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# Knowledge of Floating Population on Fearfulness of HIV/AIDS: A Case Study of Three Metropolitan Cities in Bangladesh

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## I. INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) was caused by the Human Immunodeficiency Virus (HIV). It weakens the immune system and makes the body susceptible to and unable to recover from other opportunistic diseases. Consequently it was one of the main causes of death of human being and world wide wreaking devastation on millions of population communities. AIDS was the late clinical stage of

infection with the HIV. The virus was generally transmitted through sexual contact, infected women to their unborn children, or through contaminated needles (infections) or blood [1]. It poses a serious challenge to human kind and at present AIDS/HIV has increasingly become a major public-health concern in many developing countries like Bangladesh [2]. According to Huda et al. report and recent UNAIDS [3-6] statistics on the global AIDS epidemic estimates that globally, 34.0 million (31.4 million - 35.9 million) population were living with HIV at the end of 2011. It also asserts that an estimated 0.8% of adults aged 15 - 49 years worldwide were living with HIV [4-5]. Bangladesh was geographically vulnerable to HIV/AIDS due to its close proximity to India, Myanmar, Nepal, and Thailand having various degrees of the epidemic [7]. In 2011 the National AIDS and STD Program (NASP) in Bangladesh informed that there were 445 newly reported cases of HIV and 251 new AIDS cases, out of which 84 population had died [8]. Thus, the cumulative number of reported HIV cases to date in Bangladesh stands at 2533, AIDS cases at 1101 and death toll at 3258 [5]. 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 countries needs [6]. But Bangladesh Govt. has no special plan about floating population regarding HIV/AIDS issues. Floating population means a group of population who frequently move from place to place that was not permanently resident in a place [9]. In Bangladesh, there were many floating population live under the poverty line, and floating women forms a large and vulnerable group suffering from high level of economic insecurity, and there were great socio-economic variations within the floating population which make the care for the floating more complex and challenging. This situation throws the floating population, particularly the slum area population of the poor families into large-scale economic insecurity. Most of the time, we draw a conclusion that these population were involved in all types of anti-social activities like drug peddling, snatching and theft. In fact, many of them were indirectly contributing a lot to our city life. They were the population who collect waste, work as

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construction laborers, sell vegetables, and pull rickshaw or van. Their exact number was not known. However, since migration from rural to urban areas continues rapidly, this number was likely to grow in the coming days. Lack of opportunities in the rural areas and their lack of willingness to work in rural areas force this population to come to the city. It was very much necessary to deal with this problem besides many other problems of the city like traffic congestion, environment pollution, potholed roads, and water logging etc. Beside they were suffering from various diseases like HIV/AIDS. To meet the targets and goals of AIDS prevention and control, there was 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 was conducted on knowledge level of floating population on HIV/AIDS in some selected areas of Bangladesh.

## II. OBJECTIVE OF THE STUDY

The present study focuses on-

1. To assess the knowledge level of Bangladeshi floating population about HIV/AIDS;
2. To determine the knowledge levels of Bangladeshi floating population about fearfulness of HIV/AIDS;
3. To identify the socio-demographic factors related to knowledge about the fearfulness of HIV/AIDS;

The distributions of sample were given below:

Table 1: Details Sample size:

Division						N
Dhaka	*Nos.	Rajshahi	*Nos.	Chittagong	*Nos.	
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	
<b>100</b>			<b>100</b>		<b>100</b>	<b>300</b>

Notes: \*Nos. means the number of respondents, RU=Rajshahi University

## IV. METHODOLOGY

To have performed the analysis on the data sets and derived the findings, Multiple Binary Logistic Regression Models along with as usual descriptive statistical tools and techniques have been applied in the study.

4. To investigate the factors related to knowledge about the HIV/AIDS prevention;

## III. DATA SOURCES AND METHODOLOGY

The present study interviewed 300 floating respondents consisting of 227 males and 73 females to have collected primary cross-section data from three metropolitan cities (Dhaka, Rajshahi and Chittagong) of Bangladesh in details Table 1. The study applies quota-sampling technique to collect necessary data because poor population of metropolitan areas moves one place to another for their daily work. Another reason to apply quota-sampling technique was that floating population was not stable for long time in a place. Due to unavailability of floating respondents regarding HIV/AIDS issues this study took under consideration 300 floating residents' data from three metropolitan city corporations. The pieces of information were collected on the basis of structured question from floating population. Only 18 and over aged person's concepts about HIV/AIDS knowledge were accepted in this study. The total numbers of respondents (300) were floating respondents and interviewed during 1<sup>st</sup> October to 20<sup>th</sup> December, 2008.

### a) Measurement of fearfulness

Here, fearfulness means knowledge level of floating population about HIV/AIDS issues. For measurement of fearfulness, it considered five questions from all questionnaires. If he/she answered correct five questions regarding HIV/AIDS issue then they had knowledge of fearfulness about HIV/AIDS, otherwise they had no idea about fearfulness of HIV/AIDS.

V. RESULTES AND DISCUSION

a) Socio-economic characteristics of floating population

Socio-economic and demographic characteristics of the study population were essential for interpretation of collected data and examination of any cause-effect relationship among different variables. Some table provides the descriptive summary of some selected socio-economic and demographic

characteristics of the study population. From Table 2 we observed that the majority (54%) of the respondents in floating category were in age 38 years. The professional characteristics were the subject matter analysis which influences the socio-economic performance and identification of issue of HIV/AIDS in Bangladesh. Table 2 presents in floating category majority of the respondents (33.7%) occupation were day labor. We also observed that floating married respondents contain a significantly higher percentage.

Table 2 : Selected socio-economic characteristics of floating respondents

Characteristics	Floating Population (N=300)
<b>Age (in years)</b>	
18-27	58 (19.3)
28-37	80 (26.7)
38+	162 (54)
<b>Occupation</b>	
Rickshaw Puller	54 (18.0)
Service	-
Business	37 (12.3)
Truck Driver	-
Day labour	101 (33.7)
Agriculture	-
Beggar	90 (30.0)
Sex worker	18 (6.0)
<b>Marital Status</b>	
Single	40 (13.3)
Married	215 (71.7)
Widow	21 (7.0)
Widower	24 (8.0)

Notes: N= number of floating respondents; figure in parenthesis indicate that the percentage distribution, Single= never married, (-) not available.

Figure 1: Education was one of the most important indicators of increasing knowledge. As the education level increases, the awareness of HIV/AIDS also rises [10]. The status of literacy among different population

was shown in Figure 1. The majority of the floating respondents never attended in school. Figures 1 showed that majority of the floating respondents (56.3%) were illiterate.

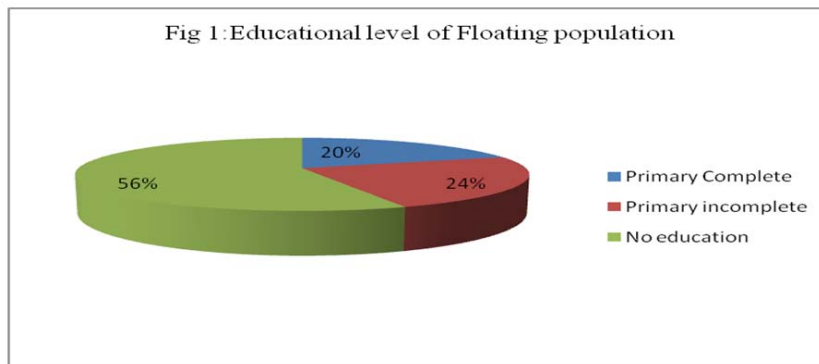


Figure 1: Educational level of Floating population

b) Knowledge about HIV/AIDS

The role of sources information about AIDS was alarm the public knowledge. The public should be reassured that HIV/AIDS was not a dangerous disease as long as the appropriate prevention measures taken. Table 3 showed that 94% floating respondents heard the name of HIV/AIDS by various sources of media but 53%

floating didn't know the fearfulness of HIV/AIDS. Also use of mass media could also be a successful strategy in reaching different population with information on HIV/AIDS, particularly those who were living in floating area. TV was the most dominate source of hearing about HIV/AIDS for floating respondents. Most of the respondents (48.3%) were known sex worker as the risk

population of HIV/AIDS. Most of the floating respondents were known HIV/AIDS as transmitted diseases. Once more, 27.3% floating respondents think sharing needles, razors/blades was the main source of HIV/AIDS spread of HIV/AIDS. Now a day, condom has been considered as popular methods of HIV/AIDS protection. When respondents were asked how way to avoid HIV/AIDS

virus, it seems that they want to rely on personal opinion about way to reducing HIV/AIDS. Table 3 pointed that more than 22 percent of floating respondents mention that by using condom during intercourse was the highest way to reduce HIV/AIDS. We also found from figure 2 that 29 percent floating population didn't talk to spouse about preventing of AIDS.

Table 3 : Respondents knowledge about HIV/AIDS

HIV/AIDS Related Information	Floating Population (N=300)
Have you heard the name of HIV/AIDS	282 (94.0)
Yes	18 (6.0)
No	
Have you known about fearfulness of HIV/AIDS	140 (46.7)
Yes	160 (53.3)
No	
<b>Source of HIV/AIDS information</b>	
Doesn't know	11 (3.7)
Radio	57 (19.0)
TV	86 (28.7)
News Paper	7 (2.3)
Pamphlets	5 (1.7)
Health worker	13 (4.3)
Religious Institute	2 (0.7)
Educational Institute	1 (0.3)
Community meeting	5 (1.7)
Friend	19 (6.3)
From NGO	3 (1.0)
Others	91 (30.4)
<b>Perception of HIV/AIDS affected person</b>	
Doesn't know	13 (4.3)
Disobedient of religious factor	10 (3.3)
Addicted	85 (28.3)
Illiterate	8 (2.7)
Truck driver	27 (9.0)
Rickshaw puller	12 (4.0)
Sex worker	145 (48.3)
<b>Was HIV/AIDS transmitted diseases?</b>	
Doesn't know	24 (8.0)
Yes	251 (83.7)
No	25 (8.3)
<b>Knowledge of way to HIV/AIDS transmitted routes</b>	
Doesn't know specific way	33 (11.0)
A mosquito bite	33 (11.0)
Illegal intercourse	68 (22.7)
Blood & Antimony	45 (15.0)
Sharing needles, Razors/ Blade	82 (27.3)
Kissing on the cheek/Touching some one who was HIV positive	7 (2.3)
Commercial Sex worker	32 (10.7)
<b>Knowledge of ways to avoid HIV/AIDS</b>	
To obey command of religious (i)	45 (15.0)
Abstain from sexual relation (ii)	14 (4.7)
Use condom during intercourse (iii)	67 (22.3)
Seek protection from doctor (iv)	18 (6.0)
Avoid multiple sex partner (v)	11 (3.7)
Abstain from sexual relation of prostitute (vi)	26 (8.7)
Avoid sharing, razors & blade (vii)	29 (9.7)
(i) and (iii)	51 (17.0)
(ii), (iii) and (vi)	18 (6.0)
(iii) and (vi)	21 (7.0)

Notes: Figure in parenthesis indicate that the percentage distribution and N= number of respondents

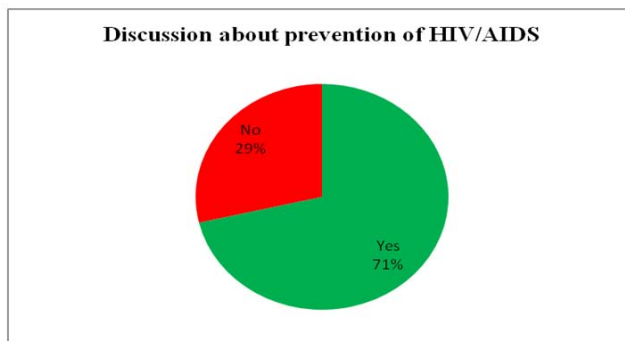


Figure 2 : Have any discussion of your spouse about prevention of HIV/AIDS

c) Determine knowledge of fearfulness about HIV/AIDS by Logistic Regression Analysis

The main focus was to determine knowledge of HIV/AIDS by logistic regression analysis. Keeping this reality in mind we have used logistic regression model.

**Results of Logistic Regression Analysis:** Multiple logistic regression analysis was conducted to assess the knowledge of fearfulness about HIV/AIDS as dependent variable (0= if he/she didn't know the fearfulness about HIV/AIDS and 1= if he/she knew the fearfulness about HIV/AIDS) by some selected characteristics. There were many potential independent variables. Of all the potential independent variables we considered only those of the variables which gave significant result in empirical study and that were also suitable for theoretical purpose. Here the independent variables were age, marital status, educational qualification and occupation of the respondents.

The odds ratio estimates showed that floating respondents in Table 4, population of 30-39 years were 1.50 times more likely to had knowledge about the fearfulness of HIV/AIDS; population of 40-49 years and 50+ years were 0.891 and 0.805 times less likely to had knowledge about fearfulness of HIV/AIDS than the respondents of 18-29 years age group (reference group) respectively. Here, it was worth noting that all of the estimates were found insignificant. Similarly, the covariates of marital status and occupation have been found out to put insignificant impact on the response variable of the model. Further, the respondents having primary incomplete level of schooling and primary complete level of schooling were 2.332 and 3.771 times more likely to had knowledge about fearfulness of HIV/AIDS than the respondents having no education (reference group) respectively. The low educational level persons generally had a little bit more knowledge about the fearfulness of HIV/AIDS than illiterate persons.

Table 4 : Determine knowledge of fearfulness about HIV/AIDS by Logistic Regression Analysis

Name of Independent variables	Floating Population	
	$\beta$	Odds Ratios( $\rho$ )
<b>Age (in years)</b>		
18-29 (Ref.)		1
30-39	0.401	1.494
40-49	-0.115	0.891
50+	-0.216	0.805
<b>Marital status</b>		
Single (Ref.)		1
Married	-0.154	0.857
Widow/widower	-0.591	0.554
<b>Educational level (in years)</b>		
No education (Ref.)		1
Primary incomplete	0.847***	2.332
Primary complete	1.327***	3.771
Secondary & higher secondary		
Graduate & higher		
<b>Occupation</b>		
Rickshaw/auto rickshaw (Ref.)		1
Service		
Business	0.510	1.665
Bus/truck driver		
Sex worker	-0.180	0.836
Others	0.124	1.132

Notes: (Ref.) denotes Reference category, \*\*\* denotes 1% level of significance,  $\beta$  denotes estimate regression coefficient and others includes day labor, farmer and beggar.

Moreover, it was found out that the floating group of population, all the covariates except educational level had been observed to insignificantly impact the knowledge about the fearfulness of HIV/AIDS, the response variable. Therefore, to harness the level of knowledge about the fearfulness of HIV/AIDS of Bangladeshi population, proper policy implications regarding these issues deserve to be implemented for the prevention of the fatality of the killer disease AIDS.

## VI. CONCLUSION AND RECOMMENDATION

HIV/AIDS and its potentially fatal impact on human beings have undoubtedly become an extremely topical issue now-a-days. 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, this study showed that residence, education of respondents and prevention was the major factors/contributors of HIV/AIDS. At the significance level among the selected variables we have seen that more knowledge gathered on AIDS in floating population. This indicates that various socio-economic and demographic factors have played a crucial role in influencing HIV/AIDS in Bangladesh. Though it was 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 was a real need for more in depth studies in this regard. Therefore, both government and NGO's program should strengthen care and support program may build up knowledge about AIDS and to provide the prevention through mass media by creating awareness to all population also. Thus, necessary action was called for to reduce the future level of HIV/AIDS in the country in order to achieve better living conditions in future. Therefore, there was 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.

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### Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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