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Nutritional status and KAP about HIV/AIDS among floating drug addicted and commercial sex workers in Dhaka City, Bangladesh

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A cross sectional study was carried out among the 100 floating drug addicted people and 50 commercial sex workers in Dhaka city, Bangladesh. About 26% of sex workers and 36% of drug addicted were aged 20 years. Only thirty six percent of the sex workers and 38% of the drug addicted were married. Among the sex workers, 50% were illiterate whereas 42.9% of the drugs addicted were primary educated. About 78% of the sex workers and 86% of the drugs addicted had monthly income ranges from TK 5,001 to TK 10,000 (1 US$ = 80.00 TK). Among the drug addicts, 94% of the sex workers and 85% of drug addicted had knowledge on human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) and more than ninety percent (94%) of the sex workers and 78% of the drug addicts had knowledge on route of transmission of HIV/AIDS. For example, they could state that HIV/AIDS can be spread through needle sharing behavior, shaving blade and unprotected sex with HIV positive partners. Majority of respondents were found to have multiple sex partners, and among them only 26% of sex workers and 21.7% of drug addicts were found to use condom regularly. The prevalence of malnutrition among sex workers and drug addicts were 52 and 62%, respectively, and mean body mass index (BMI) of both was 18.54. They (57%) were suffering from various degrees of malnutrition.

Key words: Awareness, commercial sex workers, drug addiction, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), nutritional status.

INTRODUCTION

In the present age, human immunodeficiency virus (HIV) infection is a devastating global problem (Mann et al., 1998). More than 40 million people worldwide are now badly affected with HIV infection (Mohs et al., 1990), of

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which 90% are in the developing countries including South and Southeast Asia (Geddes et al., 1998).

Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) has also been spreading all over the world; an alarming number of people have already died with HIV/AIDS. Nowadays, HIV infection is rapidly spreading in third world countries like Bangladesh. United Nations program on AIDS (UNAIDS) estimates that as high as 12,000 HIV affected people are living all over the country. The first case of HIV/AIDS in Bangladesh was detected in 1989. However, UNAIDS estimates that the number of people living with HIV in the country may be as high as 12,000, which is within the range of the low estimate by United Nations Internation Children Education Fund (UNICEF's) State of the World's Children Report (2009). The overall prevalence of HIV in Bangladesh is less than 1%, however, high levels of HIV infection have been found among injecting drug users (7% in one part of the capital city, Dhaka) (BSSS, 2006). Due to the limited access to voluntary counseling and testing services, very few Bangladeshi's are aware of their HIV status.

Although still considered to be a low prevalence country, Bangladesh remains extremely vulnerable to an HIV epidemic, given its terrible poverty, overpopulation, gender inequality and high levels of transactional sex. The appearance of a generalized HIV epidemic would be a disaster that poverty-stricken Bangladesh could ill-afford. It is estimated that without any intervention, the prevalence in the general adult population could be as high as 2% in 2012 and 8% by 2025 (world AIDS day report , 2008).

Lack of knowledge and social norm, taboos on HIV, high prevalence of HIV infection in the neighboring countries, increased population movements both internal and external, increased number of sex workers (street/floating, brothel, hotel based) and high prevalence of STD are main factors that make Bangladesh at high risk of spreading HIV/AIDS. Crime, violence, poverty, sexual disease, inadequate health care facilities etc. are all major problems in Bangladesh. In addition to infliction of these difficulties, the entire society is now being afflicted by the drug addiction problem (National drug demand reduction strategy. 1995). Most of the drug addicts are young adults, and the number is increasing with time (Danya et al., 1996).

It is estimated that there may be as many as 4.6 million Bangladesh who use drugs, of which 91% are adolescent/youth (Family Health International, 2004). While the vast majority of drug users are male and heroin smokers, FHI estimated in 2004 that there are at least 20,000 to 40,000 injecting drug users (IDUs) in Bangladesh, of which, at least 5,000 are concentrated in Dhaka itself. Fifteen (15) out of 24 districts surveyed by the National Assessment of Situation and Responses to upload/Opiate use in Bangladesh (NASROB, 2001) showed the presence of IDUs. A significant number of IDUs are extremely marginalized and live on the streets and out of any social structure which put them in more vulnerable situations. In the recent period, Bangladesh has a concentrated HIV epidemic among IDUs.

The last HIV sero-surveillence report (6^{th} round, 2005) found a dramatic rise in HIV prevalence from 1.7% in 2001 to 4.9% in 2005 among injecting drug users (IDUs) in central Bangladesh. In one locality of central Dhaka, the rate of HIV infection among IDUs was found to be 8.9%. This increasing rate is a threat to the public health sector, when 10% of the total population are affected by HIV/AIDS, known as epidemic. But when 5% among the high risk group populations (such as- IDUs, commercial sex workers, men who have sex with men, track driver) are affected by HIV/AIDS, then it is considered as an alarming and epidemic condition (Islam et al., 2000). It has been observed from another study that among the HIV/AIDS high risk group populations, 4% IDUs, 0 to 2% sex workers, and 0 to 0.3% men who have sex with men, hijras are HIV positive. Among them, IDUs are most risky group populations. As IDUs are hidden part of our society, so when HIV spread among the IDUs, it means it also severely affects all spheres of life (National Research Council, 1997).

Floating drug addiction and commercial sex workers has been increasing in Bangladesh in both urban and rural community (Rabbni, 1992). There are 105,000 sex workers in Bangladesh, of whom about 100,000 are female sex workers. Among them, more than 40,000 female sex workers live in Dhaka city. Most female sex workers are adolescent or young women, with the majority aged 15 to 18 years. In most cases, female sex workers would have retired by age 30 (Alam, 2010). Young women and girls involved in commercial sex in Bangladesh are at extremely high risk of physical and sexual violence, victimization as well as a range of negative health outcomes. This vulnerable group of population often conforms to a vast range of circumstances that in turn, likely influence their risks for poor health and violence and oppression (Decker et al., 2010). The sexual life of the addicted is in a vulnerable state where risky sex behavior is common. Most of the addicted usually have unprotected sex with multiple partners, which ultimately results in their suffering from sexually transmitted diseases and even from HIV infection (World Health Organization (WHO), 2002).

However, it has been realized that drug addiction and HIV/AIDS has been recognized and considered as most damaging National Health and social problems, therefore it should be addressed immediately. Considering these facts, the objectives of the present study has attempted

to address the socio-demography, HIV/AIDS awareness and risk factors among drug addicted and sex worker in Bangladesh.

METHODS AND MATERIALS

Study design

A cross sectional purposive study was carried out (aged 19 to 45 years) among 100 drug addicted and 50 sex workers from different parts of the Dhaka city during July to December, 2012. They were taking different types of drugs, principally using Yabba, heroin, cannabis, phensedyl, (codeine, ephedrine and promethazine), tidigesic (buprenorphine) and pethedine injections. The inclusion criteria of participants of drug users are addicted from at least five years and taken at least one type of drug use regularly. The sex workers included those who stayed day and night on the road sides and parks, and regularly engaged in sexual activities at least one year.

Development of questionnaire

A semi-structure questionnaire was developed, containing both closed and open questions in accordance with the study objectives to obtain relevant information such as socio-demographic conditions, anthropometrial, drugs and sexual lifestyle, HIV/AIDS related information etc. All questions were designed, pretested with another city, modified and resettled to obtain and record information easily. Any modification necessary were then made and a final recoded, pretested questionnaire was drawn up. Well trained health workers (5 males and 3 females) were recruited from Dhaka University Hospital to collect the information appropriately. The data was validated by a supervisor at every five sample as a repeated survey on the next week.

Anthropometric assessment

The anthropometric data were collected based on standard methods. Age of the subjects under study was recorded by self report and confirmed through probing national Identity card. Measurements of weight and height were obtained from all subjects. The subjects were weighed wearing minimal cloths and bare footed. Three weight measurements were obtained using a bathroom weighing scale and the average was calculated and recorded to the nearest 0.5 kg. The height was measured with a wooden measuring board without shoes and the average was calculated and recorded to the nearest 0.1 cm. Body mass index (BMI) is the best method of measuring the nutritional status of the respondent.

$$\text{BMI} = \frac{Weight\ in\ kg}{Height\ in\ m^2}$$

Data analysis

After verbal consent of each respondents both drug users and commercial sex workers, the data were collected by interviews. The data set were first checked, cleaned and entered into the computer from the numerical codes on the form. The data was edited if there is any discrepancy and then cleaned. The frequency distributions of the entire variables were checked by using statistical package for social sciences (SPSS 20.0) windows program. For tabular, charts and graphical representation, Microsoft word and Microsoft excel were used.

RESULTS

Table 1 shows the comparison of the background information of the selected sex workers and drug users. It has been found from the table that most of the sex workers were female and the number of male and female drug addicted were 78 and 22%, respectively. It also shows that 26% of sex workers and 36% of drug addicts were below 20 years age group. About 30% of sex workers and 10% of drug addicts were found in the age group of 21 to 25 years. Twenty two percent of sex workers and 18% of drug addicts were found in the age group of 26 to 30 and 12% of sex workers and 10% of drug addicts were found in 31 to 35, and 10% of sex workers and 26% of drug addicts were above 35 years. It was also found that 44% of the sex workers and 42% of the drug addicts had passed primary classes while only 6% of the sex workers and 22% of the drug addicts had passed secondary classes. Among the sex workers, half of them were illiterate, whereas in drug addicts, 34% were illiterate. Based on marital status, it has been found that 36% of the sex workers and only 38% of the drug addicts were married. Twelve percent of the sex workers and 46% of the drug addicts were unmarried and 18% of the sex workers and only 12% of the drug addicts were widows. But among the commercial sex workers, more than one third (34%) were divorced and it was markedly indicated that their conjugal life is very short or however many reasons appeared to break their marriage; on the other hand, only 4% of the drug addicts were divorced. The monthly family income of 78% of the sex workers and 86% of the drug addicts were found to be in the Tk 5001 to 10,000 income group, and 2% of the sex workers and 12% of the drug addicts had income within Tk 5,000 and only 20% of the sex workers and 2% of the drug addicts had income over Tk 10,000.

Table 2 shows preliminary knowledge about HIV/AIDS among the commercial sex workers and drug users. Almost 94% of the sex workers and 78% of drug addicts had knowledge on how HIV/AIDS transmitted diseases by different routes. It was observed that sex workers and drug user's knowledge about the transmission routes of HIV/AIDS or transmission is not highly satisfactory. About 86 and 78% sex workers and drug addicts were known that needle sharing is the important transmission route of HIV/AIDS. But about 22 sex workers and 28% drug addicts thought drinking water in same glass spread HIV/AIDS. However, 44, 64, 52, 88 and 92% sex workers

Table 1. Comparison of the background information of the selected sex workers and drug users.

Parameter	Sex worker		Drug addicts	
	Number	Percent (%)	Number	Percent (%)
Sex				
Male	0	0	78	78
Female	50	100	22	22
Total	50	100	100	100
Age in years				
Up to 20	13	26.0	36	36.0
21-25	15	30.0	10	10.0
26-30	11	22.0	18	18.0
31-35	6	12.0	10	10.0
36-40	4	8.0	8	8.0
41 and above	1	2.0	18	18.0
Total	50	100	100	100
Educational Status				
Illiterate	25	50.0	34	34.5
Primary	22	44.0	42	42.9
Secondary	3	6.0	22	22.6
Total	50	100	100	100
Marital status				
Married	18	36.0	38	38.0
Unmarried	6	12.0	26	46.0
Widow	9	18.0	12	12.0
Divorced	17	34.0	4	4.0
Total	50	100.0	100	100.0
Per capita monthly income (Tk.)				
Up to 5000	1	2.0	12	12.0
5,001-10,000	39	78.0	86	86.0
>10,000	10	20.0	2	2.0
Total	50	100	100	100

knew the transmission route of HIV/AIDS were through the following respective means, saliva, from mothers to the fetus, transmitted via breast feeding from mother to baby, by shaving blade and transmitted by copulation with HIV/AIDS infected person.

Among the respondents, more than half (66% of sex workers and 60.9% of drugs addicted) of the respondents used condom occasionally and 26% of sex workers and 21.7% of drug addicts used condom regularly during their sexual intercourse. Only 8% of sex workers and 17.4% of drug addicts did not use condom. More than half, 78% of the drug addicts were expanding on drug almost 200 Taka daily. 16% were expanding on up to 100 Tk. Again, 6% were expanding on drug over Tk. 200 daily. On the other hand, 65.7% sex workers were expending almost 200 taka.

The social lifestyle was found to have a greater influence on drug addiction. It appeared Table 3 that among the total responses individuals, 19% sex workers and 32.4% of drugs addicted said that the symptom of AIDS appears within one year. 7.1% of sex worker and 8.1% drugs addicted said it 1 to 3 years, 31% of sex workers and 16.2% of drugs addicted said 3 to 6 years and 38.1% of sex workers and 43.2% of drugs addicted

Table 2. Comparison of knowledge regarding HIV transmission and prevention methods.

Parameter		Sex worker		Drug addicted	
		Number	Percent (%)	Number	Percent (%)
Knowledge on mode of HIV transformation	Yes	47	94	78	78
	No	3	6	22	12
	Total	50	100	100	100
Transmission routes of HIV/ADIS*	Needle sharing	43	86	39	78
	Transmitted by saliva	22	44	9	18
	Transmitted from mother to the fetus	32	64	30	60
	Transmitted via breast feeding from mother to baby	26	52	21	42
	Transmitted by saving blade	44	88	36	72
	Transmitted by copulation with HIV/AIDS attacked person	46	92	38	76
Use of condom	No	4	8.0	8	17.4
	Irregularly	33	66.0	28	60.9
	Regularly	13	26.0	10	21.7
	Total	50	100	46	100
Expanding money on drug daily	Up to 100	10	28.6	16	16
	101-200	23	65.7	78	78
	>200	2	5.7	6	6
	Total	35	100	100	100

*shows the multiple responses.

said more than 9 years.

It appeared from Figure 1 that the mean height of the addicts (male) and sex workers (female) were162.90 and 158.66 cm, respectively which are slightly above the average height of the adult (162.8 cm for male and 157.8 cm for female) and mean weight of the addicts and sex workers were 46.74 and 48.60 kg. The mean BMI of the addicts were 18.54 kg/m^2 which almost became normal. More than 57% of the drug addicts and sex workers were suffering from various degrees of chronic Energy Deficiency (CED), of which 14, 15 and 28% were in CED-111, CED-11 and CED-1, respectively. 39% of the addicts and sex workers had normal BMI and 4% were overweight.

DISCUSSION

Drug addicts and commercial sex workers severely affect human society. They affect social

Table 3. Distribution of the respondents by their knowledge on times taken to appear symptoms of HIV/AIDS.

Response	Sex worker		Drug addicted	
	Number	Percent (%)	Number	Percent (%)
Within one month	15	35.7	20	27.0
1 to 3 months	10	23.8	28	37.8
3 to 6 months	12	28.6	22	29.7%
6 months to one year	5	11.9	4	5.4
Total response	42	100.0	74	100.0
No response	8	-	26	-

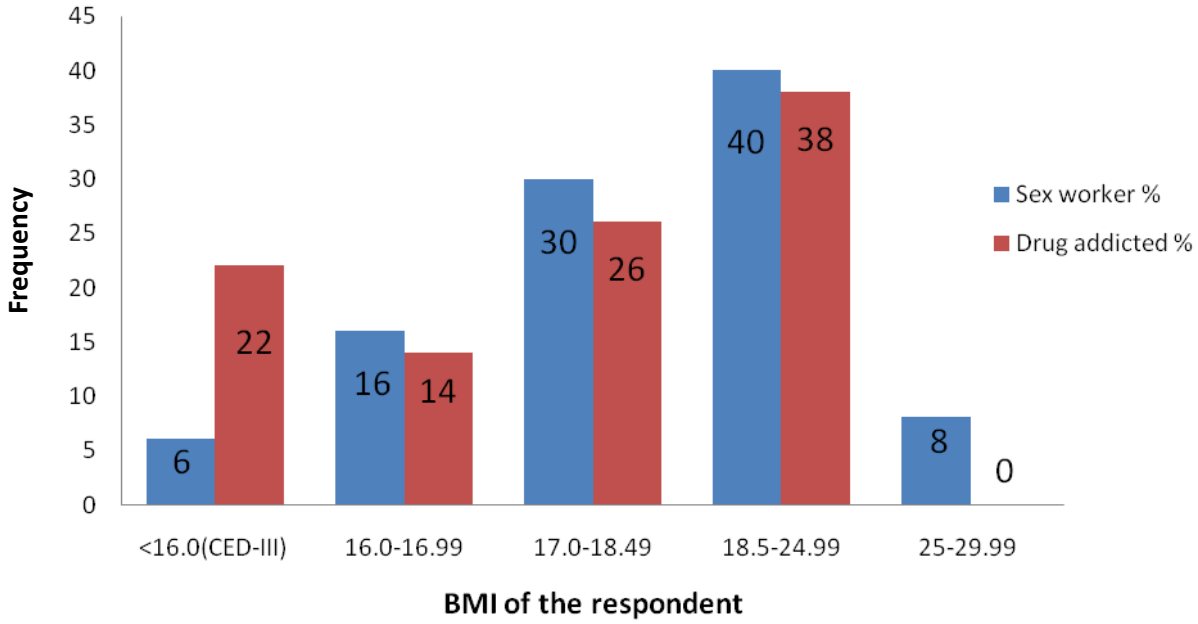

Figure 1. Prevalence of nutritional status between the sex workers and drugs user.

and environmental life of a society. So they are being addressed as national, social and health problems in Bangladesh. In this study, socio demographic status, drug habits, sexual lifestyle, knowledge and practices of risk factors about HIV/AIDS, nutritional and anthropometrical status of 100 male drug addicts and 50 female sex workers were recorded and analyzed. This study reveals that drug addicts and sex workers have poor nutritional status and they are suffering from varying degrees of chronic energy deficiency. Their drug habit also affects their nutritional status. Their high risky behavior such as unprotected sex with multiple sex workers is also present, since nutritional deficiency is the main cause of immunodeficiency. Their high risky behavior and immunodeficiency may influence susceptibility to HIV infection. An efficient careful nutritional intervention and HIV/AIDS awareness raising program would be of particular importance in the overall management among drug addicts and sex workers, as well as of HIV infected or AIDS patients.

Only education and consciousness will not prevent HIV epidemic. As we know, USA is the most civilized industrial nation in the world. But studies show that HIV infection rate is still high. Moreover, other sexually transmitted diseases (STDs) are also increasing at an alarming rate. The annual incidence of syphilis is 130,000, gonorrhea 1.4 million, chlamydia 4 million, pelvic inflammatory disease 420,000 and genital herpes about 500,000. Muslim societies in love with Western life style are also catching up. Another important point needs

to mull over that emphasis on condoms give a false impression about the safety. Food and Drug Administration (FDA) study showed that new condoms had breakage rates of up to 9% and there was a 38% leakage rate of HIV-size particles (AIDS virus is one-fifth the size of the sperm) in the condom tested. So condoms are not totally risk-free to prevent HIV infection.

Blaming certain groups also allows societies to avoid responsibility of dealing with the epidemic. This defiance can be dangerous. Government may hide cases, fail to gather correct data or not care for people with HIV/AIDS. Officials may use figures of detected cases rather than estimated cases to downplay the level of the epidemic in the country. People at risk may be denial. They may assure a false sense of security by believing only “outsiders” or marginalized groups can become infected. Stigmatizing an AIDS patient as being sinful or deserving punishment serves little purpose. Besides the fact that many AIDS patients contracted the disease without being sinful, stigmatizing AIDS patients actually further promotes the spread of the disease.

CONCLUSION

Intravenous drug users and sex workers play a major role in spreading HIV/AIDS in Bangladesh. It could be possible to prevent HIV transmission in commercial sex by practicing protected sex that is, by using condom. In HIV prevention, condom has an important role but use of condom among half of the addicted and sex workers could be protected. We have cultural norms and values. So when we talk about HIV/AIDS and its way of prevention, then some sorts of constraints and limitations has to to be faced. But it is necessary to overcome such constraints by taking appropriate steps. It should be remember that,”AIDS kill?”, bachte hole jante hobe.” Drug addicted and sex workers cannot take food properly due to their addiction, floating habit, and lack of money. So they are nutritionally poor, as a result their immune system cannot develop properly so they are easily infected with HIV viruses and other communicable disease. So it is necessary to ensure their nutritional condition through proper diet. In this connection, Government and NGOs could play an important role. HIV, drug addiction and prostitution are important public health, social and ultimately national issue. So it is necessary to explore the real picture by research and other type of activities. The results of this study may uncover the real picture among the addicted people.

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