS by Background Characteristics

In floating and permanent resident respondents, about 59 and 74 percent respondents aged between 30-39 have known about fearfulness of HIV/AIDS respectively, whereas about 64 and 47 percent respectively in age group 50+ who have unknown about fearfulness of HIV/AIDS and the differentials are not statistically significant. In case of frequently moving respondents in age group 30-39 about 77 percent have known and in age group 40-49 about 42 percent have unknown about fearfulness of HIV/AIDS and their differentials are statistically highly significant. It may be notable that the significant portion conscious respondents in age group belong 30 to 39. Table 4.2 also shows that floating respondents about 53 percent unmarried who are known and about 69 percent widowed who are unknown about fearfulness of HIV/AIDS were significantly higher than those unknown. Again, in both case of frequently moving and permanent resident population almost approximately 74 percent unmarried respondents are known about fearfulness about HIV/AIDS whereas 44 and 50 percent in both case respectively unknown same and the percentage is not significantly differ from those are not known about the fearfulness of HIV/AIDS. Here, most of the widowed person is unknown about this fearfulness disease. It may be they have no interest their lonely life. The present study shows that the education and knowledge among three category respondents about fearfulness of HIV/AIDS were statistically highly significant. Meanwhile, among three target groups, approximately 65 percent floating and frequently moving respondents and 82 percent permanent resident respondents with no education are unknown about fearfulness of HIV/AIDS. In case of floating respondents, about 70 percent up to education primary complete who has known about fearfulness of HIV/AIDS. In both frequently moving (about 86%) and permanent resident (about 81%) with up to education secondary and higher secondary whose has known about fearfulness of HIV/AIDS. It may be concluded that more educated person has more knowledge and low educated person has no knowledge about fearfulness of HIV/AIDS. Again, from the Table 4.2, in case of frequently moving, about 82 percent respondents with service holders are known and about 39 percent rickshaw puller are unknown about fearfulness of HIV/AIDS and the relation between occupation and knowledge of fearfulness about HIV/AIDS are statistically highly significant in frequently moving respondents. In the occupational category business man are known about fearfulness of HIV/AIDS in floating (about 57%)

and permanent resident (about 79%) and both in floating (about 56%) and permanent resident (about 33%) with occupational category rickshaw puller has unknown about fearfulness of HIV/AIDS and the differentials is not statistically significant.

Table 4.2: Knowledge about fearfulness of HIV/ AIDS: floating, frequently moving and permanent resident population

Background Characteristics	Have you know about fearfulness about HIV/AIDS								
	Floating (N=300)			Frequently Moving (N=798)			Permanent Resident (N=798)		
	Yes	No	N	Yes	No	N	Yes	No	N
Age									
18-29	51.40	48.60	70	65.80	34.20	69	71.30	28.70	348
30-39	59.20	40.80	76	76.90	23.10	71	73.50	26.50	332
40-49	46.40	53.60	69	58.30	41.70	58	69.70	30.30	99
50+	36.50	63.50	85	66.70	33.30	50	52.60	47.40	19
	χ^2=8.756; d.f=3; ρ=0.033			χ^2=17.670; d.f=3; ρ=0.001			χ^2=4.138; d.f=3; ρ=0.247		
Marital status									
Unmarried	5250	47.50	40	74.2	25.80	97	72.40	27.60	196
Married	50.70	49.30	215	68.50	31.50	683	71.80	28.20	588
Widowed	31.10	68.90	45	55.60	44.40	18	50.0	50.00	14
	χ^2= 6.094; d.f=2; ρ=0.048			χ^2=2.827; d.f=2; ρ=0.243			χ^2=3.288; d.f=2; ρ=0.193		
Education									
No education	35.50	64.50	169	34.80	65.20	178	18.00	82.00	61
Primary incomplete	59.70	40.30	72	74.10	25.90	193	74.40	25.60	180
Primary complete	69.50	30.50	59	75.90	24.10	108	79.70	20.30	123
Secondary & higher	-	-	-	85.70	14.30	224	80.90	19.10	246
Graduate & above	-	-	-	74.70	25.30	95	68.60	31.40	188
	χ^2=25.456; d.f=2; ρ=0.000			χ^2=132.450;d.f=4; ρ=0.000			χ^2=101.912;d.f=4; ρ=0.000		
Occupation									
Rickshaw puller	44.40	55.60	54	61.30	38.70	269	67.20	32.80	174
Service	-	-	-	81.50	18.50	130	68.20	31.80	176
Business	56.80	43.20	37	77.80	22.20	135	78.80	21.20	179
Driver	-	-	-	69.50	30.50	82	33.80	26.20	65
Sex worker	50.00	50.00	18	-	-	-	-	-	-
Other	47.10	52.90	191	64.30	35.70	182	71.10	28.90	204
	χ^2=1.498; d.f=3; ρ=0.683			χ^2=23.666; d.f=4; ρ=0.000			χ^2=7.344; d.f=4; ρ=0.119		

Notes: N= number of respondents; tables value indicate percentage of with in different background characteristics group; and (-) not available.

4.4 Sources of Knowledge about HIV/AIDS by Background Characteristics

Media such as radio, TV, NGO etc. and knowledge about HIV/AIDS are highly linked. All women and men interviewed were asked whether they had heard the name of HIV/AIDS. Respondents who had heard the names of HIV/AIDS were then asked a series of questions to as certain the extent of their knowledge. The salient feature of Table 4.3 shows the percentage of respondents who have heard the name of HIV/AIDS and indicates that knowledge of various substantially by all sources of media. Meanwhile, the proportions of respondents who have heard about HIV/AIDS shows some decline with increasing age, other background characteristics are associated with far greater differentials. The mass media are playing a greater role to create awareness among the general public.

Table 4.3 represents about 50 percent floating respondents in age group 30-39 have heard the name of HIV/AIDS by electronic media while 59 percent of frequently moving respondents in age group 50+ and 49 percent of permanent resident respondents with age 40-49 years. According to floating respondents of hearing HIV/AIDS by multiple sources [include (i) radio and TV (ii) TV and friend (iii) TV and health worker (iv) radio, TV, religious institute, health worker, community meeting and friend (iv) radio, poster and friend] is higher (about 46%) in age group 40-49 years whereas, about 46 percent frequently moving respondents in same age group and 33 percent permanent resident respondents in age group 50+ years. For frequently moving and permanent resident respondents the differences of various sources are statistically highly significant but for floating population it is significant. Table 4.3 shows that about 47 percent floating respondents who are married heard about HIV/AIDS from electronic media and the difference with other marital categories are not statistically significant. On the other hand, married respondents of frequently moving is significantly higher, who heard about HIV/AIDS from electronic media. In case of permanent resident respondents, exactly 50 percent of the widowed heard about HIV/AIDS from electronic media and the difference with other marital categories are statistically significant. From Table 4.3 also found that high proportion of different respondents, with no education about 48 percent floating, 74 percent frequently moving and about 52 percent permanent resident have heard of HIV/AIDS by electronic media. According to hearing source counseling, about 19 percent floating respondents with education primary complete has heard the name of

HIV/AIDS while 16 percent of frequently moving and about 11 percent permanent resident with no education respectively. The variation between various sources is not significant for floating respondents but highly significant for frequently moving and permanent resident respondents. Table 4.3 shows that about 61 percent floating respondents who are rickshaw puller have heard the name of HIV/AIDS by electronic media while both about 61 percent of frequently moving and 49 percent permanent resident who are driver respectively. Again, about 61 percent floating respondents with occupation business has heard the name of HIV/AIDS by multiple sources while 37 percent frequently moving person with occupation service and about 27 percent permanent resident with occupation rickshaw puller by same sources. The variation between various sources is significant for floating respondents but highly significant for both frequently moving and permanent resident respondents. It is reported that service and driver in floating category and sex worker in both frequently moving and permanent resident categories are not available due to their own characteristics.

Table 4.3: Knowledge of sources of hearing about HIV/AIDS: floating, frequently moving and permanent resident population

Background Characteristics	Sources of hearing about HIV/AIDS																	
	Floating (N=300)						Frequently moving (N=798)						Permanent resident (N=798)					
	EM	PM	CL	INS	MS	N	EM	PM	CL	INS	MS	N	EM	PM	CL	INS	MS	N
Age																		
18-29	39.40	4.50	25.80	3.00	27.30	66	45.40	4.10	13.80	14.80	21.90	196	40.80	6.30	4.90	29.90	18.10	348
30-39	50.00	1.40	10.80	2.70	35.10	74	48.20	8.50	4.90	6.50	31.90	307	36.00	2.70	5.80	24.10	31.40	328
40-49	44.30	1.60	8.20	0.00	45.90	61	57.20	2.90	3.60	2.20	34.10	138	49.00	11.50	9.40	10.40	19.80	96
50+	44.60	8.10	9.50	1.40	36.50	74	59.10	2.00	4.00	6.70	28.20	149	33.30	11.10	5.60	16.70	33.30	18
	χ^2=21.270; d.f=12; ρ=0.047						χ^2=59.550; d.f=12; ρ=0.000						χ^2=44.109; d.f=12; ρ=0.000					
Marital status																		
Unmarried	38.90	5.60	13.90	0.00	41.70	36	44.30	9.30	14.40	9.30	22.70	97	48.50	4.60	3.60	22.40	20.90	196
Married	47.30	4.40	13.30	1.50	33.50	203	52.30	4.40	5.60	7.40	30.20	675	36.40	5.50	6.70	26.20	25.20	580
Widowed	36.10	0.00	13.90	5.60	44.40	36	44.40	11.10	5.60	16.70	22.20	18	50.00	21.40	0.00	0.00	28.60	14
	χ^2= 7.874; d.f=8; ρ=0.446						χ^2=20.272; d.f=8; ρ=0.009						χ^2=21.364; d.f=8; ρ=0.006					
Education																		
No education	47.60	2.80	13.10	1.40	35.20	145	74.00	0.00	15.80	3.40	6.80	177	51.80	1.80	10.70	28.60	7.10	56
Primary incomplete	41.70	6.90	9.70	1.40	40.30	72	52.10	8.30	2.10	10.40	27.10	192	38.80	2.20	7.90	20.80	30.30	178
Primary complete	41.40	3.40	19.00	3.40	32.80	58	44.10	1.00	2.90	14.70	37.30	102	34.40	4.10	4.10	24.60	32.80	122
Secondary & higher	-	-	-	-	-	-	43.30	3.10	1.80	7.10	44.60	224	42.70	10.20	6.10	20.70	20.30	246
Graduate & above	-	-	-	-	-	-	32.60	17.90	14.70	5.30	29.50	95	36.20	4.80	3.20	33.00	22.90	188
	χ^2= 6.429; d.f=8; ρ=0.599						χ^2=187.922 ; d.f=16; ρ=0.000						χ^2=48.621; d.f=16; ρ=0.000					
Occupation																		
Rickshaw	51.10	0.00	12.80	2.10	34.00	47	59.30	4.50	10.40	3.70	22.00	268	34.10	4.70	8.20	26.50	26.50	170
Service	-	-	-	-	-	-	48.50	6.20	7.70	0.80	36.90	130	33.00	4.50	2.80	37.50	22.20	176
Business	16.70	11.10	11.10	0.00	61.10	36	37.00	13.30	5.90	8.10	35.60	135	45.80	7.30	7.80	15.10	24.00	179
Driver	-	-	-	-	-	-	60.50	1.30	1.30	14.50	22.40	76	48.40	10.90	3.10	15.60	21.90	64
Sex worker	50.00	0.00	22.20	0.00	27.80	18	-	-	-	-	-	-	-	-	-	-	-	-
Other	48.30	4.00	13.20	2.30	32.20	174	47.50	1.10	3.30	16.00	32.00	181	41.80	4.00	5.50	23.90	24.90	201
	χ^2=24.337; d.f=12; ρ=0.018						χ^2=93.553; d.f=16; ρ=0.000						χ^2=40.192; d.f=16; ρ=0.001					

Notes: Electronic Media(EM)=radio and TV; Print Media(PM)= news paper and poster; Counseling(CL)=health worker, friends and community meeting; Institute(INS)= religious, educational and NGO; Multiple Source(MS)= (i) radio and TV (ii) TV and friend (iii) TV and health worker (iv) radio, TV, religious institute, health worker, community meeting and friend (iv) radio, poster and friend.

4.5 Knowledge about Routes of HIV/AIDS Transmission by Background Characteristics

There is a huge lack of accurate knowledge about the ways by which HIV/AIDS can and cannot be transmitted among many Bangladeshi people. The knowledge of HIV/AIDS transmission among floating, frequently moving and permanent resident population by background characteristics such as age, marital status, education and employment status are differences, which are presented in Table 4.4. The higher proportion of respondents in age group 50+, about 47 percent floating believe that HIV/AIDS can be transmission routes by incorrect transmitted routes while about 23 percent frequently moving in age 50+ and about 21 percent permanent resident in age 40-49 believes same routes. We know that more incorrect idea less aware and less incorrect idea more aware. It may be said that permanent resident respondents are more awarded than the floating and frequently moving population. Again, from Table 4.4 it is evident that the higher proportion of respondents about 35 percent floating in age group 40-49 believes transmission routes by multiple routes, whereas, the proportion is about 62 percent frequently moving in age group 40-49 and 42 percent permanent resident in age group 50+ respectively believe same routes. For floating respondents the differences of various sources are statistically not significant but for frequently moving and permanent resident population it is highly significant. Table 4.4 shows the higher proportion of respondents about 56 percent floating widowed believes HIV/AIDS transmission routes by incorrect transmitted routes whereas, the proportion is about 39 percent frequently moving and only 14 percent permanent resident respectively believes same misperception routes. According to the higher proportion of married floating, frequently moving and permanent resident respondents believes HIV/AIDS transmission routes multiple routes and its percentage are about 33, 57 and 33 respectively. It is worth mentioning that, widow considers as has no spouse are less aware about misconception than married person and the differences of various sources are statistically not significant but for permanent resident population it is significant. Education is strongly and positively associated with a

correct understanding of HIV/AIDS transmission. The higher proportion of floating, frequently moving and permanent resident respondents with educational level no education and its percentage are about 59, 43 and about 61 respectively believes HIV/AIDS transmission routes incorrect transmission routes. Again, about 41 percent floating respondent with up to education primary complete believes the transmitted routes is multiple routes whereas about 70 percent frequently moving and about 36 percent permanent resident with educational level secondary and higher secondary believes same routes. It is notable that more educated person more awarded about HIV/AIDS transmission routes and the differences of transmission routes and education are statistically highly significant for all three categories of respondents. From Table 4.4 we also seen that according to rickshaw puller about 50 percent floating believes HIV/AIDS transmission routes by incorrect transmission routes whereas, the proportion are about only 25 percent frequently moving and about 17 percent respondents believes the same routes. Again, 33 percent floating sex worker believes HIV/AIDS transmission routes are multiple routes whereas, about 59 percent frequently moving service man and 40 percent permanent resident driver also believes the same. The differences between transmission routes and occupation are statistically significant for floating respondents and highly significant for frequently moving and permanently resident respondents.

Table 4.4: Knowledge about routes of HIV/AIDS transmission: floating, frequently moving and permanent resident population

Background characteristics	Transmission routes																			
	Floating (N=300)							Frequently moving (N=798)							Permanent resident (N=798)						
	A	B	C	D	E	F	N	A	B	C	D	E	F	N	A	B	C	D	E	F	N
Age																					
18-29	38.60	20.00	2.90	1.40	7.10	30.00	70	14.90	16.80	1.50	4.00	15.80	47.00	202	8.90	33.90	7.80	1.10	12.90	35.30	348
30-39	31.60	18.40	1.30	9.20	5.30	34.20	76	14.00	14.00	2.30	1.60	5.90	62.20	307	11.10	39.20	3.30	1.80	12.30	32.20	332
40-49	43.50	7.20	1.40	7.20	5.80	34.80	69	12.90	10.10	5.00	2.90	7.20	61.90	139	21.20	53.50	3.00	0.00	7.10	15.20	99
50+	47.10	18.80	3.50	4.70	4.70	21.20	85	22.70	13.30	0.00	2.70	8.70	52.70	150	10.50	15.80	10.50	5.30	15.80	42.10	19
	χ^2=16.365 ; d.f=15; ρ=0.358							χ^2=40.627; d.f=15; ρ=0.000							χ^2=46.113; d.f=15; ρ=0.000						
Marital status																					
Unmarried	40.00	17.50	0.00	5.00	10.00	27.50	40	11.30	18.60	1.00	3.10	12.40	53.60	97	10.20	38.30	9.20	1.50	10.20	30.60	196
Married	37.20	16.70	2.30	5.60	5.60	32.60	215	15.70	13.60	2.30	2.60	8.60	57.10	683	11.70	38.10	3.90	1.20	12.60	32.50	588
Widowed	55.60	13.30	4.40	6.70	2.20	17.80	45	38.90	0.00	0.00	0.00	11.10	50.00	18	14.30	35.70	14.30	7.10	14.30	14.30	14
	χ^2=10.400; d.f=10; ρ=0.406							χ^2=14.731 ; d.f=10; ρ=0.142							χ^2=15.942; d.f=10; ρ=0.101						
Education																					
No education	58.60	18.30	0.60	4.70	0.60	17.20	169	43.30	14.00	0.00	2.20	0.60	39.90	178	60.70	14.80	6.60	0.00	1.60	16.40	61
Primary incomplete	15.30	11.10	6.90	5.60	11.10	50.00	72	10.90	11.40	4.10	2.60	5.70	65.30	193	9.40	37.20	3.90	2.80	11.10	35.60	180
Primary complete	18.60	16.90	1.70	8.50	13.60	40.70	59	15.70	18.50	0.00	1.90	8.30	55.60	108	8.90	41.50	6.50	0.00	9.80	33.30	123
Secondary & higher	-	-	-	-	-	-	-	3.10	14.70	1.80	4.00	6.70	69.60	224	6.90	43.10	5.70	2.00	6.50	35.80	246
Graduate & above	-	-	-	-	-	-	-	3.20.	11.60	5.30	1.10	38.90	40.00	95	4.80	37.80	5.30	0.50	25.00	26.60	188
	χ^2=82.905; d.f=10; ρ=0.000							χ^2=274.870; d.f=20; ρ=0.000							χ^2=208.350; d.f=20; ρ=0.000						
Occupation																					
Rickshaw	50.00	22.20	1.90	5.60	3.70	16.70	54	24.90	12.60	1.90	1.10	3.30	56.10	269	16.70	32.20	5.20	2.30	8.60	35.10	174
Service	-	-	-	-	-	-	-	5.40	10.80	3.10	2.30	20.00	58.50	130	4.00	40.90	4.50	1.70	24.40	24.40	176
Business	27.00	21.60	8.10	8.10	5.40	29.70	37	8.90	20.00	3.00	1.50	9.60	57.00	135	8.40	43.00	5.00	0.60	11.20	31.80	179
Driver	-	-	-	-	-	-	-	12.20	12.20	2.40	6.10	11.00	56.10	82	10.80	30.80	12.30	1.50	4.60	40.00	65
Sex worker	27.80	16.70	0.00	0.00	22.20	33.30	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	41.40	13.60	1.60	5.80	4.70	33.00	191	15.90	14.30	1.10	4.40	8.80	55.50	182	16.20	38.70	4.40	1.00	7.40	32.40	204
	χ^2=27.178 ; d.f=15; ρ=0.027							χ^2=71.193; d.f=20; ρ=0.000							χ^2=67.024; d.f=20; ρ=0.000						

Notes: A=incorrect idea transmitted routes; B= sexual relation; C= Blood & vaginal secretion; D= Injection; E= Mother to child transmission; F= Multiple routes; (-)= not available and tables value indicate percentage of with in different background characteristics group.

4.6 Knowledge about Risk Population of HIV/AIDS by Background Characteristics

Although overall HIV prevalence is low, behavior patterns and extensive risk factors through the rapid spread of the infection are prevalent, making Bangladesh highly vulnerable HIV/AIDS epidemic (HIV in Bangladesh, 2003). According to Development Society of Bangladesh indicate specific list of 'risk groups', which are professional sex worker, truck driver, rickshaw puller, slum dweller, drug addicted and professional blood donor.

Table 4.5.1, 4.5.2 & 4.5.3 shows that about 39 percent floating respondents with age 50+ years and about 59 percent permanent resident respondents with age group 40-49 years believes that HIV/AIDS affected high risk population can be professional sex worker while 50 percent frequently moving respondents with age group 30-39 years believe that HIV/AIDS affected high risk population can be multiple (one or more groups) people and the differences between high risk population and age groups are statistically highly significant for both in floating and permanent resident population but not for frequently moving population. The data evident that the large proportion of (about 31 percent) widowed floating respondents believes HIV/AIDS affected high risk population can be professional sex worker and about 53 percent married permanent resident believes HIV/AIDS affected same population whereas, about 51 percent married frequently moving respondents believes HIV/AIDS affected high risk population can be multiple (one or more groups) and the differences between high risk population and marital status are statistically significant for in floating and highly significant for in permanent resident population but for frequently moving population it is not significant. Table indicates the higher proportion of floating respondents (38 percent) with primary incomplete education and 58 percent permanent resident with graduate and above education believes HIV/AIDS risk population by professional sex worker is higher than other population and the proportion of about 58 percent frequently moving with primary incomplete education believes HIV/AIDS affected high risk population can be multiple (one or more groups) and the differences between high risk population and education are statistically highly significant among three target groups. We also see that about 44 percent floating respondents whose occupation is sex worker believes that HIV/AIDS high risk population

is multiple (one or more groups) whereas, the proportion are about 60 percent frequently moving respondents with occupation driver believes the same and the proportion are about 56 percent permanent resident respondents with service believes HIV/AIDS high risk population is professional sex worker and the differences between high risk population and occupation are statistically significant in both floating and permanent resident but it is highly significant in frequently moving population.

Table 4.5.1: Knowledge about risk group of HIV/AIDS by floating population

Background Characteristics	Risk population									
	Floating (N=300)									
	A	B	C	D	E	F	G	H	I	N
Age										
18-29	5.70	4.30	22.90	1.40	4.30	2.90	28.60	-	30.00	70
30-39	2.60	2.60	21.10	0.00	10.50	3.90	25.00	-	34.20	76
40-49	11.60	0.00	21.70	2.90	7.20	0.00	23.20	-	33.30	69
50+	12.90	5.90	22.40	2.40	0.00	0.00	38.80	-	17.60	85
	χ^2=36.623; d.f=21; ρ=0.019									
Marital status										
Unmarried	10.00	2.50	25.00	0.00	5.00	0.00	20.00	-	37.50	40
Married	5.60	2.80	20.50	1.90	6.50	2.30	30.70	-	29.80	215
Widowed	20.00	6.70	26.70	2.20	0.00	0.00	31.10	-	13.30	45
	χ^2=24.082; d.f=14; ρ=0.045									
Education										
No education	14.20	4.70	21.90	1.20	4.70	1.80	27.20	-	24.30	169
Primary incomplete	0.00	1.40	22.20	1.40	2.80	1.40	37.50	-	33.30	72
Primary complete	1.70	1.70	22.00	3.40	10.20	1.70	25.40	-	33.90	59
Secondary & higher	-	-	-	-	-	-	-	-		-
Graduate & above	-	-	-	-	-	-	-	-		-
	χ^2=27.813; d.f=14; ρ=0.015									
Occupation										
Rickshaw	13.00	0.00	18.50	1.90	5.60	3.70	16.70	-	40.70	54
Service	-	-	-	-	-	-	-	-	-	-
Business	2.70	0.00	24.30	0.00	8.10	0.00	43.20	-	21.60	37
Driver	-	-	-	-	-	-	-	-	-	-
Sex worker	0.00	0.00	11.10	0.00	16.70	5.60	22.20	-	44.40	18
Other	8.90	5.20	23.60	2.10	3.70	1.00	30.90	-	24.60	191
	χ^2=34.659; d.f=21; ρ=0.031									

Notes: A= doesn't know; B= disobedient of religious belief; C= addict person; D= illiterate person; E= truck driver; F= rickshaw puller; G= sex worker; H= floating person; I= multiple answer; N= total number of population; (-) = not available and tables value indicate percentage of with in different background characteristics group.

Table 4.5.2: Knowledge about risk group of HIV/AIDS by frequently population

Background characteristics	Risk population									
	Frequently moving (N=798)									
	A	B	C	D	E	F	G	H	I	N
Age										
18-29	3.00	0.00	4.50	0.50	5.90	1.00	32.70	3.50	49.00	202
30-39	0.00	0.70	6.80	0.00	6.80	0.30	30.30	2.00	53.10	307
40-49	0.70	0.00	7.90	0.00	7.20	0.00	37.40	2.20	44.60	139
50+	0.70	2.00	6.70	0.70	5.30	0.70	28.70	5.30	50.00	150
	χ^2=32.593; d.f=24; ρ=0.113									
Marital status										
Unmarried	0.00	0.00	8.20	0.00	2.10	1.00	33.00	7.20	48.50	97
Married	1.20	0.70	6.10	0.30	6.70	0.40	31.30	2.30	50.80	683
Widowed	0.00	0.00	5.60	0.00	16.70	0.00	44.40	5.60	27.80	18
	χ^2=19.774; d.f=16; ρ=0.231									
Education										
No education	0.60	1.10	10.10	0.60	2.80	0.60	35.40	1.10	47.80	178
Primary incomplete	0.50	1.00	8.30	0.00	6.70	1.00	23.80	1.00	57.50	193
Primary complete	5.60	0.00	3.70	0.00	7.40	0.00	32.40	12.00	38.90	108
Secondary & higher	0.00	0.40	4.00	0.40	7.60	0.40	34.80	3.10	49.10	224
Graduate & above	0.00	0.00	4.20	0.00	8.40	0.00	33.70	0.00	53.70	95
	χ^2=94.239; d.f=32; ρ=0.000									
Occupation										
Rickshaw	0.40	.040	8.20	0.00	4.80	0.70	31.60	2.60	51.30	269
Service	0.00	0.00	1.50	0.00	12.30	0.00	23.10	5.40	57.70	130
Business	0.00	1.50	4.40	0.00	3.00	0.70	43.70	0.70	45.90	135
Driver	7.30	0.00	3.70	1.20	3.70	0.00	24.40	0.00	59.80	82
Sex worker	-	-	-	-	-	-	-	-	-	-
Other	0.50	1.10	9.90	0.50	8.20	0.50	33.00	4.90	41.20	182
	χ^2=97.777; d.f=32; ρ=0.000									

Notes: A= doesn't know; B= disobedient of religious belief; C= addict person; D= illiterate person; E= truck driver; F= rickshaw puller; G= sex worker; H= floating person; I= multiple answer; N= total number of population; (-) = not available and tables value indicate percentage of with in different background characteristics group.

Table 4.5.3: Knowledge about risk group of HIV/AIDS by permanent resident population

Background Characteristics	Risk population									
	Permanent resident (N=798)									
	A	B	C	D	E	F	G	H	I	N
Age										
18-29	0.00	4.90	5.20	4.90	3.40	2.30	50.60	2.30	26.40	348
30-39	1.20	3.30	3.60	5.70	1.80	0.60	52.40	6.00	25.30	332
40-49	3.00	1.00	8.10	3.00	5.10	6.10	58.60	0.00	15.20	99
50+	5.30	10.50	0.00	0.00	0.00	5.30	36.80	10.50	31.60	19
	χ^2=57.367; d.f=24; ρ=0.000									
Marital status										
Unmarried	0.00	6.10	5.10	4.60	1.50	2.00	52.00	2.60	26.00	196
Married	1.40	2.70	4.30	5.10	3.40	2.20	52.70	4.30	24.00	588
Widowed	0.00	21.40	21.40	0.00	0.00	0.00	21.40	0.00	35.70	14
	χ^2=35.546; d.f=16; ρ=0.003									
Education										
No education	8.20	4.90	0.00	1.60	6.60	4.90	55.70	0.00	18.00	61
Primary incomplete	1.10	2.20	8.30	7.20	1.70	2.20	46.70	5.00	25.60	180
Primary complete	0.80	6.50	4.90	3.30	3.30	0.80	47.20	6.50	26.80	123
Secondary & higher	0.00	4.50	4.50	6.50	2.40	2.00	53.30	2.40	24.40	246
Graduate & above	0.00	2.70	3.20	2.70	3.20	2.10	57.40	3.70	25.00	188
	χ^2=74.639; d.f=32; ρ=0.000									
Occupation										
Rickshaw	2.30	4.00	06.30	5.70	1.10	0.60	44.80	6.90	28.20	174
Service	0.00	4.00	3.40	4.50	3.40	1.70	55.70	4.00	23.30	176
Business	0.00	3.90	4.50	6.10	2.20	0.60	54.20	2.80	25.70	179
Driver	1.50	4.60	9.20	6.20	3.10	4.60	43.10	1.50	26.20	65
Sex worker	-	-	-	-	-	-	-	-	-	-
Other	1.50	3.40	3.40	2.90	4.40	4.40	55.90	2.50	21.60	204
	χ^2=42.715; d.f=32; ρ=0.098									

Notes: A= doesn't know; B= disobedient of religious belief; C= addict person; D= illiterate person; E=truck driver; F= rickshaw puller; G= sex worker; H= floating person; I= multiple answer; N= total number of population; (-) = not available and tables value indicate percentage of with in different background characteristics group.

4.7 Knowledge about Prevention of HIV/AIDS by Background Characteristics

Prevention is better than cure. Preventive knowledge is one of the most important elements of social and economic life. It is also associated with control of HIV/AIDS. Table 4.6.1, 4.6.2 & 4.6.3 indicates the proportion of floating respondents reporting proper knowledge of sexual prevention of HIV/AIDS by using condom during every act of sexual intercourse about 21 percent floating in age group 50+ differed about 12 percent in frequently moving in age group 40-49 and 21 percent permanent resident in age group 50+ years. Again, the higher proportion of floating respondents about 40 percent in age group 18-29 years believes that the prevention way by avoid unsafe sexual relation and the higher proportion of frequently moving respondents about 33 percent in age group 30-39 years and 29 percent permanent resident respondents in age group 40-49 believes that the prevention way by multiple way. Though, the difference between age and prevention way is not significant for floating respondents but highly significant for both frequently moving and permanent resident respondents. Table 4.6 (1, 2 and 3) also shows that the higher proportion of about 29 percent permanent residents widowed believe prevention method blood transfusion and 35 percent floating married believe prevention method avoids unsafe sexual relation and the differences are statistically highly significant whereas, about 38 percent frequently moving unmarried respondents believes prevention method multiple way and the differences is not statistically significant. Knowledge of prevention method rises from a clear minority to a clear majority with increasing education. Table 4.6.1, 4.6.2 & 4.6.3 shows the higher proportion of primary incomplete about 38 percent floating respondents have heard of prevention methods by avoid unsafe sexual relation and the differences is not statistically significant while about 36 percent frequently moving with primary incomplete education and about 31 percent permanent resident with secondary and higher education have heard of prevention methods by multiple way and the differences are statistically significant. The higher proportion of respondents, about 41 percent floating who work rickshaw puller believes popular prevention methods by avoid unsafe sexual relation while the proportion of about 36 percent frequently moving who work business and 34 percent permanent resident who work driver believes popular prevention methods by multiple way. The differences in three cases for the prevention of HIV/AIDS and occupation are statistically highly significant.

Table 4.6.1: Knowledge about prevention way of HIV/AIDS by floating population

Background characteristics	Prevention way							
	Floating (N=300)							
	A	B	C	D	E	F	G	N
Age								
18-29	4.30	40.00	15.70	11.40	8.60	4.30	15.70	70
30-39	10.50	32.90	21.10	14.50	7.90	1.30	11.80	76
40-49	13.00	30.40	14.50	20.30	2.90	2.90	15.90	69
50+	14.10	27.10	21.20	17.60	4.70	0.00	15.30	85
	χ^2=16.657 ; d.f=18; ρ=0.547							
Marital status								
Unmarried	2.50	30.00	12.50	15.00	10.00	10.00	20.00	40
Married	11.60	35.30	18.60	15.80	5.10	0.00	13.50	215
Widowed	13.30	20.00	22.20	17.80	6.70	4.40	15.60	45
	χ^2=27.845 ; d.f=12; ρ=0.006							
Education								
No education	13.00	29.00	20.70	16.00	5.30	3.00	13.00	169
Primary incomplete	5.60	37.50	16.70	16.70	8.30	0.00	15.30	72
Primary complete	10.20	35.60	13.60	15.30	5.10	1.70	18.60	59
Secondary & higher	-	-	-	-	-	-	-	-
Graduate & above	-	-	-	-	-	-	-	-
	χ^2=9.504 ; d.f=12; ρ=0.659							
Occupation								
Rickshaw	1.90	40.70	13.00	16.70	1.90	3.70	22.20	54
Service	-	-	-	-	-	-	-	-
Business	13.50	24.30	16.20	29.70	13.50	0.00	2.70	37
Driver	-	-	-	-	-	-	-	-
Sex worker	27.80	16.70	5.60	22.20	5.60	0.00	22.20	18
Other	11.00	33.00	21.50	12.60	5.80	2.10	14.10	191
	χ^2=35.661 ; d.f=18; ρ=0.008							

Notes: A= not prevention; B= avoid unsafe sexual relation; C= use condom during intercourse; D= Advice; E= Contaminated syringe & razors; F= Blood transfusion; G= Multiple way; N= total number of population; (-) = not available.

Table 4.6.2: Knowledge about prevention way of HIV/AIDS by frequently moving population.

Background characteristics	Prevention way							
	Frequently moving population (N=798)							
	A	B	C	D	E	F	G	N
Age								
18-29	0.50	12.90	5.90	12.90	19.80	16.30	31.70	202
30-39	2.60	19.90	6.80	6.80	21.80	9.40	32.60	307
40-49	4.30	12.90	12.20	19.40	21.60	7.20	22.30	139
50+	1.30	17.30	7.30	13.30	19.30	10.00	31.30	150
	χ^2=41.951; d.f=8; ρ=0.001							
Marital status								
Unmarried	1.00	9.30	7.20	8.20	17.50	18.60	38.10	97
Married	2.20	17.40	7.80	12.20	20.90	10.00	29.60	683
Widowed	5.60	16.70	5.60	16.70	33.30	5.60	16.70	18
	χ^2=17.900; d.f=12; ρ=0.119							
Education								
No education	1.70	11.20	9.00	19.10	21.90	10.70	26.40	178
Primary incomplete	3.60	9.80	5.70	11.40	18.10	15.50	35.80	193
Primary complete	0.00	27.80	1.90	6.50	20.40	11.10	32.40	108
Secondary & higher	3.10	18.30	12.10	11.20	15.20	7.60	32.60	224
Graduate & above	0.00	22.10	5.30	6.30	37.90	9.50	18.90	95
	χ^2=83.241; d.f=24; ρ=0.000							
Occupation								
Rickshaw	2.60	16.00	7.10	16.00	17.50	10.80	30.10	269
Service	5.40	13.10	6.20	5.40	30.80	12.30	26.90	130
Business	1.50	23.70	8.10	4.40	22.20	3.70	36.30	135
Driver	0.00	13.40	15.90	12.20	15.90	19.50	23.20	82
Sex worker	-	-	-	-	-	-	-	-
Other	0.50	15.40	5.50	15.40	19.80	11.50	31.90	182
	χ^2=67.095; d.f=24; ρ=0.000							

Notes: A= not prevention; B= avoid unsafe sexual relation; C= use condom during intercourse; D= Advice; E= Contaminated syringe & razors; F= Blood transfusion; G= Multiple way; N= total number of population; (-) = not available.

Table 4.6.3: Knowledge about prevention way of HIV/AIDS by permanent resident population

Background characteristics	Prevention way							
	Permanent resident population (N=798)							
	A	B	C	D	E	F	G	N
Age								
18-29	1.10	3.40	11.50	23.30	20.40	19.30	21.00	348
30-39	2.10	6.00	12.70	21.70	21.40	13.90	22.30	332
40-49	6.10	3.00	8.10	12.10	27.30	14.10	29.30	99
50+	0.00	0.00	21.10	21.10	21.10	21.10	15.80	19
	χ^2= 28.589; d.f=18; ρ=0.054							
Marital status								
Unmarried	2.00	4.60	9.70	26.00	18.40	19.90	19.40	196
Married	1.70	4.40	12.80	19.40	22.80	15.00	24.00	588
Widowed	21.40	0.00	0.00	28.60	21.40	28.60	0.00	14
	χ^2=41.261; d.f=12; ρ=0.000							
Education								
No education	3.30	3.30	23.00	23.00	19.70	9.80	18.00	61
Primary incomplete	3.90	4.40	15.00	21.70	22.20	15.00	17.80	180
Primary complete	0.80	3.30	13.80	28.50	17.90	17.10	18.70	123
Secondary & higher	1.20	5.70	11.00	14.60	20.30	16.70	30.50	246
Graduate & above	2.10	3.70	4.80	23.90	26.10	19.10	20.20	188
	χ^2=47.997; d.f=24; ρ=0.003							
Occupation								
Rickshaw	1.10	5.70	16.10	25.30	19.00	15.50	17.20	174
Service	1.70	3.40	5.70	23.30	27.80	18.80	19.30	176
Business	1.70	5.60	10.60	17.90	19.00	15.10	30.20	179
Driver	3.10	3.10	10.80	20.00	12.30	16.90	33.80	65
Sex worker	-	-	-	-	-	-	-	-
Other	3.40	3.40	14.70	19.10	24.00	16.20	19.10	204
	χ^2=39.266; d.f=24; ρ=0.026							

Notes: A= not prevention; B= avoid unsafe sexual relation; C= use condom during intercourse; D= advice; E= contaminated syringe & razors; F= blood transfusion; G= multiple way; N= total number of population; (-) = not available.

4.8 Conclusion

The study included a section of questions on HIV/AIDS in order to assess awareness about the knowledge, sources, transmission mechanisms, risk population and prevention of infection with the HIV/AIDS virus by background characteristics. Floating, frequently moving and permanent resident respondents were asked whether they had heard of HIV/AIDS and, if so, from which source did they receive the most information. From the foregoing analysis it is found that, cent percent respondents heard the name of HIV/AIDS by various sources of media but they don't know (cent percent) the fearfulness about HIV/AIDS, also electronic media is the most powerful sources of information about HIV/AIDS. About 50 percent of respondents believe risk population is sex worker. Again, above 50 percent respondents think avoiding way about HIV/AIDS is using condom during intercourse, below 15 percent respondents indicate transmission way is by blood & appreciation of sex. This chapter is also highlighted that the most significant age group is 28-37, and salient feature questions of background characteristics is multiple answer. The multiple question are choice multiple person for this reasons it's highly linkage.

CHAPTER - FIVE

KNOWLEDGE OF FEARFULNESS ABOUT HIV/AIDS: APPLICATION OF LOGISTIC REGRESSION ANALYSIS ON SURVEY DATA

5.1 Introduction

The AIDS virus, as well as HIV, has continued to be a problem and its fearfulness will lead to increased adult and child mortality in many countries around the world, particularly in Bangladesh, where HIV prevalence rates are high and mortality among adults is rising (Brown et.al., 1994; Van Griensven et.al., 1998, Wongboonsin et.al., 1997). At present, the HIV/AIDS situation in Bangladesh is worrying and worsening. Therefore, more work needed to identify knowledge of HIV/AIDS. The main focus of this chapter is to determine knowledge of fearfulness about HIV/AIDS by logistic regression analysis. Keeping this reality in mind we have used regression model.

5.2 Results of Logistic Regression Analysis

Multiple logistic regression analysis is conducted to asses the knowledge of fearfulness about HIV/AIDS as dependent variable (0= if he/she doesn't know the fearfulness about HIV/AIDS and 1= if he/she know the fearfulness about HIV/AIDS) by some selected characteristics for both floating person and permanent residents. There are many potential independent variables. Of all the potential independent variables we consider only those of the variables which give significant result in empirical study and that are also suitable for theoretical purpose. Here the independent variables are age, marital status, educational qualification and occupation of the respondents.

In case of floating respondents 30-39 years1.80 times more and 40-49 years, 50+ years age group are 0.891, 0.805 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent of 18-29 years age group (reference group) respectively. Here, there is no age group who have experienced in different purpose of life had a significant acquaintance about HIV/AIDS. For marital status married and widow-widower are 0.857 and 0.554 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent of single (reference group) respectively. Further, respondents educational level primary incomplete of schooling and primary complete schooling are 2.332 and 3.771 times more to have knowledge about fearfulness of HIV/AIDS than that of the respondent no education (reference group) respectively. The low educational level of person generally has a little bit knowledge about the fearfulness of HIV/AIDS than that of illiterate person. Because illiterate persons are always warred about their less knowledge and get share the difficulties of every problem in life. Consequently, they have more knowledge about the fearfulness of HIV/AIDS than that of low educational knowledge. Perhaps in tertiary educated persons have more knowledge in every purpose of life, but in this study there have all tertiary educated respondents. For respondents occupation, business and others are 1.665 times and 1.132 times more on the other hand sex worker 0.836 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent of occupation rickshaw & auto rickshaw (reference group) respectively. Here, the businessman and others who are more conscious about the HIV/AIDS and have had positive impact about the fearfulness about HIV/AIDS whereas sex worker negative impact.

For frequently moving resident, 30-39 years, 40-49 and 50+ years age group are 2.693, 1.311 and 2.767 times more to have knowledge about fearfulness of HIV/AIDS than that of the respondent of 18-29 years age group (reference group) respectively. Here, the middle age group (40-49 years) who are less than old in age and less awarded about the fearfulness of HIV/AIDS. Consequently they have negative significant impact on the fearfulness of HIV/AIDS. For marital status married and widow-widower are 0.400, 0.228 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent with single (reference group) respectively. Here, the marital status married and widow-widower who have experienced in different purpose of life had a significant acquaintance about HIV/AIDS. Again, respondents educational level primary incomplete,

primary complete, secondary & higher secondary, graduate & higher are 7.020, 8.825, 19.325 and 6.914 times more to have knowledge about fearfulness of HIV/AIDS than that of the respondent no education (reference group) respectively. Here, the educational level who have experienced in different purpose of life had a highly significant acquaintance about HIV/AIDS than no education. For respondents occupation, service man, business man, driver and others are 0.820, 0.701, 0.337 and 0.534 times less to have knowledge about the fearfulness of HIV/AIDS than that of the respondent of occupation rickshaw & auto rickshaw driver (reference group) respectively. Here, driver move here and there and consequently have had a significant acquaintance about HIV/AIDS. But the service man and business man have not such of opportunity and they have negative impact about the fearfulness of HIV/AIDS than that of rickshaw & auto rickshaw driver.

For permanent resident, 30-39 years, 40-49 and 50+ years age group are 0.259, 0.235 and 0.369 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent of 18-29 years age group (reference group) respectively. Here, there is no significant age group. For marital status married and widow-widower are 0.927 and 0.317 times less to have knowledge about fearfulness of HIV/AIDS than that of the respondent with single (reference group) respectively. Here, the widow-widower who have experienced in different purpose of life had a negative significant acquaintance about HIV/AIDS. Again, respondents educational level primary incomplete, primary complete, secondary & higher secondary, graduate & higher are 14.115, 19.929, 28.908 and 16.867 times more to have knowledge about fearfulness of HIV/AIDS than that of the respondent no education (reference group) respectively. Here, the educational level have experienced in different purpose of life had a highly significant acquaintance about HIV/AIDS. For respondents occupation, service man, business man and driver are 0.573, 0.914 and 0.645 0 times less times to has knowledge about the fearfulness of HIV/AIDS than that of the respondent of occupation rickshaw & auto rickshaw driver (reference group) respectively. And other is 1.234 times more to have knowledge about the fearfulness of HIV/AIDS. Here, the service, move daily a specific place with respect to discipline for their service and consequently have had a significant acquaintance about HIV/AIDS. But the businessman, driver and others has no such of specific place and they have negative impact about the fearfulness of HIV/AIDS than that of rickshaw & auto rickshaw driver.

Table 5.1: Results of logistic regression analysis of knowledge of fearfulness about HIV/AIDS for floating, moving and permanent resident

Name of Independent variables	Floating		Frequently moving		Permanent resident		All	
	β	Odds Ratios(ρ)	β	Odds Ratios(ρ)	β	Odds Ratios(ρ)	β	Odds Ratios(ρ)
Age (in years)								
18-29 (Ref.)								
30-39	0.401	1.494	0.990***	2.693	0.224	0.259	-0.377***	0.686
40-49	-0.115	0.891	0.271	1.311	0.354	0.235	0.142	1.152
50+	-0.216	0.805	1.018***	2.767	-0.55	0.369	-0.261*	0.770
Marital status								
Single (Ref.)								
Married	-0.154	0.857	-0.917***	0.400	-0.076	0.927	0.869***	2.384
Widow & widower	-0.591	0.554	-1.479***	0.228	-1.147***	0.317	0.572***	1.771
Educational level (in years)								
No education (Ref.)								
Primary incomplete	0.847***	2.332	1.949***	7.020	2.647***	14.115	-1.647***	0.193
Primary complete	1.327***	3.771	2.178***	8.825	2.993***	19.929	0.019	1.020
Secondary & higher secondary			2.961***	19.325	3.364***	28.908	0.272*	1.313
Graduate & higher			1.934***	6.914	2.825***	16.867	0.833***	2.299
Occupation								
Rickshaw & auto rickshaw (Ref.)								
Service			-0.198	0.820	-0.557*	0.573	0.172*	1.188
Business	0.510	1.665	-0.356	0.701	-0.089	0.914	-0.047	0.954
Driver			-1.087***	0.337	-0.438	0.645	0.125	1.134
Sex worker	-0.180	0.836					-0.468***	0.626
Others	0.124	1.132	-0.628***	0.534	0.210	1.234	-0.294	0.743

Notes: (Ref.) denotes reference category, *** denotes 1% level of significance, ** denotes 5% level of significance, * denotes 10% level of significance B denotes estimate regression coefficient and others: day labor, farmer and beggar

5.3 Conclusion

The knowledge of fearfulness about HIV/AIDS in Bangladesh has long been a topic of interest to population research because of its apparent and direct relationship with lack of health facilities and indirectly with the poverty. By running and interpreting the logistic regression analysis, study shows that age, marital status, education and occupation of respondents and prevention are the major factors/contributors of HIV/AIDS. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS of Bangladesh. 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.

CHAPTER - SIX

KNOWLEDGE OF HIV/AIDS IN URBAN BANGLADESH: APPLICATION OF LOGISTIC REGRESSION ANALYSIS ON BDHS, 2007 DATA

6.2 Introduction

There is no way to rid of the unbearable sufferings from murderer diseases of HIV/AIDS. Prevention is the only solution. It clearly shows that the average level of awareness about HIV/AIDS transmission is relatively low and that serious misperceptions, such as they believe that transmission can occur commonly through mosquito bites. Unfortunately, due to the lacks of proper knowledge about HIV/AIDS, the general people are victim of high-risk of HIV/AIDS. The situation of awareness and fearfulness of HIV by different characteristics are included in chapter three. Awareness of HIV/AIDS by different characteristics and knowledge of fearfulness about HIV/AIDS examined by cross tabular and logistic regression analysis is also included in chapter four and five respectively. This study mainly focuses on knowledge of HIV/AIDS in urban Bangladesh.

A respondent's place of residence, level of education, and household wealth quintile are strongly associated with HIV/AIDS awareness. Whereas 87 percent of women and 95 percent of men in urban areas have heard of AIDS, only 62 percent of women and 84 percent of men in rural areas have heard of the diseases (BDHS, 2007). This study is based on a small sample size of primary data in urban areas of three selected Metropolitan cities. To understand the situation of awareness of HIV/AIDS on a large scale of urban areas, we have been taken a secondary data on HIV/AIDS from Bangladesh Demographic and Health Survey (BDHS), 2007.

6.2 Background Characteristics: Social and Demographic

Socio-economic and demographic characteristics of the study population are essential for interpretation of the study findings and examination of any cause effect relationship among selected variables. It also helps in comparing the finding with similar characteristics and provides an appropriate indication of the representative of the data. Therefore, it is necessary to study the background characteristics of the data at the out side of the analysis. This study provides a brief description of some selected socio-economic and demographic characteristics of the study population..

From Table 6.1 it is evident that a large proportion of respondents (about 48%) of Dhaka, Rajshai and Chittagong metropolitan cities of urban areas in Bangladesh at age group 18-29 years and after that the percentage is gradually decreasing as age increase. Education is one of the most important indicators of social status. As the education level increases, the social status also high in our society. The status of literacy in respondents is shown in Table 6.1 about 49 percent of the respondents have secondary and higher and the lower percentage (8%) of respondent's education is complete primary. Here, about 26 percent of the respondents have no education.

In the study significant portion (about 92%) respondents are married. The professional characteristics are the subject matter analysis, which influences the socio-demographic performance. Table 6.1 presents professional background, the higher proportion of respondents about 67 percent don't involve any work that is they are unemployment and the lower proportion of respondents, only below 1 percent involves are other category works. Table 6.1 reveals that more than two fourth (about 61%) are wealth quintile are richer and low status only about 5 percent are poorest and the percentage gradually increase as wealth status increase. In the three regions, Dhaka contains higher percentage (about 43%) of respondents and Islam religion is high (91%).

Table 6.1: Distribution of respondents by background characteristics

Characteristics	Population	Percentage
Age Groups		
18-29	1119	44.20
30-39	770	30.40
40-49	537	21.20
Education		
No education	649	25.70
Primary Incomplete	444	17.70
Primary Complete	204	8.10
Secondary and higher	1230	48.60
Marital Status		
Married	2335	92.30
Widow & Widower	107	4.20
Other[1]	88	3.50
Occupation		
Unemployment	1695	67.00
Business	164	6.50
Service[2]	54	2.10
Rickshaw puller	71	2.80
Labour[3]	412	16.30
Poultry cattle raising	119	4.70
Other[4]	14	0.60
Wealth quintile		
Poorest	110	4.90
Poorer	172	6.80
Middle	267	10.60
Richest	455	18.00
Richer	1526	60.60
Region		
Dhaka	1085	42.90
Rajshahi	704	27.80
Chittagong	741	29.30
Religion		
Islam	2308	91.20
Hinduism	215	8.50
Other	7	0.30

[1] divorced, living together and not living together.
[2] Service-medical, lower, acct., teacher.
[3] family/domestic servant, factory worker, blue-collar service, carpenter, mason, bus/taxi driver.
[4] farmer, agriculture.

6.3 Basic Knowledge of HIV/AIDS

Awareness and access to information are related to HIV/AIDS. Table 6.2 shows the percentage of respondents who have heard the name of HIV/AIDS by various media like radio, TV, newspaper and NGO's. The most popular media formats among interviewees in Bangladesh were television (about 81%) and newspaper (about 26%). The study examined the level of media use in each area. Again, the data also reveals that about below one percent respondents get HIV/AIDS information by BRDB NCOs is low. This information is of particular importance for future AIDS information awareness initiatives. Mass Media also plays important role of increasing awareness. The above sources media, if use each of the media considers 1 and not use consider 0. Table 6.2 also shows that on the basis of using media its three classifies like low, medium and high, the most of respondents ever heard from high media (about 100.00%) and the low information are getting from low media (about 92%). So, significant portion of respondent's are uses 4 or above sources of media.

Table 6.2: Sources of information

Sources of Information	Yes		No	
	Population	Percentage	Population	Percentage
Radio	484	19.10	2046	80.90
TV	2037	80.50	493	19.50
News paper	655	25.90	988	39.10
Grameen Bank	191	7.5	2338	92.40
BRACK	155	6.10	2375	93.90
ASHA	265	10.50	2265	89.50
PROSHIKA	28	1.10	2502	98.90
BRDB	20	0.80	2510	99.20
Mother's Club	-	-	2530	100.00
Other organization	420	16.60	2110	83.40ss
Mass-media				
Low (<1)	540	91.80	48	8.20
Medium (2-3)	960	97.80	22	2.20
High (4+)	71	100.00	0	0.00

Source: BDHS, 2007

6.4 Differential of HIV/AIDS Knowledge by Different Characteristics

Although, Bangladesh is a low HIV/AIDS prevalence country, the prevalence rate of HIV/AIDS in Bangladesh is on the rise. A vast section of people don't know what the impacts of these diseases are and how to avoid these (Sarkar, S., F. et al., 1997).

Table 6.3 shows the percentage of respondents who have heard or not heard HIV/AIDS, by background characteristics. Heard of AIDS is higher in young age 18-29 at about 92 percent and percentage is gradually decreased as age increase whereas, not hearing of AIDS is higher in old age 40-49 at about 23 percent and not hearing of AIDS is gradually

increased as age increase. Again, about nine in ten (88%) married respondents have heard of AIDS, compared with about one third (about 30%) other category respondents not heard of AIDS. Ever heard of AIDS increases with education. Nearly all respondents (98%) who have Secondary and higher education have heard of AIDS, compared with one third respondents (about 34%) with no education who have not heard of AIDS. Table 6.3 reveals that all (100%) service category respondents have heard of AIDS whereas, half (50%) percent other category respondents have not heard of AIDS. The most of the respondents (91%) in Dhaka division have heard AIDS compared about 20 percent in Chittagong have not heard of AIDS.

Table 6.3: Percentage of respondents who have heard of HIV/AIDS by background characteristics

Background Characteristics	Ever heard HIV/AIDS		
	Yes	No	N
Age Groups			
18-29	91.50	8.50	1118
30-39	85.50	14.50	770
40-49	77.50	22.50	537
	$\chi2$=62.099; d.f=2; ρ=0.000		
Marital Status			
Married	88.00	12.00	2334
Widow & Widower	72.00	28.00	107
Other	70.50	29.50	88
	$\chi2$=43.439; d.f=2; ρ=0.000		
Education			
No education	66.30	33.70	649
Primary Incomplete	82.90	17.10	444
Primary Complete	90.20	9.80	204
Secondary and higher	98.20	1.80	1229
	$\chi2$=383.203; d.f=3; ρ=0.000		
Occupation			
Unemployment	89.10	10.90	1694
Business	79.90	20.10	164
Service	100.00	0.00	54
Rickshaw puller	81.70	18.30	71
Labour	83.70	16.30	412
Poultry cattle raising	86.70	13.30	119
Other	50.00	50.00	14
	$\chi2$=61.063; d.f=6; ρ=0.000		
Region			
Dhaka	91.10	8.90	1085
Rajshahi	86.60	13.40	704
Chittagong	80.30	19.70	740
	$\chi2$=44.345; d.f=2; ρ=0.000		

Source: BDHS, 2007

6.5 Knowledge of Transmission of HIV/AIDS

To ascertain whether respondents know about non-sexual means of transmission of HIV/AIDS asked respondents whether it is possible to get the HIV/AIDS virus by using an un-sterilized needle or syringe and through unsafe blood transfusion. Table 6.4 shows that about 92 percent of respondents in age group 30-39 years believes that the HIV/AIDS virus can be transmitted by using an un-sterilized needle or syringe while, about 93 percent respondents in age group 18-29 years believes that the HIV/AIDS virus can be transmitted via blood transfusion.

Table 6.4 also shows considerable variation and slightly changes in respondents' knowledge of HIV/AIDS transmission by background characteristics. Knowledge of HIV/AIDS transmission is higher on the basis of total number of observation, among younger (age group 18-29 years) respondents, married respondents, respondents who have secondary and higher education, respondents who have engaged no work and respondents who have living in Dhaka.

Table 6.4: Knowledge of transmission of HIV/AIDS through unclean needles and unsafe blood transfusion

Background Characteristics	Using un-sterilized needles or syringe	Unsafe blood transfusion	N
Age Groups			
18-29	90.90	92.70	1023
30-39	91.50	91.80	658
40-49	87.00	90.90	416
Marital Status			
Married	91.20	92.50	2053
Widow & Widower	80.50	88.30	77
Other	80.60	87.10	62
Education			
No education	83.50	85.80	430
Primary Incomplete	85.30	89.90	368
Primary Complete	89.70	90.80	184
Secondary and higher	94.70	95.30	1207
Occupation			
Unemployment	90.90	92.60	1509
Business	87.00	90.80	131
Service	100.00	100.00	54
Rickshaw puller	87.90	89.70	58
Labour	90.10	92.50	345
Poultry cattle raising	86.40	81.80	88
Other	85.70	100.00	7
Region			
Dhaka	92.10	93.00	988
Rajshahi	93.60	94.30	610
Chittagong	84.70	88.60	594

Source: BDHS, 2007

6.6 Knowledge of HIV/AIDS Prevention Methods

What ever heard, knowledge about HIV/AIDS transmission had not reached the vast majority of the people, even fewer knew about how to prevent it. HIV/AIDS prevention programs focus their messages and efforts on three important aspects of behaviour: delaying sexual debut (abstinence), staying faithful to one uninfected partner, and condom use (the ABC message). To ascertain whether programs have effectively communicated these messages, respondents were asked specific questions about whether it is possible to reduce the chances of getting the AIDS virus by abstaining from sex, having just one faithful uninfected sexual partner, and using a condom at every sexual encounter.

Table 6.4 presents knowledge about specific HIV/AIDS prevention methods among respondents by background characteristics. Young respondents age 18-29 are more knowledgeable except one method about the various modes of prevention than older respondents. For instance, about 54 percent of respondents age 18-29 mentioned that using condoms can reduce the risk of getting the AIDS virus, compared with about 53 percent of respondents in same young age mentioned that limiting sexual intercourse to one uninfected partner and about 51 percent in age group 40-49 year mentioned that not having sexual intercourse at all. Knowledge of HIV/AIDS prevention of three methods among married respondents is highest than other marital categories. Higher education is strongly correlated with knowledge of HIV/AIDS prevention methods. According to secondary and higher education respondents believes that can be reduce the risk of getting the AIDS virus through about 62 percent using condom during intercourse, about 58 percent limiting sexual intercourse to one uninfected partner and about 53 percent abstaining from sexual intercourse. The higher proportion of HIV/AIDS prevention methods among respondents is in occupational category by 87 percent service persons believes using condom during intercourse is one of the methods of reduce the risk of getting the HIV/AIDS, while both 71 and about 85 percent with other category believes limiting sexual intercourse to one uninfected partner and abstaining from sexual intercourse methods respectively is each one of the methods of reduce the risk of getting the HIV/AIDS. Knowledge of HIV/AIDS prevention methods among respondents is highest in residents of Rajshahi division with contains percentage through about 61

percent using condom during intercourse, about 62 percent limiting sexual intercourse to one uninfected partner and about 52 percent abstaining from sexual intercourse methods.

Table 6.5: Knowledge of HIV/AIDS prevention methods by background characteristics

Background Characteristics	Using condom during intercourse	Limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	N
Age Groups				
18-29	54.30	52.90	48.60	1023
30-39	54.30	51.20	50.50	658
40-49	46.60	49.80	51.40	416
Marital Status				
Married	54.00	52.70	49.90	2053
Widow & Widower	31.60	36.40	48.10	77
Other	40.30	41.90	41.90	62
Education				
No education	36.00	43.30	47.10	430
Primary Incomplete	46.20	46.50	44.80	368
Primary Complete	44.60	44.60	46.20	184
Secondary and higher	62.10	57.70	52.60	1207
Occupation				
Unemployment	53.10	52.40	50.70	1509
Business	52.70	49.60	42.70	131
Service	87.00	70.40	49.10	54
Rickshaw puller	41.40	56.90	55.20	58
Labour	50.70	47.00	45.10	345
Poultry cattle raising	43.20	48.90	52.30	88
Other	57.10	71.40	84.70	7
Region				
Dhaka	50.90	53.50	52.20	988
Rajshahi	60.70	61.60	52.30	610
Chittagong	48.00	38.90	42.40	594

Source: BDHS, 2007

6.7 Results and Discussion of Logistic Regression Analysis

To identify the knowledge of HIV/AIDS, transmission routes and prevention methods of HIV/AIDS by different characteristics have been used a multivariate technique name as logistic regression analysis.

6.7.1 Logistic Regression Analysis about Knowledge of HIV/AIDS

Multiple logistic regression analysis is conducted to asses the knowledge of HIV/AIDS as dependent variable (0= if he/she doesn't ever heard of HIV/AIDS and 1= if he/she heard of HIV/AIDS) by some selected background characteristics. There are many potential independent variables. Of all the potential independent variables we consider only those of the variables which give significant result in empirical study and that are also suitable

for theoretical purpose. Here the independent variables are age, marital status, educational qualification, occupation, region and mess-media of the respondents.

In case of respondents age groups, 30-39 years 1.221 times more and 40-49 years 1.021 times more to have knowledge about ever heard of HIV/AIDS than that of the respondent of 18-29 years age group (reference group) respectively. Here, there is no age group who have experienced in different purpose of life had a significant acquaintance about HIV/AIDS. For marital status widow-widower and other are 3.182 times and 0.266 times more to have knowledge about ever heard of HIV/AIDS than that of the respondent of married (reference group) respectively. Here, statistically significant effect of correct knowledge of ever heard of HIV/AIDS in other category of marital status. Further, respondents educational level primary incomplete of schooling and primary complete schooling are 0.786 and 1.384 times more to have knowledge about ever heard of HIV/AIDS than that of the respondent no education (reference group) respectively. Again, respondent's educational level secondary and higher education are 4.979 times more likely to have knowledge about ever heard of HIV/AIDS than the reference category. The higher educational level of person generally has a high knowledge about the ever heard of HIV/AIDS than that of no education person and it contains significant result. For respondents occupation, business, service, rickshaw puller, labour and other are 2.384 times, 2.000 times, 2.531 times, 1.795 times and 1.501 times respectively more on the other hand Poultry cattle raising 0.777 times less to have knowledge about ever heard of HIV/AIDS than that of the respondent of occupation no engage in work (reference group). Here, all occupational categories are more conscious about the HIV/AIDS and have had positive impact about ever heard HIV/AIDS whereas only poultry cattle raising category has negative impact. Further, respondents who living in Dhaka and Rajshahi division are 2.239 times and 1.418 times more to have knowledge about ever heard of HIV/AIDS than that of the respondent of living in Chittagong division (reference group). Here, respondents of Dhaka division are get more facility as a capital city than other division and consequently have had a significant acquaintance about HIV/AIDS.

Table 6.6: Result of logistic regression analysis of respondents who ever heard about HIV/AIDS by background characteristics

Background Characteristics	Ever heard of HIV/AIDS	
	β	Odds Ratios(ρ)
Age Groups		
18-29	RC	RC
30-39	0.199	1.221
40-49	0.210	1.021
Marital Status		
Married	RC	RC
Widow & Widower	1.158	3.182
Other	-1.323**	0.266
Education		
No education	RC	RC
Primary Incomplete	-0.241	0.786
Primary Complete	0.325	1.384
Secondary and higher	1.605***	4.979
Occupation		
Unemployment	RC	RC
Business	0.869	2.384
Service	16.815	2.000
Rickshaw puller	0.929	2.531
Labour	0.585	1.795
Poultry cattle raising	-0.252	0.777
Other	0.406	1.501
Region		
Chittagong	RC	RC
Dhaka	0.806***	2.239
Rajshahi	0.350	1.418
Mess-Media		
Read newspaper or magazine	0.213	1.952
Listening radio	0.669*	1.238
Watch television	2.277***	9.751
Constant	-0.101	0.904

Source: BDHS, 2007; Note: RC=Reference category

6.7.2 Logistic Regression Analysis about Knowledge of Transmission Routes of HIV/AIDS

Multivariate logistic regression analysis results show that education has a major effect on having correct knowledge about HIV/AIDS transmission routes for respondents. For example, odds ratios of knowing about the using un-sterilized needles or syringe; and unsafe blood transfusion for respondent's with the highest level of education (see Table 6.6). In addition, it is remarkable that the positive relationship between media exposure and the knowledge about HIV/AIDS transmission persists even after controlling for all other selected variables in our country.

It is noteworthy that when other factors were taken into account, the odds ratios of knowing using un-sterilized needles or syringe as transmission routes were controlling

independent variables are higher education, all region groups and watch television exposure highly significant and only other marital status significant. Further, after controlling for the effect of old age group 40-49 years, marital status all groups, rickshaw puller and Poultry cattle raising occupational groups were the less likely to agree that using un-sterilized needles or syringe as transmission routes of HIV/AIDS.

Again, the odds ratios of knowing via unsafe blood transfusion as transmission routes were controlling independent variables are higher education, all region groups and watch television highly significant and other marital status, complete primary education, business and read newspaper or magazine significant. Further, after controlling for the effect of old age group 40-49 years, other category marital status, poultry cattle raising occupation and Listening radio were the less likely to agree that via blood transfusion as transmission routes of HIV/AIDS.

Table 6.7: Odds ratios estimated by multiple logistic regression analysis of respondents about knowledge of transmission of HIV/AIDS through unclean needles and unsafe blood transfusion by background characteristics

Background Characteristics	Using un-sterilized needles or syringe	Unsafe blood transfusion
Age Groups		
18-29	RC	RC
30-39	1.33	1.320
40-49	0.738	0.961
Marital Status		
Married	RC	RC
Widow & Widower	0.601	2.105
Other	0.336**	0.375**
Education		
No education	RC	RC
Primary Incomplete	1.021	1.530
Primary Complete	1.690	2.830**
Secondary and higher	3.507***	4.932***
Occupation		
Unemployment	RC	RC
Business	1.160	2.413*
Service	1.000	5.900
Rickshaw puller	0.990	3.416
Labour	1.178	1.202
Poultry cattle raising	0.753	0.642
Other	1.852	1.462
Region		
Chittagong	RC	RC
Dhaka	2.170***	2.489***
Rajshahi	2.332***	1.994***
Mess-Media		
Read newspaper or magazine	1.237	1.543*
Listening radio	1.128	0.974
Watch television	4.061***	5.143***
Constant	0.598	0.493

Source: BDHS, 2007; Note: RC=Reference category

6.7.3 Logistic Regression Analysis about HIV/AIDS Prevention Methods

Multivariate logistic regression analysis results show that education has a major effect on having correct knowledge about HIV/AIDS prevention for respondents. For example, Odds ratios of knowing about the using condoms every time they have sexual intercourse, limiting sexual intercourse to one uninfected partner who has no other partners and abstaining from sexual relation for respondent's with the highest level of education (see Table 6.7). In addition, it is remarkable that the positive relationship between media exposure and the knowledge about HIV/AIDS prevention persists even after controlling for all other selected variables in our country.

It is noteworthy that when other factors were taken into account, the odds ratios of knowing using condoms every time they have sexual intercourse as preventive method were significantly higher among controlling independent variables are service, Rajshahi division and all media exposure groups while, widow & widower, other marital status, secondary and higher education, service, rickshaw puller, labour and Dhaka division were contains significant result. Further, after controlling for the effect of old age group 40-49 years, marital status all groups, primary complete education, rickshaw puller, Poultry cattle raising and other occupational groups and listening radio were the less likely to agree that using condoms every time they have sexual intercourse as a preventive of HIV/AIDS.

The odds ratios of knowing limiting sexual intercourse to one uninfected partner as preventive method were significantly higher among controlling independent variables are all region and all mess-media except listening radio whereas, in age group 30-39 year, all marital status groups, service man and listening radio were contains significant results. Further, after controlling for the effect of middle age group 30-39 years, widow & widower and all education except higher education were the less likely to agree that limiting sexual intercourse to one uninfected partner as a preventive of HIV/AIDS.

The odds ratios of knowing abstaining from sexual intercourse as preventive method were significantly higher among controlling independent variables are Dhaka region and watch television whereas, in old age group 40-49 year, labour poultry cattle raising and other occupational groups, all region and all mess-media groups were contains significant results. Further, after controlling for the effect of all marital status groups, and all educational groups, business, service and labour occupation were the less likely to agree that abstaining from sexual intercourse as a preventive of HIV/AIDS.

Table 6.8: Odds ratios estimated by multiple logistic regression analysis of respondents about knowledge of HIV/AIDS prevention methods by background characteristics

Background Characteristics	Using condom during intercourse	Limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse
Age Groups			
18-29	RC	RC	RC
30-39	1.018	0.934*	1.100
40-49	0.836	1.082	1.250*
Marital Status			
Married	RC	RC	RC
Widow & Widower	0.529**	0.466**	0.930
Other	0.528**	1.199*	0.802
Education			
No education	RC	RC	RC
Primary Incomplete	1.168	0.959	0.779
Primary Complete	0.970	0.982	0.761
Secondary and higher	1.677*	1.519	0.992
Occupation			
Unemployment	RC	RC	RC
Business	1.115	1.180	0.928
Service	3.661***	1.508*	0.730
Rickshaw puller	0.852*	1.410	1.579
Labour	1.309*	1.047	0.804*
Poultry cattle raising	0.940	1.291	1.524**
Other	0.894	2.750	5.881**
Region			
Chittagong	RC	RC	RC
Dhaka	1.188*	1.761***	1.439***
Rajshahi	1.697***	2.613***	1.362**
Mess-Media			
Read newspaper or magazine	1.462***	1.348***	1.240**
Listening radio	0.8000***	0.854*	1.205*
Watch television	2.505***	2.364***	1.463***
Constant	0.276	0.204	0.510

Source: BDHS, 2007; Note: RC=Reference category

6.8 Conclusion

Awareness of HIV/AIDS has become the burning question of the day. The 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. By running and interpreting the logistic regression analysis, study shows that residence, education of respondents, transmission routes and prevention are the major factor/contributors of HIV/AIDS. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS of Bangladesh. The study also proved that via unsafe blood transfusion and using un-sterilized needles or

syringe are the transmission routes of HIV/AIDS. Again, using condom during intercourse, limiting sexual intercourse to one uninfected partner and abstaining from sexual intercourse are the possible ways to prevention about HIV/AIDS. Almost all the variables of contingency analysis are significantly associate (highest significant) about HIV/AIDS. Multivariate logistic regression analysis results show that education has a major effect on having correct knowledge about HIV/AIDS prevention for respondents and maximum respondents are more likely to use HIV/AIDS knowledge.

CHAPTER - SEVEN

A STUDY OF SOME SELECTED HIV/AIDS AFFECTED AND NON-AFFECTED RESPONDENTS PERSONAL OPINION

7.1 Introduction

In the primary and secondary data analysis chapter there has been a vivid picture of respondents' perception about HIV/AIDS. But this chapter upholds a brief impression of the major findings of affected and non-affected respondent's personal experience regarding HIV/AIDS situation. This very study aims fundamentally at raising awareness about HIV/AIDS among general people. However, it reflects a root level experience as well as remedy of HIV/AIDS applicable for the people of Bangladesh.

7.1.1 HIV/AIDS Affected Persons

Respondents Opinion – I: (Micro Driver)

Interview date, time and place: 6 October, 2008, night and Shahabag, Dhaka.

Mr. A is a young married micro driver with 29 years old and his education background is H.S.C, and living in Tongi, Dhaka. Father was not an original inhabitant of Tongi, Dhaka. He was citizen of Pakistan and came to Dhaka after the partition of India and Pakistan in 1947. His main sources of income was auto-rickshaw driving and income was sufficient to maintain a large family, Because of this circumstance Mr. A being a micro driver was essential to support family with father's. He was the second son of his father and middle educated. In spite of educated he was used to going to prostitution for sexual enjoyment because of wife's disability and he has been doing this for three years. At the survey period, when he was asked how you were affected by this (HIV) virus, he answered might have been affected with this disease when he was a regular visitor to the prostitution

located at the Kamlapur rail-slum area. Moreover, he used to take drug. At present he suffers by many diseases like loose motion, skin disease, hypertension, cough, physical weakness etc. Apart from these, he suffers from fever most of the time in a month. He shares with his spouse about HIV/AIDS. His wife encourages him not to be afraid of the disease. But emotionally he says that he does not want to live in this world. Mr. A thinks a person has maximum probably to be a positive HIV/AIDS affected patient who makes sexual relationships with a brothel like him. Besides, it is spread through razors and vaginal secretion. He had first known about HIV/AIDS 15 years ago through TV, by his friend, billboard etc. There is no way to escape from AIDS if already being affected but if one obeys some rules, it will be helpful to lead a healthy and comfortable life Mr. A said. He thinks to get rid of this epidemic disease is to avoid brothel sex, to use condom while intercourse, to grow concentration about decreasing male sexual drive, to develop religious belief etc. Mr. A heartily said, don't abuse and hate HIV/AIDS affected persons. They are also human beings. So, help them to lead a without any pain until their end of life.

Respondents Opinion – II: (Bus Driver)

Interview date, time and place: 10 October, 2008, night and Kamlapur station, Dhaka.

Mr B was about 33 year's old bus driver at the time of field investigation and inhabitant of the village Hili border area, Dinajpur. Both he and his wife are illiterate. His father's economic condition was not good at all because he was a rickshaw puller due to this circumstance Mr. B's life was challengeable and accepted that willingly. As a result, he had been a bus driver and earning good amount of money. He knew about HIV/AIDS through watching TV and by his friend at his 18 years old, that is, 15 years ago. Therefore, informed the transmission ways of HIV/AIDS are unsafe blood transfusion and sexual intercourse with prostitution. In order to get rid of HIV virus one should avoid brothel sex, blood transfusion without blood test, evil company. At present he has been a positive HIV affected person. By this impact, he has been started to feel some diseases symptoms in his body, such as insomnia, decreasing body weight, skin disease (especially on the face) etc. Because of his insomnia disease, he has been taking drugs like heroin, cocaine, pathedrin, wine etc. For about 13 years so that he may sleep well. In this connection, he states that ten years ago he had a fever. It continued for two months. Because of those complications he suffered from several diseases like mental depression,

continuous cough and physical weakness for which he didn't have any attention to work. Four years ago, through blood test with the help of JAGARON NGO he came to know that he had become a HIV positive patient. His idea about present problem the possible cause of HIV/AIDS is intercourse with an Indian prostitute named N. at the border area in Hili, Dinajpur. Mr B has been started to go to different prostitute area from ten years.

After informed of his present problem he talked with spouse about it and expressed interest to live more and wanted provide a suitable living environment for him in spite of HIV/AIDS positive person. In this circumstance, wife was encouraging him to live. Though, she knows situation is not so easy to handle and now there is no way to live. Mr. B also doubted for his wife because she might be affected by him. He thinks addicted persons and prostitution goers are the possible persons to be affected by HIV virus. He comments the victims should use condom during intercourse, developed education and raise HIV/AIDS awareness. But he could not avoid because of bad companies who were responsible to make him HIV/AIDS affected though Mr. B informed about the dangerous effects of that disease.

Respondents Opinion – III: (Truck Driver)

Interview date, time and place: 20 November, 2008, night and near at education Bhoban, Abdulgani Road, Dhaka, Bangladesh.

Mr. D is about 27 years old and permanently living in Teknaf, Chittagong, Bangladesh. He engaged in Truck driver but at present physically put out of action. He is married with educational background up to the H.S.C. In his initial life, he was a rickshaw puller in Dhaka city. Father was a labour of Chittagong Mills. They were five brothers in number. Mr. D came in close contact with different types of persons after taking job as track driver. He got marry at 16 years old and wife (X) was daughter of an old peon of Chittagong Mills. She was a very simple life leading thinking village girl. D was a bad characters person and wanted to earn money using his wife as sex workers. For his this tendency, he likes to take some friends (like driver or collogue) in residence to visit home and to make friendship with wife's. While they start to gossip, he tactfully go away from the residence. In this way he likes to give chance to them to make friendship with his wife. He likes to seduce friends by taking money as loan and intended never give back it to them. X realized the technique of husband very soon and did not allow continuing further. As consequence, D became angry with her and threatened to divorce and started

to focus to get marry with another girl who would be quite fair looking to compare with her. In this regard, all-time X was oppressed with her husband. Meanwhile, three years ago through blood test with the help of government hospital Mr. D knew that he was affected with HIV positive. But he heard about HIV/AIDS through radio, TV, news paper, his friend etc. at 13 years old. Mr. D knew about HIV/AIDS but he was unknown about the fearfulness of its. For this he was affected with this disease.

Mr D had worked in foreign countries (Dubi, Singapur) as a driver a long time ago (about 6 years). The sexual intercourse with different girls in there may be the principal cause of his being HIV/AIDS positive patient. Afterward, he has come back in home country and continued same practice at the prostitution with took drug regularly. At present he has been started to face many physical problems like physical weakness (can't move easily one place to another), fever, loose motion, skin diseases, cough, losing body weight, body leanness, changing complexion, mental depression (all-time lifeless thinking) etc. To make relax himself, he shared about HIV/AIDS disease with friends and later shared with spouse about fearfulness of HIV/AIDS even then there is no way to get rid of it. Mr. D realizes possible HIV/AIDS affected persons are those who do not have awareness about HIV virus, do not use condom during intercourse with a prostitute or other women, are addicted to drugs etc. "Transmission ways of HIV/AIDS are through prostitute and blood transfusion", says he. Also, he thinks one can be free from HIV/AIDS if one uses condom during every intercourse, avoids sex with unknown partner, takes blood from known person and abides by the rules and beliefs of religion. Mr. D tells emotionally "I want to live more, please let me live. Is there any medicine to avoid HIV/AIDS? If there is, please give me!"

Respondents Opinion – IV: (Rickshaw Puller)

Interview date, time and place: 15 December, 2008, night and Kamlapur Railway Station, Dhaka, Bangladesh

Mr E was a rickshaw puller at the time of field investigation. He was about 26 years old. He was an inhabitant of the village Benapol, border area, Jessor. He is illiterate and father was a wager and, economic condition was not good at all. Because of this situation, he willingly accepted the challenge of life and now earning good amount of money through present occupation. Mr. E knew about HIV/AIDS through Radio, TV and his friends when he was 15 years old, that is, 11 years ago. Actually he was an obedient boy and

used to pass daily through play and loitering together with friends. On the other hand, family members did not like it and wanted to do something in life to make his bright future. In this circumstance, they became rebuke and misbehaved with Mr. E. By this impact he shocked and became desperate in daily life leading. Since then he started to take drugs likes wine, chowany, ganja, phencidyle, injection etc. After that, Mr. E also started to visit brothel house for mental satisfaction through sexual intercourse with sex workers at his young bachelor life and this habit continuous for seven years. Though he informed regarding fearfulness and transmission ways of HIV/AIDS long time before to start to go to brothel house. Thereafter, as a result one day he has known that he has been affected by HIV/AIDS since last one year.

Afterward, he discussed about the fearfulness and transmission ways of HIV/AIDS with friends and told them please don't be affected like me. Also, his idea that affected persons must be faced with sex workers or taken unsafe blood for them need or used unsafe syringe or drug addicted and all bad habit created with them due to lack of religious beliefs. For this reason, he thinks to stay free from this fatal disease one should have religious beliefs, should not make any sexual intercourse with unknown or professional partner and should use condom during intercourse. In the present his physical condition is deteriorating day by day. Diseases like losing weight, skin disease especially in the mouth and neck, continuous fever and cough, loose motion, bronchitis, insomnia are often faced. In this circumstance his personal view about HIV/AIDS is that religious belief must be roused among the people. Since there is no remedy of it, every body should be made conscious of this fatal disease. Lastly he suggests that family members ought to behave with each other should be cordial and friendly so that any body will not fall victim to frustration in life.

Respondents Opinion –V: (Female Hawker)

Interview date, time and place: 25 November, 2008, dusk and Sador ghat, Dhaka.

Miss. C is 28. She was a hawker by trade. Her education level was confined to her signature only. She is a daughter of a poor agricultural farmer. Father's was a small size of agricultural land about eight 'Bighas' and he were able to maintain of his family using the agricultural product from this small area of agricultural land. There was a factory besides their house. In this circumstance, the factory owner thought that those land area

needs for their factory purpose and proposed with force to buy all the land from her father's and taken all agricultural land property except the house.

She had two brothers and two sisters. She was married with a night guard of a garment factory. The night guard would go to the garment to attend his night duty. This was known to the locality. One day, at dead of night, C felt that some body had entered into the room breaking the window. She tried to cry but she was forced to keep silent. Then the scoundrel violated her making panic with the help of a knife. After that, she was divorced by husband. It made her furious and changed the mode of life of and began to take the challenge of life. At the first time, she took the job as maidservant in a students' mess. In this way she accumulated some money and started a business as hawker. At the time of field investigation, C was found moving with sharee, blouse piece, napkins, pillow covers and bed sheets etc. She was used to collect Indian sharee and other cloths for the purpose of business through the illegality providing some money to the BDR in the border area in Bangladesh.

At present, her permanent address is Kamlapur railway slum, Dhaka, Bangladesh. She heard through HIV/AIDS radio, TV, friends and health workers about 7 years ago. Last year, she felt some unexpected symptoms on her body for which did blood test according to the doctor's advice and informed that she is now a HIV/AIDS positive affected patient. Thereafter, she discovered that it might have happened 5 years ago at the time of blood transfusion because of street accident. But she opposes another possible cause of its which might have occurred as a result of the rapper's sperm. At present she feels a lot of problems in her body like loose motion, fever, physical weakness, skin diseases, cough, diabetes, losing weight, sore in the mouth, becoming weak etc. Now confesses that she engaged herself in intercourse with many men at the time of money payment after her divorce. It means, she became a professional sex worker. But she was not agreeing to speak about HIV/AIDS which might be occurred for being professional. Later stage, she started to share about her epidemic disease with friends to get rid from it. According to her opinion, those persons have maximum positive to attack by HIV/AIDS who are addicted, illiterate and less knowledge about HIV/AIDS, truck driver and sex worker. HIV/AIDS is spread when a person goes to the prostitution and when use unsafe and untested blood. To avert this using condom during every intercourse is a must and stop going to brothel. Miss C realizes and suggests that there is no way to escape from this

lethal disease if already it has been occurred and awareness about it should be developed among the people and avoid intercourse with unknown persons.

Respondents Opinion – VI: (Business Man)

Interview date, time and place: 3 December, 2008, night and Benapol Boarder, Jessor, Bangladesh.

Mr. F was a young bachelor business man at the time of field investigation. He was about 24 years old. He was illiterate. He was an inhabitant of the village Darshona, border area, Chuadanga. There are four members in his family. His father was a farmer. He is now earning good amount of money from his business. Mr. F was habituated to go to various places for business purposes. Mr. Q is his business partner of Mr. F. He is a notorious man. Most of the time in business and other purpose Mr. F were influenced by Mr.Q. "Friend let us move to enjoy the evening 'Talk Show', very interesting party where Y will be present". Here, 'Talk Show' was sexual enjoyment men's through intercourse with different beautiful ladies (Y). At the first time, Mr. F refused his friends naughty proposal but lastly he used to go to that TALK SHOW place of his friends continue requests and because of that impact Mr. F's sexual enjoyment was not limited in only one places 'Talk Show' because he became addicted person with sexual enjoyment through different places 'Talk Show'. But this way long times have passed and he started to observe his somewhat physical change and feels can't be attentive to his business. Thereafter, he realized various physical problems, such as too weakness, weight loss tendency day by day, inadequate sleep, mental depression, skin diseases especially in mouth, chronic cough, occasional diarrhea etc. he said. By this symptom it understands that Mr. F is now a HIV/AIDS positive patient though he can avoid it because he knows HIV/AIDS transmission way and it's threaten.

He heard about HIV/AIDS through TV and friend's at 14 years old, that is, 10 years ago. Also he knows HIV/AIDS is transmitted by prostitute and to be free from HIV one should avoid brothel and bad company especially from the affected persons. Also he takes drug off and on. He knew about his HIV/AIDS positive result through blood test with the help of 'JAGARON NGO' and realized most probably he affected by HIV/AIDS for his unsafe sexual intercourse with Y. Thereafter, he shared his problem and its fearfulness with friends. He also comments that in spite of knowing bad impacts of HIV he couldn't

avoid 'TALK SHOW' because of bad company. So, every body should fight shy of bad companies.

7.1.2 HIV/AIDS Not-affected Persons

Respondents Opinion – I: (Truck Driver)

Interview date, time and place: 01 October, 2008, night and Rajshahi Terminal, Rajshahi.

Mr. L is married man of about 35 years old. He was a truck driver. His education background was H.S.C. He is an inhabitant of village Talaimary, Rajshahi. Father's earning source was tempo driving with two sisters and two brothers. He used to take drug times to time but he knows about HIV/AIDS and shares with it spouse. Wife informed to him fearfulness about HIV/AIDS and its possible transmission way such as sexual intercourses with affected persons (sex workers), unsafe transfusion. He had first known about HIV/AIDS 20 years ago through Radio, TV, poster, newspaper and billboard etc. when he was 15 years old and learned its avoiding ways such as using condom during every intercourse and receiving safe or tested blood, using safe niddles etc. He comments that being affected by HIV one leads a very miserable life. So, every body ought to be aware of this incurable disease.

Respondents Opinion – II: (Rickshaw Puller)

Interview date, time and place: 12 December, 2008, morning and Rajshahi Railway Station, Rajshahi, Bangladesh

Mr. Z is a rickshaw puller. He is about 28 years old. He is an inhabitant of the village Benodpur, Rajshahi. His education level is primary. His father is a farmer. From his childhood, he used to watch movies to go to the cinema hall with friends. He heard about HIV/AIDS through Radio, TV, poster and friends when he was 15 years old. He discusses the fearfulness of HIV/AIDS with his wife to learn each other. In the similar way, informed the symptoms of HIV/AIDS patient such as lessening body weight, weakness, continuous fever, diarrhea, and skin diseases etc., he said. Also he knows the ways of spread HIV/AIDS are through sexual intercourse at brothel, through injection niddles and unsafe blood transfusion. In this circumstance his opinion is that the victims of this disease may be the sex workers, truck drivers, drug addicted persons and the workers who

stayed abroad without family. He also opines that one should be educated, obey religious rules and lead healthy and wealthy life to be free from this fatal disease.

Respondents Opinion – III: (Business Man)

Interview date, time and place: 4 December, 2008, after noon and Parbatipur, Dinajpur, Bangladesh

Mr. R is a business man. He is 28 years old. He studied up to class three. He was living in the village of Dakhinnagor, Dinajpur. Father was a farmer. He is now earning good amount of money from his business and maintains an eight member's family. He heard about HIV/AIDS through TV, radio, poster, and health workers when he was 14 years old. By the similar way, he also knew the possible symptoms of HIV/AIDS such as physical weakness, becoming thinner, mental depression, skin diseases especially in the mouth, chronic cough, occasional diarrhea etc. With this he also learned possible transmission paths of HIV/AIDS are sexual intercourse through sex workers without protection, persons recently coming back from a foreign country who were living there without family and occupation was labour classes, unsafe blood transfusion and unsafe injections niddles. According to his personal thinking and suggestions, the possible ways to avoid HIV/AIDS are avoid sex with unknown partners or used to live with multiple life partners and use one time syringes for injection. To make healthy and safety life leading society he shared about the fearfulness of HIV/AIDS with his nearest relatives, friends and surrounding. He expresses that he will never be involved in those activities that will bring about the diseases like AIDS as he would like to lead a healthy and peacefully life in future.

7.2 Conclusion

This chapter has tried to provide descriptive evaluation of affected and non-affected HIV/AIDS respondent's personal opinion. It is also Bangladesh that has long been an issue of importance to population research because of its perceptible direct relationship with lack of health facilities and indirectly with the poverty. At present, it has been become a generally known matter that HIV/AIDS is transmitted through four major routes: unsafe sex, contaminated needles, breast milk and transmission from an infected mother to her baby at birth (prenatal transmission). Findings of the present study between vulnerable and non-vulnerable persons have provided important information about the ri
puller are the more risky persons to affected with HIV/AIDS because of t

knowledge on this issue, illiteracy and lack of tolerance among the family members. Subsequently, this study also reveals that some women and children are oppressed in many situations (family and others palace) by their guardian or family members. Though it is complicated in poor setting Bangladesh, the regarding authority should take proper steps for improving the situation of HIV/AIDS among the vulnerable people, particularly in slum areas people as well as throughout the country. However, there is a real need for more and more studies on this regard. Thus, necessary action is to be taken to reduce the level of HIV/AIDS in the country in order to achieve better living conditions in future.

CHAPTER - EIGHT

SUMMARY AND CONCLUSION

8.1 Introduction

This study has been carried out in eight chapters. In order to identify the level of awareness of people on HIV/AIDS in Bangladesh, analysis has been carried out in four chapters and based on primary and secondary data. Further, it is show that comparative awareness among the floating, frequently moving and permanently resident peoples by background characteristics and different characteristics through univariate and bivariate analysis respectively in chapters three and four. In chapter five, knowledge of fearfulness about HIV/AIDS: application of logistic regression analysis on survey data, in chapter six, knowledge of HIV/AIDS in urban Bangladesh: application of logistic regression analysis on BDHS, 2007 data and chapter seven some affected and non-affected HIV/AIDS persons: A Case Study. This chapter presents a brief overview of the major findings, policy implications and concluding remarks.

8.2 Summary of the Study

The issue of HIV/AIDS should be addressed with a positive attitude. HIV/AIDS is deadly but preventable. We must not create panic but assure people that we can fight back. For HIV/AIDS we should share rights and responsibilities. On the basis of different observations of the survey and established facts following concluding remarks may be made:

Proper analysis of age can suggest population policy for a nation. From our study we find that total respondents are in the age group 30-39 years with about 38 percent and for secondary data, the age group 18-29 years with 44 percent.

Primary data reveals that 97.80 percent population heard about HIV/AIDS by various sources of media but 33.30 percent doesn't know the fearfulness of HIV/AIDS and the most powerful media is electronic media (44.30%). On the other hand, secondary data (BDHS, 2007) shows 91.50 percent respondents ever heard of HIV/AIDS but there was not available information about sources of media.

Regarding means of transmission of AIDS there are many misconceptions than the accepted one. On the other hand, most of the accepted means of transmission are either very little known or not known at all. In the study, most of respondents indicate transmission way is by blood and appreciation of sex.

Knowledge of susceptibility of AIDS is limited. Most people think that sex worker is risk groups. Vary few have identified other risk groups like disobedient of religious belief, addict person, illiterate person, truck driver; rickshaw puller, floating person and babies from infected mothers.

It has also been observed that there are different degrees of misconceptions and ignorance. This phenomenon may generally be attributed to low level of awareness which is in turn dependent on various socio-economic factors.

Literacy of the survey population is one such important factors determining awareness of HIV/AIDS. It has been found from the survey that HIV/AIDS awareness increases exponentially with the increase in literacy rate.

HIV/AIDS is considered to be a pandemic disease threatening the world as a whole. But this general conception is absent among the survey population.

Bangladesh is a predominantly Muslim country. Religious faith of the people works as a motivating factor towards moral sexual life. This fact has also been found in the survey. Attitudes towards premarital, extramarital sex are apparently favorable towards prevention of HIV/AIDS. However, the society is not absolutely free of unfair sex practices. Since HIV/AIDS can spread silently, we should be cautious about transmission of it's through in moral sex whatever insignificant it may be.

It is reported that transmission rate of HIV/AIDS through blood transfusion is high, whereas most of the blood supply of blood transfusion system comes from professional (addicted, poor) blood donors. Although survey reveals that the awareness of HIV/AIDS among the respondents is very low.

It has been observed from the survey that the practice of injection is very rare among the survey population. As such scope of transmission of AIDS through this means is low. This result is opposite to the result of BDSH survey where injectors are the most dangerous than other survey population.

The study provide a brief impression of the major findings of respondents' personal experience regarding HIV/AIDS situation by the descriptive way to enhance of this study findings through compare and evaluation with affected and non-affected respondent's personal opinion and vivid picture of respondents' perception about HIV/AIDS.

The quality of health centers was satisfactory according to the respondents. It is estimated that there are about 15 million urban poor in our country (Sultana, 2005). They constitute a largely underserved section of society for which currently there is no defined sector planning. Therefore, there is an urgent need to develop interventions to address this gap in the current efforts to prevent a generalized HIV/AIDS epidemic in Bangladesh and fully use the window of opportunity provided by current low national HIV prevalence rates among the poor.

8.3 Policy Implications

Some findings of this study deserve consideration from the view point of their policy implications. These are as follows:

(1) Till now there is no treatment for HIV/AIDS. The only vaccine for HIV/AIDS prevention is to learn about HIV, how it spreads and how it does not. So far all will agree that HIV/AIDS education is the only vaccine against HIV/AIDS.

(2) Promotion of condom use should be strengthened with special emphasis on how to use them effectively and on ensuring its availability and accessibility to the potential clients, particularly men. Properly used latex rubber condoms with lubricants are currently the only mechanical means of protection against sexual transmission of HIV/AIDS. Condoms provide similar protection against sexual transmitted diseases that may also increase HIV transmission. The availability of quality condom at an affordable price to the high risk groups is an essential part of HIV/AIDS and STD control programmes. In this context, the use of various types of media, e.g. type, video, films, billboards, print materials, folk media, electronic,

stage and other mass media campaigns, plays a very important part in making the target groups aware of the safe sex through the use of condoms.

(3) The BCC activities should be enhanced with extensive education on safe-sexual behaviours through culturally appropriate messages in the floating areas. Improved access to education resources in conjunction with community based peer education could also help raise awareness about HIV/AIDS.

(4) For the majority of Bangladeshis, media is the primary source of information about HIV/AIDS. This places a tremendous responsibility on the media to report the epidemic clearly, accurately and relevantly. The primary role of the media should be to inform/not alarm the public. The public should be reassured that HIV/AIDS is not a dangerous disease as long as the appropriate prevention measures are taken. Also, use of mass media could also be a successful strategy in reaching female with information on HIV/AIDS, particularly those who are living in floating areas. Programmes need to be strengthened for female of floating slum areas of Dhaka, Rajshahi and Chittagong divisions as a whole.

(5) Print media like newspapers and magazines along with electronic media can make a break through in family planning program and HIV. Radio and TV spots, discussions and dramas can make HIV make program more popular event in the society.

(6) TV is also popular among the literate and illiterate population of our society. Like radio it can also popularize the world AIDS and discuss about through jingles, puppet show and drama. So, media is more important to the female as it is a great opportunity to use media for HIV/AIDS education. To prevent AIDS media is more important than physicians.

(7) The media can also play and important role to provide necessary suggestion regarding threats of HIV/AIDS for politicians, businessmen, religious and other community leaders. Decisions of those people have important role in a society and decision makers need to know the future impact of the diseases, where adequate prevention activities are being undertaken and where prevention is inadequate or non-existent. Newspapers can carry informative cartoons. All sections of the media

can sponsor competitions and other activities, which promote awareness of diseases.

(8) Special female centers for the slum people could be operated within the existing healthcare facilities, with specific day(s) for female, to provide comprehensive healthcare disease services, which include HIV/AIDS. The healthcare providers should be oriented on the mechanisms of transmission and prevention of HIV/AIDS, so that they can transfer their knowledge to their clients and to the community people. In addition, more holistic and realistic gender-sensitive programmes and interventions are needed to address the issues of gender inequality that is deeply rooted in the society.

(9) The Government of Bangladesh has recognized floating female health as priority target area and has included it as part of essential services package (ESP). In addition, a multi-sectoral National AIDS Committee (NAC) is providing technical assistance in developing strategies for the control of HIV/AIDS. Nevertheless, the findings of the present study can help the healthcare providers in the successful implementation of the existing activities and in formulating appropriate interventions to improve awareness for the prevention of HIV/AIDS among floating, frequently moving and permanent resident peoples in Bangladesh.

(10) Government should provide condom freely among the sex workers.

(11) Not but not least government should provide better awareness program through an effective manner.

(12) In order to effectively address the problem of HIV/AIDS, policy must include the prevention, diagnosis and treatment of other sexually transmitted diseases.

(13) HIV/AIDS policy therefore should not only emphasize the medical and technological aspects, but also be based on social and economic considerations. In addition, human rights must be addressed in a comprehensive national policy.

(14) HIV/AIDS policy must be gender sensitive because of women's socio-cultural and economic vulnerability. In addition, the transmission of HIV from men to women has been biologically more efficient. Further, women are more exposed to transmission through blood and blood products due to reproductive health related

problems. Gender in relation to HIV/AIDS refers to relationships between men and women, their sexualities and sexual behaviour.

(15) Men's sexual responsibilities are essential to be success of HIV/AIDS prevention programmes. HIV/AIDS information, education and communication (IEC) are the first major strategy for HIV/AIDS prevention and care. In order to change behaviour, one must have knowledge of the means of transmission and the modes of prevention. However, it should be noted that IEC alone would not change behaviour.

(16) The national Executive Board should obtain educational materials on HIV/AIDS and STDs targeted at blood donors. At least one staff of each blood transfusion center must be trained in counseling the donors particularly the HIV infected individuals.

(17) Screening facilities for HIV, HBV, Syphilis and malaria should be provided to all transfusion centers. All the imported blood and blood products should undergo screening at the reference laboratories.

(18) Enough equipment, reagents and disposable materials such as plastic blood bags, syringes and needles and gloves should be available for safe blood transfusion at each Blood Transfusion Centre and their usages is mandatory. Safety measures should be strictly followed in disposing of the used equipment and materials.

(19) A most critical issue in curbing HIV and improving support for infected people is to empower women in relation to their decision-making capacity within the family. In present, they have little control over sexual relations within marriage and very few accesses than men to education, training and employment and also economically vulnerable. Women's vulnerability to HIV infection is often related to their status in society, including social and cultural expectations about their sexuality and many poorer women are forced into selling sex for survival, putting themselves at enormous risk of infection.

(20) Unfortunately, changing traditional relationships between men and women in the slum floating areas and in marriage is particularly difficult. Yet it is precisely in this sphere that change is needed if the spread of HIV is to be reduced. Some changes that could be pivotal in curbing the transmission of HIV include:

(i) Putting some check and balances on men who indulge infrequent sexual contact other than with spouse or regular partners

(ii) Women having sufficient security so that they do not need to depend on men within or out side marriage; this means better access to education, training and jobs.

(iii) Many women having viable economic alternatives through prostitution.

(21) There is evidence that HIV can be transmitted through breast-feeding. Counseling should be provided to the parents about risks of breast-feeding, from infected mother and on possible advantages/disadvantage associated with other methods of infant feeding. This should be case to-case decision based on informed choice.

(22) In our country, the main access to information about HIV/AIDS is through the media. The media can play a primary role both in providing information about the disease and in shaping public attitudes towards both the disease and those affected by it in slum areas. However, there may be a conflict between the media's role in providing accurate information and its priorities in representing a particular political, social or religious point of view. To enable media to play their role effectively, their right to provide information should be acted upon without shunning the issue of confidentiality. It is the duty and role of other actors in this field to provide the media with information so that they can write useful and relevant articles.

(23) Individual journalists reporting on HIV and AIDS therefore have a huge responsibility to inform the public fairly and accurately about the virus. This responsibility outweighs their own attitudes and prejudices and any pressure they may be under to provide sensational, badly researched and inaccurate stories. In carrying out this responsibility, journalists should be accurate, respect privacy, relevant, avoidable about sensationalism, protect able about press freedom.

(24) The Government of Bangladesh (GOB) should establish programme for prevention and care of STD and this should be integrated or closely coordinated with the National AIDS/STD Control Programme. A separate Directorate for AIDS/STD should be established and STD care services should be extended up to floating slum

poor level with all logistic support. Such programme should collaborative and coordinating role of the family planning workers.

(25) Promote accessibility, effective and acceptable case management of persons with STD through the public and private general health system, including first level health care, using simple algorithms based on syndromic diagnosis.

(i) Include STD care in maternal and child health, antenatal and family planning services as and when human and economic resources allow in the slum areas.

(ii) Target acceptable and effective STD care services to poor women identified as at increased risk of STD infection, including HIV, due to their sexual behaviour.

(iii) Promote STD related health care seeking behaviours with other sexual behaviour related education.

(iv) Deliver primary prevention activities (promotion of safe sexual behaviour and condom provision) together with the National AIDS/STD programme.

(26) In-service training should be imparted doctors and other health workers on syndromic as well as specialized care for AIDS/STD. However, strategic and policy guidelines for STDs should be formulated. There should be provision for research activities and higher studies in STDs.

(27) Prevention of HIV through injection however possible if 1) drug users or community organizations of drug users are involved in prevention, 2) outreach and community based programmes are implemented, 3) information of HIV is provided, 4) means behaviours change (access to needles, syringes, bleach, condoms etc.) are made accessible, 5) options are offered to the IDUs as to how they will make a change in behaviour rather than a single approach, and lastly 6) policy makers are sympathetic and supportive to such programmes even if they might appear to have controversial policies towards drug use in the beginning.

(28) Given the potential increase in drug injections behaviour and its implications for HIV infection and AIDS/STD, specific targeted interventions for drug users should be carried out, including education outreach programmes, needle and syringe

exchange and /or cleaning programmes, education programmes on HIV/AIDS and STDs and risk reduction and education of safe sex.

(29) A safe, effective blood transfusion service is an essential infrastructure to the provision of adequate health services. The Government of Bangladesh is committed to insure them all patients have access to enough appropriate sage blood and blood products when ever needed.

(30) The education, awareness raising and empowerment of women must start in early stages of their life, e.g. primary school and continue in all areas of life, backed up by policy and legislation. Schools, women's groups, NGOs political parties, Government labour and other mass organizations and the employment sector itself all have important role to play in enhancing the position of women and changing accepted norms. Mass media are also influential in sustaining or changing societal norms and perceptions.

(31) There should be a consistent and reliable system for donor selection and deferral. Procedures should be clearly set out for caring for the donor before, during and after donations and for deferral where necessary. Plans to motivate and recruit donors from safe low risk community groups should be introduced. Where appropriate, mechanisms for self-exclusion of donors can be introduced. Locally appropriate recruitment material, both oral and written, should be provided to facilitate response from donors. Without proper screening and proper testing of blood, blood should not be given to the recipient. Blood banks, hospitals, clinics and other institutions that supply and administer infected blood for transfusion should be held legally liable.

(32) Safe sex is widely accepted through as means of prevention of AIDS. Use of condom is strongly suggested for safer sex. From the report it has been found that condoms are well known to people, but not widely used.

(33) The existence of HIV/AIDS poses a serious challenge to human kind. To date, there is neither a vaccine nor a cure for AIDS. It is now well known that the presence of STDs predisposes the individual to HIV infection. HIV/AIDS is a human development problem fueled by poverty, the inequality of certain sectors of society. As a result, the socio-cultural, economic as well as health determinants of the

transmission of HIV/AIDS must be addressed. In formulating a national policy for HIV/AIDS the need arises to incorporate the above as policy concerns as part of an action strategy for future programmes.

(34) HIV/AIDS is global crisis. It requires response from each and every one of us especially for the floating. It requires communities, nations and regions to come together in concerted, coordinated action. Bangladesh is still a low prevalent country for HIV. So there is no room for any complacency or happiness for the Bangladeshi people because many risk factors still exist in Bangladesh. The situation of Indonesia underlines the fact that wherever risky behaviour exists, the epidemic may eventually spread. So we must take lesson from our neighboring countries.

(35) Include HIV/AIDS awareness training as a standard component of pre-deployment training and preparation.

(36) Ensure that all testing procedures are accompanied by HIV counseling and that all individuals are directly informed of test results.

(37) Focus groups should be included in future surveys, in particular targeting female peacekeepers and the local population in areas with significant peacekeeper deployments.

(38) Implementation of a behavioural surveillance system should be considered so that an epidemiological profile of behaviour change can be monitored over time.

(39) Implement and monitoring peer education programmes within the mission to provide on going training capacity.

(40) Ensure the HIV/AIDS unit has sufficient capacity to provide easy accessible voluntary counseling and testing services to all peacekeepers without cost. HIV/AIDS test is a key entry point for behaviour change, care and support.

(41) Ensure that peacekeeping personnel have the means to maintain communication with their family and friends at home.

(42) Ensure that the messages on sexual exploitation and abuse are clearly and directly conveyed, and understood by the rank and file as well as the command structure.

(43) Finally, the findings of this survey highlight the significant impact of HIV/AIDS programmes carried out by troop and police contributing countries and the mission, but also support concerns that such initiatives need to be strengthened and

monitored. Much work needs to be done in order to maintain a constant level of training that impacts on behaviour change and to ensure appropriate and consistent testing procedures.

8.4 Concluding Remarks

Study of the HIV/AIDS awareness of people and its prevention is a complex one and has become the burning question of the day. It is also Bangladesh has long been a topic of interest to population researchers because of its apparent direct relationship with lack of health facilities and indirectly with the poverty. Findings from this HIV/AIDS study among peacekeepers have provided important information about the levels of knowledge of HIV transmission and prevention, the proportion of peacekeepers trained and the numbers of peacekeepers who have practiced high risk behaviours. The findings of future surveys, however, would be strengthened if supplemented by focus groups in which information flows more freely. Also, if numbers of female peacekeepers are still insufficient to maintain confidentiality and statistical relevance, such focus groups could capture their feedback and hence give a complete picture. Similarly focus groups with the host community would provide a clear picture and provide an insight into the local perception of peacekeepers. At the time of reporting, a project in which focus groups with population groups in communities surrounding the mission was underway, under the leadership of UNFPA.

By running and interpreting the logistic regression analysis, this study shows that residence, education of respondents and prevention are the major factors/contributors of HIV/AIDS. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS in 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 need for more in depth studies in this regard. Thus, necessary action is called for to reduce the future level of HIV/AIDS in the country in order to achieve better living conditions in future.

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Appendix-I

Knowledge of Transmission Routes and Prevention way of HIV/AIDS: Bangladesh Context

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Knowledge of Transmission Routes and Prevention way of HIV/AIDS: Bangladesh Context

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Abstract: Raising knowledge of transmission and prevention about HIV/AIDS of respondents about the long run effects of these diseases is the principal objectives of reproductive health programs recently executing in the world. This study reveals that permanent resident respondents are more aware than the floating and frequently moving population. It also shows that about 92% floating respondents heard the name of HIV/AIDS by various sources of media on the other hand the same amount (99.00%) frequently moving and permanent resident heard the name of HIV/AIDS by various sources of media. In this study, it also found that uncontrolled and unsafe sexual relation is the main causes to AIDS answer by the respondents. Further, >50% respondents think avoiding way about HIV/AIDS is using condom during intercourse, <15% respondents indicate transmission way is by blood and appreciation of sex.

Key words: HIV/AIDS, transmission routes, prevention way, serious challange, mortality, Bangladesh

INTRODUCTION

The Human Immunodeficiency Virus (HIV) causes Acquired Immune Deficiency Syndrome (AIDS). 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 worldwide 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. At present, it becomes a major public health concern in many developing countries as well as in Bangladesh.

HIV still continues to be a very common complication worldwide. During the 21st century, it was the 4th cause of mortality with >5% of deaths all over the world (Murray *et al*., 2001). In a study, up to 40 million people are estimated to live with HIV in the world. In addition, 25 million deaths have been reported (UNAIDS/WHO, 2008). 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. In many countries, AIDS has stalled or reversed decades of human development. 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. 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 (UNAIDS China, 2002).

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 (United Nations, 2002). It is a strongly needed to assess the current level of specific knowledge about HIV/AIDS transmission and prevention by women and other key socio-demographic factors to meet the targets and goals of AIDS prevention and control. In recent years, there has been an increasing incidence of research on the clinical and epidemiological aspects of HIV. A study of Swinne *et al*. (1991) focused on AIDS related infections and they were convinced that the pigeon coops of the city play a part in the contamination of HIV+/AIDS patients.

Epidemiological research mostly focuses on attitudes of people of Iran and Turkish in relation to HIV transmission routes (Nakhaee, 2002; Ayranci, 2005). So far the disease has no any reliable antibiotic medicine till

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today. But a cure for HIV 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).

This study examines comparative study of the factors related to the awareness of HIV/AIDS and other sexual diseases among the 3 target population of 3 selected major metropolitan areas in Bangladesh. Generally, we know that floating population are environmentally, biologically, sociologically and economically more vulnerable to HIV infection than frequently moving and permanent resident population.

Socially floating are vulnerable due to their lesser role in decision making including when where and how to engage in sexual intercourse and whether or not to wear a condom. To meet the targets and goals of AIDS prevention and control, there is a strong need to assess the current levels of specific knowledge about AIDS transmission and prevention by various residence and other key socio-demographic factors. In this context, the study is conduct on knowledge transmission routes and prevention way of HIV/AIDS among the floating, frequently moving and permanent resident population in the socio-economic development and that contribute significantly to reducing AIDS epidemic trends in Bangladesh.

Objectives of the study: In present study, attempts have been made:

- To investigate the factors related to knowledge about the HIV/AIDS transmission
- To investigate the factors related to knowledge about the HIV/AIDS prevention

MATERIALS AND METHODS

Data sources and methodology: The study is based on the data purposively collected from 3 major Metropolitan city corporations (Dhaka, Rajshahi and Chittagong). The information is collected from floating (a section of the population not permanently resident in a place), frequently moving (a section of the population not permanently resident in a place) and permanent resident (a section of the population permanently resident in a place) population.

All the respondents were interviewed during 1st October-20th December, 2008. Percentage distribution of bivariate form is portrait for analyzing the status of various phenomena are studied in this study.

RESULTS AND DISCUSSION

Knowledge of HIV/AIDS and background characteristics: Knowledge of HIV/AIDS and background characteristics are highly linked. Table 1 shows the percentage of respondents who have heard the name of HIV/AIDS and indicates that knowledge varies substantially by background characteristics. About 97% floating respondents in age group 30-39 who have heard the name of AIDS whereas the percentage of those not hearing the name of AIDS are low and the differentials is not statistically significant. In both case of frequently moving and permanent resident population almost approximately all percent respondents in all age groups heard the name of HIV/AIDS and the association is highly significantly differ from those not heard the name of AIDS.

Table 1 also shows that married floating respondents who heard the name of AIDS were significantly higher than those not heard whereas in case of frequently moving and permanent resident respondents about 99% have heard the name of HIV/AIDS, respectively and the different with those not heard the name of AIDS is statistically not significant. In both frequently moving and permanent resident respondents knowledge is increasing as educational level increase except in floating respondents under primary educational level. For in this 3 cases, the difference between the respondents heard the name of AIDS and not heard were statistically highly significant.

It may be concluded that more educated person has more knowledge about HIV/AIDS than the illiterate. Again, 100% floating sex worker have known about HIV/AIDS whereas 100% permanent resident service holder respondents known about AIDS. In all occupational categories the percentage of the respondents heard the name of AIDS contain higher percentage than those not heard the name of AIDS and in frequently moving, the relation between occupation and knowledge are statistically highly significant but in both cases (floating and permanent resident) there is no association observed between occupation and knowledge.

Knowledge about routes of HIV/AIDS transmission by background characteristics: There is a huge lack of accurate knowledge about the ways by which HIV/AIDS can and cannot be transmitted among many Bangladeshi people. The higher proportion of respondents in age group 50+, about 47% floating believe that HIV/AIDS can be transmission routes by misconception transmitted routes while about 23% frequently moving in age 50+ and about 21% permanent resident in age 40-49 believes same

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Table 1: Knowledge of AIDS: Floating, frequently moving and permanent resident population

Background characteristics	Have you heard the name of AIDS								
	Floating (N = 300)			Frequently moving (N = 798)			Permanent resident (N = 798)		
	Yes	No	N	Yes	No	N	Yes	No	N
Age									
18-29	94.30	5.70	70	97.00	3.00	202	98.80	1.20	348
30-39	97.40	2.60	76	100.00	0.00	307	97.00	3.00	332
40-49	88.40	11.60	69	99.30	0.70	139	94.70	5.30	99
50+	88.40	11.60	85	99.30	0.70	150	99.00	1.00	19
	$\chi^2 = 7.186$; d.f = 3; p = 0.066			$\chi^2 = 11.273$; d.f = 3; p = 0.010			$\chi^2 = 11.238$; d.f = 3; p = 0.011		
Marital status									
Unmarried	90.00	10.00	40	100.00	0 00	97	100.00	0.00	196
Married	94.40	5.60	215	98.80	1.20	683	98.60	1.40	588
Widowed	80.00	20.00	45	100.00	0.00	18	100.00	0.00	14
	$\chi^2 = 10.295$; d.f = 2; p = 0.006			$\chi^2 = 1.361$; d.f = 2; p = 0.506			$\chi^2 = 2.886$; d.f = 2; p = 0.236		
Education									
No education	85.80	14.20	169	99.40	0.60	178	91.80	8.20	61
Primary incomplete	100.00	0.00	72	99.50	0.50	193	98.90	1.10	180
Primary complete	98.30	1.70	59	94.40	5.60	108	99 20	0.80	123
Secondary and higher	-	-	-	100.00	0.00	224	100.00	0.00	245
Graduate and above	-	-	-	100.00	0.00	95	100.00	0.00	188
	$\chi^2 = 17.567$; d.f = 2; p = 0.000			$\chi^2 = 26.594$; d.f = 4; p = 0.000			$\chi^2 = 36.272$; d.f = 4; p = 0.000		
Occupation									
Rickshaw puller	87.00	13.00	54	99.60	0.40	269	97.70	2.30	174
Service	-	-	-	100.00	0.00	130	100.00	0.00	176
Business	97.30	2.70	37	100.00	0.00	135	100.00	0.00	179
Driver	-	-	-	92.70	7.30	82	98.50	1.50	65
Sex worker	100.00	0.00	18	-	-	-	-	-	-
Other	91.10	8.90	191	99.50	0.50	182	98.50	1.50	204
	$\chi^2 = 4.768$; d.f = 3; p = 0.190			$\chi^2 = 37.083$; d.f = 4; p = 0.000			$\chi^2 = 7.180$; d.f = 4; p = 0.127		

N = Number of respondents and tables value indicate percentage of with in different background characteristics group and (-) not available

misconception routes. We know that more misconception less aware and less misconception more aware. It may be said that permanent resident respondents are more aware than the floating and frequently moving population. Again from Table 2, it is evident that the higher proportion of respondents about 35% floating in age group 40-49 believe transmission routes by multiple routes whereas, the proportion is about 62% frequently moving in age group 40-49 and 42% permanent resident in age group 50+, respectively believe same routes. For floating respondents the differences of various sources and age groups are statistically not significant but for both frequently moving and permanent resident population it is highly significant.

Table 2 also shows the higher proportion of respondents about 56% floating widowed believe HIV/AIDS transmission routes by misconception transmitted routes whereas the proportion is about 39% frequently moving and only 14% permanent resident, respectively. According to the higher proportion of married floating, frequently moving and permanent resident respondents believes HIV/AIDS transmission routes multiple routes and its percentage are about 33, 57 and about 33, respectively. It is worth mentioning that widow considers as has no spouse are less aware about misconception than married person and the differences of various sources and marital status are statistically not significant but for permanent resident population it is significant.

Education is strongly and positively associated with a correct understanding of HIV/AIDS transmission. The higher proportion of floating, frequently moving and permanent resident respondents with educational level no education and its percentage are about 59, 43 and about 61, respectively believe HIV/AIDS transmission routes misconception transmission routes. Again, about 41% floating respondent with up to primary education complete believes the transmitted routes is multiple routes whereas about 70% frequently moving and about 36% permanent resident with educational level secondary and higher secondary. It is notable that more educated person more aware about HIV/AIDS transmission routes and the differences of transmission routes and education are statistically highly significant for all 3 types of respondent. From Table 2, we also seen that 33% floating sex worker believe HIV/AIDS transmission routes are multiple routes whereas about 59% frequently moving service man and 40% permanent resident driver also believe the same. The differences between transmission routes and occupation are statistically significant for floating respondents and highly significant for frequently moving and permanently resident respondents.

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Table 2: Knowledge about routes of HIV/AIDS transmission: Floating, frequently moving and permanent resident population

Background characteristics	Transmission routes						
	A	B	C	D	E	F	N
Floating (N = 300)							
Age	38.60	20.00	2.90	1.40	7.10	30.00	70
18-29	31.60	18.40	1.30	9.20	5.30	34.20	76
30-39	43.50	7 20	1.40	7.20	5.80	34.80	69
40-49	47.10	18.80	3.50	4.70	4.70	21.20	85
50+							
χ^2=16.365 ; d.f = 15; p = 0.358							
Marital status							
Unmarried	40.00	17.50	0.00	5.00	10.00	27.50	40
Married	37.20	16.70	2.30	5.60	5.60	32.60	215
Widowed	55.60	13.30	4.40	6.70	2.20	17.80	45
χ^2 = 10.400; d.f = 10; p = 0.406							
Education							
No education	58.60	18.30	0.60	4.70	0.60	17.20	169
Primary incomplete	15.30	11.10	6.90	5.60	11.10	50.00	72
Primary complete	18.60	16.90	1.70	8.50	13.60	40.70	59
Secondary and higher	-	-	-	-	-	-	-
Graduate and above	-	-	-	-	-	-	-
χ^2 = 82.905; d.f = 10; p = 0.000							
Occupation							
Rickshaw	50.00	22.20	1.90	5.60	3.70	16.70	54
Service	-	-	-	-	-	-	-
Business	27.00	21.60	8.10	8.10	5.40	29.70	37
Driver	-	-	-	-	-	-	-
Sex worker	27.80	16.70	0.00	0.00	22.20	33 30	18
Other	41.40	13.60	1.60	5.80	4.70	33.00	191
χ^2 = 27.178 ; d.f = 15; p = 0.027							
Frequently moving (N = 798)							
Age	14.90	16.80	1.50	4.00	15.80	47.00	202
18-29	14.00	14.00	2.30	1.60	5.90	62.20	307
30-39	12.90	10.10	5.00	2.90	7.20	61.90	139
40-49	22.70	13.30	0.00	2.70	8.70	52.70	150
+50							
χ^2=40.627; d.f = 15; p = 0.000							
Marital status							
Unmarried	11.30	18.60	1.00	3.10	12.40	53.60	97
Married	15.70	13.60	2.30	2.60	8.60	57.10	683
Widowed	38.90	0.00	0.00	0.00	11.10	50.00	18
χ^2 = 14.731; d.f = 10; p = 0.142							
Education							
No education	43.30	14.00	0.00	2.20	0.60	39.90	0178
Primary incomplete	10.90	11.40	4.10	2.60	5 70	65.30	193
Secondary and higher	3.10	14.70	1.80	4.00	6.70	69.60	224
Graduate and above	3.20	11.60	5.30	1.10	38.90	40.00	95
χ^2=274.870; d.f = 20; p = 0.000							
Occupation							
Rickshaw	24.90	12.60	1.90	1.10	3.30	56.10	269
Service	5.40	10.80	3.10	2.30	20.00	58.50	130
Business	8.90	20.00	3.00	1.50	9.60	57.00	135
Driver	12.20	12.20	2.40	6.10	11.00	56.10	82
Sex worker	-	-	-	-	-	-	-
Other	15.90	14.30	1.10	4.40	8.80	55.50	182
χ^2= 71.193; d.f = 20; p = 0.000							
Permanent resident (N = 798)							
Age							
18-29	8.90	33.90	7.80	1.10	12.90	35.30	348
30.39	11.10	39.20	3.30	1.80	12.30	32.20	332
40.49	21.20	53.50	3.00	0.00	7.10	15.20	99
50+	10.50	15.80	10.50	5.30	15.80	42.10	19
χ^2 = 46.113; d.f = 15; p = 0.000							
Marital status							
Unmarried	10.20	38.30	9.20	1.50	10.20	30.60	196
Married	11.70	38.10	3.90	1.20	12.60	32.50	588
Permanent resident (N = 798)							
Widowed	14.30	35.70	14.30	7.10	14.30	14.30	14
χ^2= 15.942; d.f = 10; p = 0.101							

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Table 2: Continue

Background characteristics	Transmission routes A	B	C	D	E	F	N
Education							
No educatin	60.70	14.80	6.60	0.00	1.60	16.40	61
Primary incomplete	9.40	37.20	3.90	2.80	11.10	35.60	180
Primary complete	8.90	41.50	6.50	0.00	9.80	33.30	123
Secondary and higher	6.90	43.10	5.70	2.00	6.50	35.80	246
Graduate and above	4.80	37.80	5.30	0.50	25.00	26.60	188
$\chi^2 = 208.350$; d.f = 20; p = 0.000							
Occupation							
Rickshaw	16.70	32.20	5.20	2.30	8.60	35.10	174
Service	4.00	40.90	4.50	1.70	24.40	24.40	176
Business	8.40	43.00	5.00	0.60	11.20	31.80	179
Driver	10.80	30.80	12.30	1.50	4.60	40.00	65
Sex worker	-	-	-	-	-	-	-
Other	16.20	38.70	4.40	1.00	7.40	32.40	204
$\chi^2 = 67.024$; d.f = 20; p = 0.000							

A = misconception transmitted routes; B = sexual relation; C = blood and vaginal secretion; D = injection; E = mother to child transmission; F = multiple routes; (-) = not available and tables value indicate percentage of with in different background characteristics group

Table 3: Knowledge about prevention way of HIV/AIDS by floating population

Background characteristics	Prevention way floating (N = 300) A	B	C	D	E	F	G	N
Age								
18-29	4.30	40.00	15.70	11.40	8.60	4.30	15.70	70
30-39	10.50	32.90	21.10	14.50	7.90	1.30	11.80	76
40-49	13.00	30.40	14.50	20.30	2.90	2.90	15.90	69
50+	14.10	27.10	21.20	17.60	4.70	0.00	15.30	85
$\chi^2 = 16.657$; d.f = 18; p = 0.547								
Marital status								
Unmarried	2.50	30.00	12.50	15.00	10.00	10.00	20.00	40
Married	11.60	35.30	18.60	15.80	5.10	0.00	13.50	215
Widowed	13.30	20.00	22.20	17.80	6.70	4.40	15.60	45
$\chi^2 = 27.845$; d.f = 12; p = 0.006								
Education								
No education	13.00	29.00	20.70	16.00	5.30	3.00	13.00	169
Primary incomplete	5.60	37.50	16.70	16.70	8.30	0.00	15.30	72
Primary complete	10.20	35.60	13.60	15.30	5.10	1.70	18.60	59
Secondary and higher	-	-	-	-	-	-	-	-
Graduate and above	-	-	-	-	-	-	-	-
$\chi^2 = 9.504$; d.f = 12; p = 0.659								
Occupation								
Rickshaw	1.90	40.70	13.00	16.70	1.90	3.70	22.20	54
Service	-	-	-	-	-	-	-	-
Business	13.50	24.30	16.20	29.70	13.50	0.00	2.70	37
Driver	-	-	-	-	-	-	-	-
Sex worker	27.80	16.70	5.60	22.20	5.60	0.00	22.20	18
Other	11.00	33.00	21.50	12.60	5.80	2.10	14.10	191
$\chi^2 = 35.661$; d.f = 18; p = 0.008								

A = not prevention; B = avoid unsafe sexual relation; C = use condom during intercourse; D = advice; E = contaminated syringe and razors; F = blood transfusion; G = multiple way; N = total number of population; (-) = not available

Knowledge of prevention way about HIV/AIDS by background characteristics: Prevention is better than cure. Prevention knowledge is one of the most important elements of social and economic life. It is also associated with control of HIV/AIDS. Table 3-5 shows the proportion of respondents reporting correct knowledge of sexual prevention of HIV/AIDS by using a condom during every act of sexual intercourse at about 21% floating in age group 50+ differed about 12% in frequently moving in age group 40-49 and 21% permanent resident in age group 50+ years. Again, the higher proportion of floating respondents about 40% in age group 18-29 years believe that the prevention way by avoid unsafe sexual relation and the higher proportion of frequently moving respondents about 33% in age group 30-39 years and 29% permanent resident respondents in age group 40-49 believe that the prevention way by multiple way. Though, the difference between age and prevention way is not significant for floating respondents but highly significant for both frequently moving and permanent

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Table 4: Knowledge about prevention way of HIV/AIDS by frequently moving population

Background characteristics	Prevention way A	B	C	D	E	F	G	N
Frequently moving population (N = 798)								
Age								
18-29	0.50	12.90	5.90	12.90	19 80	16.30	31.70	202
30-39	2.60	19.90	6.80	6.80	21.80	9.40	32.60	307
40-49	4.30	12.90	12.20	19.40	21.60	7.20	22.30	139
50+	1.30	17.30	7.30	13.30	19.30	10.00	31.30	150
χ^2=41.951; d.f=8; p = 0.001								
Marital status								
Unmarried	1.00	9.30	7.20	8.20	17.50	18.60	38.10	97
Married	2.20	17.40	7.80	12.20	20.90	10.00	29.60	683
Widowed	5.60	16.70	5.60	16.70	33.30	5.60	16.70	18
χ^2 = 17.900; d.f = 12; p = 0.119								
Education								
No education	1.70	11 20	9.00	19.10	21.90	10.70	26.40	178
Primary incomplete	3.60	9.80	5.70	11.40	18.10	15.50	35.80	193
Primary complete	0.00	27.80	1.90	6.50	20.40	11.10	32.40	108
Secondary and higher	3.10	18.30	12.10	11.20	15.20	7.60	32.60	224
Graduate and above	0.00	22.10	5.30	6.30	37.90	9.50	18.90	95
χ^2= 83.241; d.f = 24; p = 0.000								
Occupation								
Rickshaw	2.60	16.00	7.10	16.00	17.50	10.80	30.10	269
Service	5.40	13.10	6.20	5.40	30.80	12.30	26.90	130
Business	1.50	23.70	8.10	4.40	22.20	3.70	36.30	135
Driver	0.00	13.40	15.90	12.20	15.90	19.50	23.20	82
Sex worker	-	-	-	-	-	-	-	-
Other	0.50	15.40	5.50	15.40	19.80	11.50	31 90	182
χ^2 = 67.095; d.f = 24; p = 0.000								

A = not prevention, B = avoid unsafe sexual relation; C = use condom during intercourse; D = advice; E = contaminated syringe and razors; F = blood transfusion; G = multiple way; N = total number of population; (-) = not available

Table 5: Knowledge about prevention way of HIV/AIDS by permanent resident population

Background characteristics	Prevention way A	B	C	D	E	F	G	N
Permanent resident population (N = 798)								
Age								
18-29	1.10	3.40	11.50	23.30	20.40	19.30	21.00	348
30-39	2.10	6.00	12.70	21.70	21.40	13.90	22.30	332
40-49	6.10	3.00	8.10	12.10	27.30	14.10	29.30	99
50+	0.00	0.00	21.10	21.10	21.10	21.10	15.80	19
χ^2=28.589; d.f = 18; p = 0.054								
Marital status								
Unmarried	2.00	4.60	9.70	26.00	18.40	19 90	19.40	196
Married	1.70	4.40	12.80	19.40	22.80	15.00	24.00	588
Widowed	21.40	0.00	0.00	28.60	21.40	28.60	0.00	14
χ^2=41.261; d.f = 12; p=0.000								
Education								
No education	3.30	3.30	23.00	23.00	19.70	9.80	18.00	61
Primary incomplete	3.90	4.40	15.00	21.70	22.20	15.00	17.80	180
Primary complete	0.80	3.30	13.80	28.50	17.90	17.10	18.70	123
Secondary and higher	1.20	5.70	11.00	14.60	20.30	16.70	30.50	246
Graduate and above	2.10	3.70	4.80	23.90	26.10	19.10	20.20	188
χ^2=47.997; d.f = 24; p = 0.003								
Occupation								
Rickshaw	1.10	5.70	16.10	25.30	19.00	15.50	17.20	174
Service	1.70	3.40	5.70	23.30	27.80	18.80	19.30	176
Business	1.70	5.60	10.60	17.90	19.00	15.10	30.20	179
Driver	3.10	3.10	10.80	20.00	12.30	16.90	33.80	65
Sex worker	-	-	-	-	-	-	-	-
Other	3.40	3.40	14.70	19.10	24.00	16.20	19.10	204
χ^2= 39.266; d.f = 24; p = 0.026								

A = not prevention; B= avoid unsafe sexual relation; C = use condom during intercourse; D = advice; E = contaminated syringe and razors; F = blood transfusion; G = multiple way; N = total number of population; (-) = not available

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resident respondents. Table 3-5 also shows that the higher proportion of respondents about 29% permanent residents widowed believe prevention method is blood transfusion and 35% floating married believe prevention method is avoids unsafe sexual relation and the differences are statistically highly significant whereas about 38% frequently moving unmarried respondents believe prevention method is multiple way and the differences is not statistically significant. Knowledge of prevention method rises from a clear minority to a clear majority with increasing education. Table 3-5 shows the higher proportion of primary incomplete about 38% floating respondents believe prevention methods by avoid unsafe sexual relation and the differences is not statistically significant while about 36% frequently moving with primary incomplete education and about 31% permanent resident with secondary and higher education believe prevention methods by multiple way and the differences are statistically significant.

The higher proportion of respondents, about 41% floating rickshaw puller believe popular prevention method by avoid unsafe sexual relation while the proportion of both about 36% frequently moving business man and 34% permanent resident driver man believe popular prevention method are multiple way. The differences in 3 cases for the prevention of HIV/AIDS and occupation are statistically highly significant.

CONCLUSION

Perfect knowledge of HIV/AIDS transmission and prevention way has become the burning issue of the day. This knowledge 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 study included a section of questions on AIDS in order to assess the knowledge of transmission mechanisms and prevention way of infection with the HIV/AIDS virus by background characteristics. The result shows that >50% respondents think avoiding way about HIV/AIDS is using condom during intercourse and >15% respondents indicate transmission way is by blood and appreciation of sex.

RECOMMENDATIONS

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 floating population. This study is also highlighted that the salient feature questions of background characteristics is multiple answer. The multiple question are choice multiple person for this reasons it's highly linkage. Hearing about HIV/AIDS has a statistically significant positive influence on perfect knowledge of AIDS transmission and prevention, net of educational and occupational effects. 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 floating 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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Appendix-II

Knowledge and prevention of HIV/AIDS in Bangladesh: Evidence from Bangladesh demographic and health survey, 2007

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Full Length Research Paper

Knowledge and prevention of HIV/AIDS in Bangladesh: Evidence from Bangladesh demographic and health survey, 2007

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There is no way to get rid of the unbearable sufferings from this killer disease, HIV/AIDS: prevention is the only solution to get rid of it. Increasing knowledge of respondents about the long term effects of this disease is the principal objectives of reproductive health programs recently being carried out in the world. This study gives an idea about this type of health problem. This study is mainly based on secondary data. The study reveals that currently married women (71%) have heard more of HIV/AIDS than formerly married women (about 57%), and that TV is the most dominant source for getting information about HIV/AIDS. In this study, it is also proved that avoiding unsafe blood transfusion is one of the best possible ways of preventing HIV/AIDS. Almost all the variables of contingency analysis are significantly associated (highest significant) with HIV/AIDS. Multivariate logistic analysis revealed that currently married women are more likely to use knowledge about HIV/AIDS than formerly married women.

Key words: HIV/AIDS, currently married, formerly married, logistic regression analysis, Bangladesh.

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is the late clinical stage of the Human Immunodeficiency Virus (HIV). It weakens the immune system and makes the human body susceptible to and unable to recover from other opportunistic diseases. Consequently, it may lead to high rates of deaths of certain people and worldwide wreaking devastation, involving millions of people and communities. The virus is generally transmitted through the following ways: sexual intercourse, transmission from infected women to their unborn children, or through contaminated needles (infections) or blood (Rahman et al., 2005). HIV/AIDS poses a serious challenge to mankind. At present, it has become a major public-health concern in many developing countries including Bangladesh.

In many countries, AIDS has stalled or reversed decades of human development. The impact of HIV/AIDS reaches every concern of society in Bangladesh. HIV/AIDS has also become a national concern in Bangladesh and the government has already developed a national strategy and an operational plan to address the country's needs. Worldwide experience of HIV/AIDS disease has suggested that public knowledge on it is the most fundamental weapon that can be used to fight against the AIDS pandemic as long as a vaccine or cure has not been developed (UNAIDS China, 2002). 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 (United Nations, 2002). It is 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.

In recent years there has been an increasing incidence of research on the clinical and epidemiological aspects of HIV. A study of Swinne et al. (1991) focused on AIDS related infections, and they were convinced that the pigeon coops of the city play a part in the contamination of HIV/AIDS patients. Epidemiological research mostly

focuses on attitudes of people of Iran and Turkish in relation to HIV transmission routes (Nakhaee, 2002; Ayranci, 2005). So far the disease has no 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 also to bypass the immune system's natural defenses (Suhadolnik, 2007).

HIV still continues to be a very common complication worldwide. During the twenty-first century, it was the fourth cause of mortality, with more than 5% of deaths all over the world (Murray et al., 2001). In a study, up to 40 million people are estimated to live with HIV in the world. In addition, 25 million deaths have been reported (UNAIDS/WHO, 2006). 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.

In 2007, it is estimated that 33, 7, 400,000 and 4.2 million people are living with HIV/AIDS in the globe, including East Asia and South/South-East Asia, respectively. About 5 millions people are living with HIV/AIDS in Asia, 75% of whom reside in three countries-China, India (the two most populous countries in the world) and Thailand (UNAIDS and UNAIDS/WHO, 2008). India alone is home to more than 45% of all people living with HIV/AIDS in the region (2,400,000 people) and is the third largest country in the world with the epidemic after South Africa and Nigeria (UNAIDS and UNAIDS/WHO, 2008; UNAIDS). HIV prevalence rates in the globe, including East Asia, South/South-East Asia 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. 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 (UNAIDS, 2008). Bangladesh, unlike its neighbors, still has low infection rates, and may face a major threat in coming decades.

Bangladesh is the seventh most populous country in the world with a population of about 161.3 million (UNFPA, 2008). 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 million in 1974 to 21 million 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 (World AIDS Day, 2001). 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. A HIV/AIDS prevention program including mass program and capacity building are some of the steps urgently needed 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 knowledge about HIV/AIDS in Bangladesh related issues are too important to ignore in Bangladesh.

Objectives of the study

This present study focuses on:

i) To identify the socio-demographic factors related to knowledge about HIV/AIDS.
ii) To investigate the factors related to knowledge about the HIV/AIDS prevention.

DATA SOURCES AND METHODOLOGY

The data for the present study have been derived from the Bangladesh Demographic and Health Survey (BDHS) 2007, which was conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare.

At first, we estimate percentage distribution of currently-married and formally married women who have or not ever heard 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 number of determinant on "ever heard" of HIV/AIDS and its prevention, respectively.

RESULTS AND DISCUSSION

Basic knowledge of HIV/AIDS by different characteristics

Knowledge about HIV/AIDS and selected characteristics are highly linked. Table 1 shows the percentage of women who have heard the name of HIV/AIDS and indicates that knowledge varies substantially by selected characteristics. Majority (about 70%) of Bangladeshi women have evidently heard about HIV/AIDS. Data in Table 1 indicate that only 29% of currently married women (CMW), 43% formerly married women (FMW) have never heard of HIV/AIDS. Nevertheless, currently married women have head about HIV/AIDS than the formerly married women. Table 1 also shows that urban women (87% CMW and 69% FMW) have heard more about HIV/AIDS than rural women (61% CMW and 48% FMW). It can be observed from Table 1 that among all the women there is no strong variation in highest age group between currently married and formally married women. Higher number of currently married women was found in age group of 20 - 24 years and higher number of

Table 1. Percentage distribution and result of contingency analysis of currently and formerly married women who have ever heard of HIV/AIDS by different characteristics, Bangladesh, 2007.

Characteristics	Ever heard HIV/AIDS: 2007					
	Currently married			Formerly married		
	Yes	No	Total	Yes	No	Total
Bangladesh	71.00	29.00	10146	56.90	43.10	850
Residence						
Urban	87.00	13.00	3803	69.20	30.80	347
Rural	61.40	38.60	6342	48.50	51.50	503
	$\chi2 = 757.303$; df = 1; p = 0.000			$\chi2 = 35.732$; df = 1; p = 0.000		
Age group						
15 - 19	77.80	22.20	1300	81.30	18.80	48
20 - 24	80.20	19.80	2082	73.90	26.10	92
25 - 29	75.20	24.80	1861	50.70	49.30	73
30 - 34	68.90	31.10	1548	63.70	36.30	113
35 - 39	67.00	33.00	1450	58.90	41.10	146
40 - 44	58.90	41.10	1041	49.90	53.10	177
45 - 49	54.70	45.30	863	49.30	50.70	201
	$\chi2 = 330.414$; df = 6; p = 0.000			$\chi2 = 38.022$; df = 6; p = 0.000		
Educational level						
No education	45.50	54.50	3058	40.20	59.80	470
Primary	67.20	32.80	3040	68.00	32.00	228
Secondary	91.50	8.50	3216	90.60	9.40	128
Higher	99.80	0.20	831	100.00	0.00	24
	$\chi2 = 1979.791$; df = 3; p = 0.000			$\chi2 = 142.362$; df = 3; p = 0.000		
Employment						
Unemployment	72.50	27.50	7080	61.20	38.80	381
Business	66.80	33.20	521	63.60	36.40	88
Service	99.40	0.60	169	88.90	11.10	9
Rickshaw puller	63.80	36.20	207	50.00	50.00	60
Labour	83.70	16.30	784	51.10	48.90	219
Poultry cattle raising	57.20	42.80	1194	51.90	48.10	54
Other	43.20	56.80	183	44.70	55.30	38
	$\chi2 = 323$; df = 6; p = 0.000			$\chi2 = 15.181$; df = 6; p = 0.020		
Divisions						
Barisal	67.30	32.70	1357	54.30	45.70	81
Chittagong	68.40	31.60	1803	56.10	43.90	139
Dhaka	77.70	22.30	2174	63.30	36.70	166
Khulna	81.60	18.40	1565	66.70	33.30	147
Rajshahi	66.40	33.60	1927	55.60	44.40	153
Sylhet	61.40	38.60	1320	45.10	54.90	164
	$\chi2 = 227.810$; df = 5; p = 0.000			$\chi2 = 18.098$; df=5; p = 0.003		
News paper						
Yes	4.40	95.60	1748	93.20	6.80	205
No	82.60	17.40	4279	80.50	19.50	73
	$\chi2 = 177.303$; df = 1; p = 0.000			$\chi2 = 6.362$; df = 1; p = 0.012		

Table 1. Contd.

Characteristics	Ever heard HIV/AIDS: 2007					
	Currently married			Formerly married		
	Yes	No	Total	Yes	No	Total
Radio						
Yes	83.30	16.70	2397	74.00	26.00	154
No	67.20	32.80	7748	53.20	46.80	696
	$\chi2 = 229.502$; df = 1; p=0.000			$\chi2 = 22.390$; df = 1; p = 0.000		
TV						
Yes	88.30	11.70	5693	76.90	33.10	420
No	48.90	51.10	4452	37.40	62.60	430
	$\chi2 = 1878.276$; df = 1; p = 0.000			$\chi2 = 134.955$; df = 1; p = 0.000		

Notes: Formerly married = separated, deserted, divorced, widowed; Currently married define as who have their husband Labour = 3% domestic servant, 1.8% factory worker, blue collar service, 4.2% carpenter, mason, bus/taxi driver are included; Other = 1% farmer and 1% agriculture are included.

formerly married women was found in age group of 15 - 19 years. Again, about 45% currently married women in the age group of 45 - 49 have never heard the name of HIV/AIDS, whereas 53% formerly married women in the age group of 40 - 44 have never heard the name of HIV/AIDS.

It was found that women in higher age group had heard less of HIV/AIDS than women in young age in both cases (currently married and formerly married). Again, currently married and formerly married women's knowledge is gradually increasing as educational level increases. Again, almost about 100% currently married women and about 89% formerly married women who engage in service work have heard about HIV/AIDS whereas in both cases, women in other categories have not heard about HIV/AIDS. The respondents from Sylhet Divisions are (about 39% CMW and about 55% FMW) less likely to know about HIV/AIDS than respondents from other divisions, and highest percentage exists in Khulna Division for CMW (about 82%) and FMW (about 67%). The major source of getting the information about HIV/AIDS is the mass-media. Most of the (93%) formerly married women were informed about HIV/AIDS from newspapers while only 4 percent currently married women were informed from the same source. Again, getting information about HIV/AIDS by radio and TV used more percentage of CMW (83 and 88%) and FMW (74 and about 77%) respectively. Results presented in Table 1 showed that most of the variables are significantly associated with hearing about HIV/AIDS in both currently and formerly married women and different characteristics, but the same picture was not seen in only formerly married women in the case of employment.

The results of multiple logistic analyses of currently and formerly married women

The results of multiple logistic analyses of currently and formerly married women who have ever heard about HIV/AIDS are presented in Table 2. From the table we found that among all socio-demographic factors and urban-rural differences that are statistically significant associated with the knowledge of ever heard of HIV/AIDS, the effect of respondents schooling, mass-media, employment, age group, divisions and urban-rural difference are strongest on CMW than FMW. It is also found from Table 2 that the educational level (but only secondary level education), employment status of the respondents in Dhaka and Khulna Divisions as well as the mass-media have significant effect on the correct knowledge of ever heard about HIV/AIDS for currently married women. The significant results (except divisions) were also found for formerly married women. So, we may conclude that CMW have more knowledge of ever heard of HIV/AIDS than FMW. This is because CMW used all types of mass-media and have higher educational level; this gives the statistically significant result for collecting the correct knowledge of ever heard of HIV/AIDS.

Knowledge of HIV/AIDS prevention

It is true that ever heard knowledge about HIV/AIDS transmission had not reached the vast majority of the people, only fewer knew about how to prevent it. For example, unadjusted proportions of the urban population who mentioned avoidance or abstinence from unsafe sexual

Table 2. Result of logistic regression analysis of currently and formerly married women who have ever heard of HIV/AIDS, Bangladesh, 2007.

Independent variables	Currently married		Formerly married	
	B	Odds ratios	B	Odds ratios
Age groups				
15 - 19	RC	RC	RC	RC
20 - 24	0.069	1.071	0.812	2.253
25 - 29	0.050	1.051	0.524	1.688
30 - 34	0.079	1.083	0.371	1.449
35 - 39	- 0.206	0.814	0.093	1.098
40 - 44	- 0.237	0.789	- 0.106	0.900
45 - 49	- 0.131	0.877	0.342	1.408
Divisions				
Barisal	RC	RC	RC	RC
Chittagong	- 0.003	0.997	- 0.450	0.637
Dhaka	0.678***	1.970	- 0.240	0.787
Khulna	1.060***	2.885	- 0.393	0.675
Rajshahi	- 0.061	0.941	0.70	1.073
Sylhet	- 0.050	0.951	- 0.572	0.564
Residence				
Urban	RC	RC	RC	RC
Rural	- 0.821***	0.440	- 0.566*	0.568
Educational level				
No education	RC	RC	RC	RC
Primary	0.441**	1.555	0.695	2.003
Secondary	1.442***	4.231	1.471**	4.353
Higher	4.268***	71.368	19.461	2.8E+08
Employment				
Unemployment	RC	RC	RC	RC
Business	- 0.104	0.901	0.732	2.078
Service	0.841	2.320	16.053	9373995
Rickshaw puller	1.077**	2.935	- 1.869*	0.154
Labour	0.928***	2.529	0.598	1.818
Poultry cattle raising	- 0.402**	0.669	- 0.477	0.621
Other	0.872**	0.418	0.136	1.146
Mass-media				
Heard newspaper	0.490***	1.632	0.293	1.341
Heard radio	0.628***	1.874	0.717*	2.048
Heard TV	1.582***	4.862	0.846**	2.331
Constant	0.164	1.179	0.213	1.237

Notes: Significant level, *** < 0.01, ** < 0.05 and * < 0.1 and RC = reference categories.

relation, using condoms every time during sexual intercourse, limiting sexual intercourse to one uninfected partner who has no other partner, using sterilized needle or syringe and safe blood transfusion as means of preventing HIV/AIDS were only 16, about 18, 17, 29 and 30% respectively as observed in Table 3. Among the way of prevention, the most frequently mentioned way was safe blood transfusion (about 30% in the urban and about 33% in the rural population), followed by using sterilized needle or syringe (29% in the urban and 32% in the rural

Table 3. Percentage of people aged 15 - 49 with correct knowledge about ways of HIV/AIDS prevention, by place of residence, Bangladesh, 2007.

Ways of prevention	Bangladesh, 2007		
	Urban	Rural	Total
Abstaining from sexual relation	16.27	17.16	33.43
Using condoms[C]	17.52	16.72	34.20
Limiting sexual intercourse to one uninfected partner[P]	16.67	17.06	33.73
Using unsterilized needle or syringe	29.17	32.35	61.52
Via blood transfusion	29.72	32.58	62.30

Notes: Urban-Rural difference is statistically significant at $p < 0.01$ 1; C = using condoms every time they have sexual intercourse; P = partner who has no other partners.

Table 4. Odds ratios estimated by multiple logistic regression of having correct knowledge about HIV/AIDS prevention of currently and formerly married women by selected characteristics whose age 15 - 49, Bangladesh, 2007.

Characteristics	Currently married					Formerly married				
	A	B	C	D	E	A	B	C	D	E
Age groups										
15 - 19	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
20 - 24	1.015	1.050	0.875*	0.988	0.968	0.699	1.631	0.715	1.476	0.623
25 - 29	0.915	0.947	0.783***	1.008	0.934	1.285	1.317	0.542	2.341	0.622
30 - 34	0.930	0.988	0.791**	0.912	1.015	0.774	0.841	0.549	1.813	0.785
35 - 39	1.022	0.992	0.862*	0.929	0.958	1.528	1.402	1.425	2.522	0.976
40 - 44	0.937**	0.945	0.874	0.756**	0.850	1.086	0.713	0.472	1.566	0.839
45 - 49	0.844	0.688***	0.954	0.860	0.911	0.934	0.886	0.704	1.827	0.956
Divisions										
Barisal	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
Chittagong	0.851	0.798**	0.747**	0.878	0.867	0.813	0.956	0.550	1.341	1.044
Dhaka	1.284***	1.019	1.109	1.865***	1.821***	0.928	1.224	0.601	0.647	1.076
Khulna	1.523***	1.409***	1.307**	3.445***	3.064***	1.654	2.443*	0.447	1.603	1.082
Rajshahi	1.078	1.109	1.242**	1.634***	1.285**	2.221	1.153	0.885	1.801	1.043
Sylhet	0.908	0.937	0.759***	0.977	0.883	1.049	1.547	0.469	0.599	0.477
Residence										
Urban	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
Rural	0.816***	0.720***	0.857***	0.545***	0.515***	0.880	0.955	0.818	0.690	0.691
Education										
No education	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
Primary	1.190	1.195	1.324*	1.641***	1.470**	1.331	0.818	0.670	1.146	1.408
Secondary	1.564***	1.955***	2.178***	3.345***	3.037***	2.620	2.084	1.009	3.404	3.365
Higher	2.722***	4.779***	4.801***	8.078***	11.280***	7.413**	4.339	2.661	7.069*	5.900
Employment										
Unemployment	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
Business	1.161	1.029	1.172	0.912	1.065	0.684	2.124*	0.919	1.782	1.940
Service	0.808	1.594***	1.523**	2.711**	1.925	0.890	1.200	2.911	4.900	1.000
Rickshaw puller	1.849***	0.801	1.909***	1.310	1.959*	2.115	2.597	0.583	0.379	0.425
Labour	1.131	1.403***	1.167*	1.496***	1.618**	0.975	1.500	1.243	1.190	0.992
Poultry cattle	0.985	0.964	0.951	639***	0.668***	0.593	0.574	1.452	0.847	0.457
Other	1.493*	0.772	0.698	671*	0.635*	0.465	0.545	0.000	0.718	0.566

Table 4. Contd.

Characteristics	Currently married					Formerly married				
	A	B	C	D	E	A	B	C	D	E
Mass-media										
News paper	1.134**	1.280***	1.103*	1.406***	1.488***	1.112	1.056	1.203	1.256	1.200
Radio	1.128**	1.029	1.098*	1.415***	1.650***	1.327	0.575*	0.900	2.366*	1.903
TV	1.653***	2.162***	2.036***	3.180***	3.366***	1.181	1.499	1.796	2.560*	2.226**

Notes: A = Abstaining from sexual relation; B = Using condoms every time they have sexual intercourse; C = Limiting sexual intercourse to one uninfected partner who has no other partners; D = Using unsterilized needle or syringe; E = Via blood transfusion and Significant level, ***< 0.01, **< 0.05 and * < 0.1.

population). Nevertheless, it is evident that people could acquire correct knowledge about HIV/AIDS easily through increased publicity.

Multivariate logistic regression analysis results show that education has a major effect on having correct knowledge about HIV/AIDS prevention for both CMW and FMW. For example, there were odd ratios of knowing about safe blood transfusion, using sterilized needle or syringe, using condoms every time during sexual intercourse, abstaining from unsafe/sexual relation and limiting sexual intercourse to one uninfected partner who has no other partners among women with the highest level of education (Table 4). In addition, it is remarkable that the positive relationship between media exposure and the knowledge about HIV/AIDS prevention persists even after controlling all other selected variables in our country.

It is noteworthy that when other factors were taken into account, the odds ratios of knowing about safe blood transfusion as preventive method were significantly higher among CMW than FMW and among higher educated women than illiterate or less educated women for both CMW and FMW. Respondents with residential status, educational status, exposure to mass media and all age groups are less likely to agree that safe blood transfusion can prevent HIV/AIDS. Thus, the statistically significant effects of residential status and exposure to mass media have statistically significant effect on the knowledge of safe blood transfusion for CMW, but for FMW it is only through the mass-media- TV and radio.

CONCLUSION AND RECOMMENDATION

Awareness of HIV/AIDS has become the burning issue of the day. The 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 poverty. By running and interpreting the logistic regression analysis, study shows that residence, education of respondents and prevention are the major factors of HIV/AIDS. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS in Bangladesh. Though, it is difficult in poor setting like 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 need for more in depth studies of this topic. Thus, necessary action is called for to reduce future level of HIV/AIDS in the country in order to achieve better living conditions in the future.

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Appendix-III

Information and Knowledge about HIV/AIDS: Bangladesh Context

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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 21 million 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

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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)

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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

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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

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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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