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Different Socio-Demographic Variables and their Impact on the Knowledge and Consciousness about HIV/AIDS

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Abstract

This study is brought into to identify the bivariate distribution of the different Socio-Demographic variables with the variable named "Use Condom at the Time of Sexual Intercourse" as the dependent variable. The present study utilizes the BDHS with having a sample of 3151 where 2000 are females and 1151 are males. It has also been noticed that among all the age group, majority of the respondents belonging to the age group of 21-30 have the tendency of using condom at the time of sexual intercourse. The study imitates that it is the urban people who are the majority (58.9 percent) to use condom at the time of sexual intercourse comparing to the respondents who used to stay in the rural area (17.1 percent). It can be reflected that the respondents who are familiar to the term HIV/AIDS most of them (61 percent) use condom at the time of sexual intercourse on the other hand 38.9 percent of those who are not familiar to the name of HIV/AIDS use condom as their security measure.

1. Introduction

1.1 Introduce the Problem

HIV and AIDS have changed the way we go about our daily lives. We have seen an increase in the prevention, treatment and care for this disease over the years, at the same time more lives have been lost to this preventable and fatal disease. In 2008, there were about 32.2 million People Living with HIV (PLHIV) worldwide,1 2.7 million people newly infected with the virus annually and about 2 million deaths. 1 In the Pacific region, there were about 29,629 reported HIV cases and 5,162 new cases in 2008 (Ontario Public Health Library Association (OPHLA), (2008)). Although most Pacific Island Countries (PIC) are classified as low prevalence, the incidence of HIV has been increasing since the first case was reported in 1984 (Leenaars *et al.,* 2012).

When someone has HIV, it can be present in potentially infectious quantities in blood, semen, vaginal fluids, rectal secretions and breast milk. Transmission of HIV can happen if one of these fluids gets into somebody else's body, either directly into the bloodstream (such as in injecting drug use, or from an HIV-positive woman to her baby), or through unprotected anal, or vaginal sex, and much less often, unprotected oral sex (Taylor, 2010).

Various factors affect the risk of HIV transmission. How likely it is that transmission will occur is directly linked to the viral load of the HIV-positive person. The more virus that is present, the more likely it is to be passed on. In this context we sometimes talk about 'infectiousness' (Taylor, 2001).

In spite of the "epidemiological transition" or change in the pattern of diseases such that chronic and degenerative diseases have become more important as major causes of morbidity, disability and mortality in wealthier countries, infectious diseases remain as major threats to the health and well-being of human populations. There is also the ongoing HIV/AIDS epidemic which continues to infect and kill large numbers of people worldwide. Social factors are related to the emergence and spread of infectious diseases. However, except for diseases which are more obviously social in their origin and patterns of spread (e.g. sexually-transmitted and blood-borne infections such as HIV/AIDS), social scientists are less prominent in the battle against infectious diseases vis-à-vis their counterparts from the natural sciences (Garson, 2002).

It is estimated that 40% of the world's population is become conscious through the process of accessing the different electronic medias (Peters, 2007). This has been similar to our study where it has been got that for both of the diseases (i.e., HB and HIV/AIDS) the access of the electronic media has been the pivotal contributor in the case of being aware.

In this study it has been found that the variable named "Sources of Drinking Water" has the contribution to the selected dependent variable as we have got that the respondents who get the protected drinking water are 1.6 times more likely to get the vaccination of HB than of the reference category. The sources of drinking water has also the connection in the case of vaccination taking tendency (Alter, 2011).

1.2 Importance of the Problem

It is essential to integrate knowledge, awareness and consciousness about infectious disease and promote social program on attitude, behavior, prevention, and also thereby organize health promotion program in social setting. From this point of view this study is aimed to analyze the knowledge, attitude, behaviours and the institutional readiness and potential for integration of various life threatening infectious diseases related knowledge, awareness among the people of the developing country like Bangladesh. Infectious disease related education as HIV/AIDS and other STIS and other viral or bacterial infectious diseases, mode of their transmission and means of prevention are not available to all in developing countries. One of the ways to prevent or slow down the transmission of infectious diseases is to recognize the different characteristics of various diseases (World Health Organization, 2008). Some critical disease characteristics that should be evaluated include virulence, distance traveled by victims, and level of contagiousness. It is notified that HIV/AIDS and HB as appeared as two silent killer diseases and become threatened to modern civilization for developed and under developed countries. So any study regarding knowledge and consciousness is very important to have the clear idea regarding this issue. In contrast, Human Immunodeficiency Virus (HIV) kills its victims very slowly by attacking their immune system. As a result, a lot of affected persons transmit the virus to many others before even realizing that they are carrying the diseases. Also, the relatively low virulence always its victims to travel along distance, increasing the likelihood of an epidemic. This study tackles these issues head on. Regarding all the facts discussed above it could be understood that through more and more impeccable and quality research on the infectious diseases the vulnerability group could be detected and also it will be possible to make some rescue activities to bring those groups out from various types of the pandemic created by theses infectious diseases (World News, 2012). Considering all the discussion mentioned above, this study has been made by more and more comprehensive and intensive approach to develop the knowledge and increase the consciousness level about Hepatitis B and HIV/AIDS.

1.3 Literature Review

It is estimated that 40% of the world's population is become conscious through the process of accessing the different electronic medias (Peters, 2007). This has been similar to our study where it has been got that for both of the diseases (i.e., HB and HIV/AIDS) the access of the electronic media has been the pivotal contributor in the case of being aware.

The result from our study implies that the electronic media which is one of the vital sources of knowledge about HIV/AIDS could only be afforded by those who have a certain enhancement level of education and of those who have comparatively a better place of residence (i.e., those who live in urban area). This has been supported by Naser *et al.,* 2009.

The urban people are more aware in terms of having more habit of using condom for keeping themselves way from HIV/AIDS that of the counter part of the respondents who belong to some rural place (0.809 times more likely to use condom than the reference category 1). This result has been supported by Mauss *et al.*, 2012 as it has been found that the urban people is more conscious in gaining the knowledge on HIV/AIDS and HB for having the up-to date facilities than that of the rural counterpart.

Economic status has it's own role to play as it has been found by Kesow *et al.,* 2010 that the higher economic status holder are more conscious and knowledgeable than that of the respondents who are less economical status. This finding has been similar with our study that the majority of the respondents with high economic status (77.1 percent) used to use condom at the time of sexual intercourse but for the respondents with low economic it can easily be seen that the majority of 67.5 percent not used to use condom at the time of sexual intercourse.

Furthermore the respondent's income and the habit of watching TV also have an impact on the respondent's educational attainment. With the advancement in income and watching TV a respondent can be able to enhance his educational attainment and with the advanced educational attainment the knowledge regarding the HIV/AIDS and HB have been enhanced. The correlation between the watching TV and educational attainment has also been found(Chein *et al.,*2011).

Income and place of residence has a very pivotal contribution increasing the conscious level about HIV/AIDS. It is quite clear that with the increase of income and having been an urban resident a person could be able to know many important information regarding various diseases through exploring verities of information as electronic media, mass

media, internet and like. It ahs been found from the study of Murary *et al.,*2012 that the respondents belong to the urban area have the tendency of having a higher economical status are more frequent to access more up to date information regarding the pandemics (i.e., HIV/AIDS and HB).

1.4 Research Design

Infectious diseases continue as the major cause of morbidity and mortality in Bangladesh and worldwide. As a result of poverty, population density, poor sanitation, malnutrition, and disease transmitting insect vectors, there is further need for enhanced prevention, diagnosis and management of a wide array of diseases with infectious diseases with infectious etiologies including pneumonia, diarrhoeal diseases, tuberculosis measles, vector born diseases with infectious diseases like dengue, malaria, visceral leishmaniasis (Kala azar) and HIV/AIDS. Drug-resistance infectious diseases will continue to strain resources and threaten existing methods for effective therapy. The scientist identified a new strain of cholera, *V Cholera* O 139 (Bengal) that emerged in 1992 and traced its evaluation. This is the first time that the scientists have been able to watch a new pathogen emerge and evolve prospectively (World News, 2012). Presently the scientists are in a position to prepare how to deal with this new pandemic strain, and potentially develop a vaccine that would decrease the number of deaths as caused by past cholera pandemics. Now, the objectives of this research are:

1.   To investigate the differential patterns of the knowledge and consciousness about HIV/AIDS.

2.   To identify the interaction effects of the factors which influence knowledge and consciousness of

the studied population.

3.   To find out the factors affecting the conscious level of the people.

To find out the intensity of the effect of the different socio-demographic and health related characteristics act as the determinants of HIV/AIDS virus.

2. Method

2.1 Bivariate Analysis

The contingency analysis investigates the degree of association within the two categorical variables. Examining of association is performed by means of contingency table.

Table 2.1Contingency Table and Chi-Square Test

Y X	Y_1 Y_2 ....Y_c	
X_1	0_{11} 0_{12} ....0_{1c}	
X_2	0_{21} Y_{22} ....Y_{2c}	
⋮ X_r ⋮	: : 0_{r1} 0_{r2} ....0_{rc}	
N= Grand total		

Here X_1 X_2 ....X_3 are the r- category of the attribute X and Y_1 Y_2 ....Y_c are the c- category of the attribute Y. 0_{ij} is the observed frequency of i-th category of X and j-th category of Y. N is the grand total. To test the homogeneity between two attributes the following hypothesis is used.

Null hypothesis (H_0): There is no association between X and Y

Alternative hypothesis (H_1): H_o is not true

$$\chi^2 = \sum_i \sum_j \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \approx \chi^2_{(r-1)(c-1)}$$

To test the homogeneity the following statistics is used:

We know that the null hypothesis might be accept at the 5% level of significance, if the 2-sided asymptotic significance level is less than. 0.05, otherwise the null hypothesis is may be reject. For this particular problem, we observe that the null hypothesis is might be accepted at the 5% level of significant when the when the Perso's chi-square test is used.

2.2 Sampling Procedures

The sample for the Bangladesh Demographic and Health Survey (BDHS) 2007 also covered the entire population residing in private dwellings units in the country. Administratively, Bangladesh was divided intro six divisions, which in

turn, each division were divided into zilas and upazilas. Each urban area in the upzila was divided into wards, and into mahallas within the ward; each rural area in the upazila was divided into union parishads (UP) and into mauzas within the Ups. This survey was based on a two-stage stratified sample of households. The urban areas were stratified into three groups, i) Standard metropolitan areas, ii) Municipality areas, and iii) Other urban areas.These divisions allowed the country as a whole to be easily separated into rural and urban areas. The 2007 BDHS sample was a stratified and multi stage cluster sample consisting of 361 primary sampling units (PSUs), 134 in the urban area and 227 in the rural area (PSUs). A total of 10,819 households, on average 30 households from each PSU, were selected for the sample using and equal probability systematic sampling technique, of which 10,461 were found to be occupied and 10,400 were successfully interviewed. Finally, the survey was designed to obtain 11,485 completed interviews with ever-married women age 10-49, covering 4,360 interviews from urban areas and 7,125 from rural areas. All ever-married women age 10-49 in selected households and ever-married men age 15-54 in every second households were considered as eligible respondents. But finally, a total of 11,178 eligible women age 15-49, 4,230 from urban areas and 6,948 from rural areas were selected in these households and 10,996, 4,151 from urban areas and 6,845 from rural areas were interviewed. Data for ever-married women age 10-14 have been removed from the data set to use for the present study. Accordingly 4,074 potential eligible men in every second households were selected, of them, 3,771 were successfully interviewed.

In this survey five questionnaires vize. households questionnaire, women's questionnaire, men's questionnaire, community questionnaire and facility questionnaire following MEASURE DHS Model Questionnaires have been used.

The survey was conducted to determine on the respondent's background characteristics (age, residential history, education, religion, media exposure etc.); reproductive history; knowledge and use of family planning methods; antenatal and delivery care; nutrition; vaccinations and health of children under age five; marriage; fertility preference; husband's background and respondent's work etc.

Data collected from field were edited, coded and processed at MItra and Association using CSPro, a joint software product of the US Census Bureau, Macro International, and Serpro S.A.

The data has collected from these six administrative divisions for the country- Barisal, Chittagong, Dhaka, Khulna, Rajshahi and Sylhet. The present study utilizes the BDHS with having a sample of 3151 where 2000 are females and 1151 are males.

2.2.1 Sample Size, Power, and Precision

The data of this study was taken from the 2007 Bangladesh Demographic and Health Survey (BDHS 2007).The BDHS 2007 is a nationally representative survey from 10,996 women age 15-49 and 3,771 men aged15-54 from 10,400 household covering 361 sample points (cluster) throughout Bangladesh 134 urban areas and 227 in the rural areas. The daya has collected from these six administrative divisions for the country- Barisal, Chittagong, Dhaka, Khulna, Rajshahi and Sylhet. The present study utilizes the BDHS data, 2007 ever-married women of age 10-49 are considered by the study. Our study sample is 3151.

The text size of formula should be similar with normal text size. The formula should be placed in the middle and serial number on the right. For example:

3. Results

The following Table 3.1 represents the bivariate distribution of the different Socio-Demographic variables with the variable named "Use Condom at the Time of Sexual Intercourse".

Here it is seen that among the respondents of age group <20, 77.8 percent don't have the habit of using condom at the time of sexual intercourse. It has also been noticed that among all the age group, majority of the respondents belonging to the age group of 21-30 have the tendency of using condom at the time of sexual intercourse. Again the respondents of the age group of 41-50 have the lower tendency of using condom (20.5 percent) among all the respondents of all other age group holder (Table 3.1).

As far as the gender factor is concerned it is being seen that females are not used to use the female condom at the time of sexual intercourse. On the other hand among the male 71.1 percent persons have the habit of using condom at the time of sexual intercourse.Here it can be interpreted as the males are more conscious in terms of gathering the information regarding the prevention procedure about HIV/AIDS by using condom as the security measure at the time of sexual intercourse (Table 3.1).

Again the occupation has the significant effect on the variable titled "Use Condom at the time of Sexual Intercourse". Among all the occupational categories it has been seen that 83.8 percent job holders used to use condom where on the other hand it has been seen that the 73.5 percent labours haven't have the habit of using condom. So, it is the job holder

who are generally more educationally sound to gather more consciousness oriented knowledge than of the other occupational categories (Table 3.1).

Urban people are generally more up to date than of those who belong to the rural area. From our study it has been found that it is the urban people who are the majority (58.9 percent) to use condom at the time of sexual intercourse comparing to the respondents who used to stay in the rural area (17.1 percent) (Table 3.1).

Here also it has been found that the literate people more frequent in using condom (75.5%) than that of the illiterates (31.8%) (Table 3.1).

It can be reflected that the respondents who are familiar to the term HIV/AIDS most of them (61 percent) use condom at the time of sexual intercourse on the other hand 38.9 percent of those who are not familiar to the name of HIV/AIDS use condom as their security measure. From this finding it can be noted that the respondents who have the information about HIV/AIDS are more aware regarding the process of prevalence of this pandemic than of other counterpart (Table 3.1).

Table 3.1 Bivariate Distribution of the Respondents Used to Use Condom at the Time of Sexual Intercourse with the Different Socio-Demographic Variables

Variable	Use Condom at the Time of Sexual Intercourse		Total	$\chi^2_{cal.}$ and ρ value
	No	Yes		
Age group				
≤20	650 (77.8%)	185 (22.1%)	835 (26.4%)	
21-30	389 (47.7%)	426 (52.6%)	815 (25.8%)	
31-40	415 (52.7%)	371 (47.2%)	786 (24.9%)	$\chi^2_{cal.}$ =59.3
41-50	568 (79.4%)	147 (20.5%)	715 (22.6%)	ρ =.000
Total	2022 (64.1%)	1129 (35.8%)	3151(100.0%)	
Sex				
Female	1525 (76.2%)	475 (23.7%)	2000 (63.4%)	$\chi^2_{cal.}$ =17.6
Male	332 (28.8%)	819 (71.1%)	1151 (36.5%)	
Total	1554 (49.3%)	1597 (50.6%)	3151 (100.0%)	ρ =.001
Occupation				
In job	135 (16.1%)	701 (83.8%)	836 (26.5%)	
Business	365 (41.0%)	525 (58.9%)	890 (28.2%)	
Agriculture	85 (26.1%)	240 (73.8%)	325 (10.3%)	$\chi^2_{cal.}$ =16.4
Labour	175 (73.5%)	63 (26.4%)	238 (7.5%)	ρ =.000
Others	475 (55.1%)	387 (44.8%)	862 (27.3%)	
Total	1235 (46.3%)	1916 (53.6%)	3151 (100%)	
Place of Living				
Village	1325 (82.8%)	275 (17.1%)	1600 (50.77%)	$\chi^2_{cal.}$ =19.2
Urban	636 (41.0%)	915 (58.9%)	1551 (49.2%)	
Total	1961 (62.2%)	1190 37.7%)	3151 (100%)	ρ =.000

Educational Status				
Literate	340 (24.4%)	1051(75.5%)	1391 (44.1%)	$\chi^2_{cal.}$ =36.79
Illiterate	1200 (68.1%)	560 (31.8%)	1760 (55.8%)	
Total	1540 (48.8%)	1611 (51.1%)	3151 (100%)	ρ =0.000
Heard the Name of				
HIV/AIDS				
Yes	527 (38.9%)	825 (61.0%)	1352(42.9%)	$\chi^2_{cal.}$ =19.9
No	988 (54.9%)	811 (45.0%)	1799 (57.0%)	
Total	1515 (48.0%)	1636 (51.9%)	3151(100.0%)	ρ =0.000
HIV/AIDS is Transmitted through Using Same Needle				
Yes	350 (29.0%)	855 (70.9%)	1205 (38.2%)	$\chi^2_{cal.}$ =18.5
No	1626 (86.5%)	320 (16.4%)	1946 (61.7%)	
Total	1976 (62.7%)	1175 (37.2%)	3151 (100%)	ρ =0.000
HIV/AIDS is Transmitted through the Affected Mother's Breast Milk				
Yes	568 (35.5%)	1032 (64.5%)	1600 (50.77%)	$\chi^2_{cal.}$ =22.0
No	1056 (68.0%)	495 (31.9%)	1551 (49.2%)	
Total	1527 (48.4%)	1624 (51.5%)	3151 (100.0%)	ρ =.000

To get information regarding the preventive knowledge of the studied population it has been found that the respondents who know the matter of prevailing HIV/AIDS through used needle are 70.9 percent conscious as they protect themselves from the prevalence of HIV/AIDS by using condom. So the respondents who have gathered the mode of transmission of HIV/AIDS are naturally more conscious than of others. Since the people who will have more information regarding the prevalence procedure, mode of transmission and like will be more aware and conscious. So it is the knowledge about the pandemic that could keep away from the prevalence of the pandemic (Table 3.1).

Again it has been found that the respondents who responded as HIV/AIDS could be transmitted by feeding the affected mother's breast milk are 64.5 percent more likely to use condom as their security measure. Here it also been reflected that the respondents have more information regarding the mode of transmission have more knowledge regarding the preventive measure and are more conscious about the pandemic (Table 3.1).

Again some confusing questions have been put on to get the idea about the depth of the knowledge of the respondents regarding the prevalence of HIV/AIDS. Here it has been found that the respondents who have shown the positive attitude to the matter of prevalence of HIV/AIDS through the process of taking food from the infected people's plate are wrongly informed and that's why those respondents are lees in number who use the protected measure (12.7 percent) (Table 3.1).

4. Discussion

From the aforesaid part of the research attempted to make the bi-variate distribution with the chi-square test.It hans been reflected that the respondents of age group 21-30 are more aware in keeping themselves away from HIV/AIDS by using condom at the time of sexual intercourse. As far as the occupational category is concerned it has been found that the job holders are the mostly aware in terms of using condom for protecting themselves from HIV/AIDS respectively 72 percent use condom at the time of sexual intercourse).

HIV/AIDS have been considered. We have observed that 61 percent of the respondents who are familiar to the term HIV/AIDS have the habit of using condom as the protective measure. Again it ahs been seen that the respondents who have the idea about the mode of transmission of HIV/AIDS have more knowledge and consciousness in terms of using the protective measure to keep themselves away from the pandemic. Again it has been come across that the literate respondents are more likely to use condom as their preventive measures.

In these regard HBV co infection with HIV is becoming a major challenge In acknowledging this problem, an international forum was convened in Jackson Hole, Wyoming in September 2006, recommending the search of treatment options for HIV and HBV co –infected patients. A key topic of conversation was the development of new agents for treating viral hepatitis in patients with HIV though Challenges including the risk of hepatic injury and low

patient tolerance, which limits compliance, will accompany the upcoming treatment. (Fauci *et al*, 2011)

Thereafter, some therapeutic drugs designed to slow HIV replication has been known to slow the replication of HBV as well in patients co-infected with HIV and HBV (Gomez-Gonzalo *et al*., 2012)

In the treatment of HIV/HBV co-infection, a number of treatment options are recommended. Since there is not a 'cure' at this time for hepatitis B, the main goal of treating HBV/HIV-coinfection is to stop or slow down HBV viral activity as much as possible and for as long as possible and prevention of HIV and HBV reverse transcriptase resistance mutations. Several nucleosides and nucleotides used as part of a combination antiretroviral regimen have activity against HBV (Gomez-Gonzalo *et al*., 2012).

Doctors are learning more about the best way to treat HIV, but it is still not known for certain when is the best time to start taking HIV treatment. There is no cure for HIV, but many doctors think that HIV treatment could mean that a person with HIV can live a more or less normal lifespan.

Anti-HIV drugs work by lowering the amount of HIV in the blood (viral load). The aim of HIV treatment is an undetectable viral load. This means that the amount of HIV in a blood sample is so low that it cannot be detected using a standard test. Reducing the amount of HIV in your blood allows your immune system (measured by your CD4 cell count) to strengthen. The higher your CD4 cell count, the lower your risk of becoming ill because of HIV (and possibly some other serious illnesses as well) (Naser *et al.,* 2009).

The affected should discuss with your doctor the best time for you to start HIV treatment. There are a number of factors you might want to consider, including:

- The benefits of starting treatment now.
- The potential risks if you delay starting treatment.
- Are you ready to start treatment now?
- Are there other factors in your life that affect your ability to start taking HIV treatment?

There may be other things which are relevant to your treatment and care and you may have other questions. It's a good idea to take some time to think about these before you go to an appointment at your clinic. To help you prepare for these conversations with your doctor, we have put together an online tool called Talking points. You can find it at www.aidsmap.com/talking-points (Naser *et al.,* 2009).

Specifically it could be stated that the opportunity should be created to get the data on the hepatitis b and HIV/AIDS affected people directly to get closer about the sources of infection and by exploring those data the core research could be made to detect factors affecting the prevalence of the pandemic.

Most importantly, more comprehensive research is needed to the better understanding of the factors relevant to the development of risk reduction interventions for the prevention of the diseases and to let the people know about the risk factors those are associated with this disaster pandemic, so that they could be aware of those risky factors.

Acknowledgements

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