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Assessment of nutritional status, knowledge and attitude about HIV/AIDS among selected female college students of Dhaka

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Abstract

A significant study is important for spreading awareness about the disease with the availability of right information. A descriptive cross sectional study was carried out among the 200 female college students in Dhaka city in Bangladesh in order to assess the nutritional status, knowledge and attitude about HIV/AIDS which in turns assist government efforts to control the spread of HIV and AIDS. A structured questionnaire was used to collect sociodemographic variables, knowledge and attitude of students and the prevalence of malnutrition among the respondents were determined according to body mass index (BMI). In this study about 16% respondents acquire knowledge regarding HIV/AIDS from TV/Radio/Newspaper etc. whereas 4% heard from NGOs and it is estimated that 60% respondents heard from more than one sources. Study revealed that 11% had no idea on symptoms of AIDS and 89% of the respondents had knowledge on different symptoms of AIDS. Majority of the respondents had knowledge to prevent HIV/AIDS by using condoms and avoid reused needles and syringes. The mean body weight and height of them were 58.25 (±4.62) kg and 164.82 (± 6.56) cm respectively. Moreover, It was assessed 51% (n = 200) of the female college students were suffering from varying degrees of Chronic Energy Deficiency (CED), of which 7%, 18% and 26% were in CED3, CED2 and CED1 respectively. Only 9% of them were normal. This study has attempted to address the socio-demography, nutritional status and HIV/AIDS awareness among the Bangladeshi people.

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Introduction

HIV, the virus that causes AIDS, "Acquired Immune Deficiency Syndrome," has become one of the world's most serious health and development challenges. The first case was reported in 1981 and today approximately 36.9 million people are currently living with HIV and tens of millions of people have died of AIDS-related causes since the beginning of the epidemic (UNAIDS, 2015) . More than 40 million people worldwide are now badly affected with HIV infection (Mohs *et al.,* 1990), of which 90% are in the developing countries including South and Southeast Asia (Geddes *et al.,* 1998). In 2011, it was estimated that 34 million people lived with HIV worldwide while 1.8 million deaths occurred (JUNP, 2011).

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 International Children Education Fund (UNICEF's) State of the World's Children Report (2009).

Bangladesh maintained a low HIV prevalence for years less than 1 % (Borhan, 2017).Although the prevalence remains low; Bangladesh is one of the only four countries in Asia and the Pacific where prevalence has increased more than 25% over a decade till 2012. Women aged 15 and up living with HIV 2,900 (Zahid, 2016).Women are four times more likely to contract HIV than men. Women's lower social and cultural status also causes them to have less access to education, employment opportunities and health care, including opportunities for HIV tests, counseling and medical care. Women are often subjected to early marriage, sexual abuse and violence in intimate and marital relationships. An increasing number of women are forced to sell their bodies as the only way to survive and provide for their children (UNICEF, 2009).

It is acknowledged that there is a strong relationship between HIV and nutrition (Duggal *et al.,* 2012).Malnutrition can be caused by reduced appetite, depression, and some common opportunistic infections among people living with HIV (PLHIV), such as oral thrush. Malnutrition in its turn contributes to immunosuppression and results in a quicker progression to the stage of AIDS.

Knowledge means the ability of pursuing and using information, and by understanding, learning experience and identifying the studying technologies. Attitude indicates the result of making reaction via some ways in some situations, and observes and explains based on the result of reaction or combine into one point of view (Ibrahim, 1995; Mini *et al.,* 2010).About ninety-five percent students had heard about HIV/ AIDS and its presence in Pakistan, 61.7% students knew that HIV/AIDS is caused by germs and 91.2% knew about its transmissibility. Over 70% of students knew that HIV can be transmitted through sexual contact, infected blood transfusion, and re-use of infected injection needles (Farid and Choudhry, 2003).According to the recent Children and AIDS, Third Stocktaking Report 2008 published by four UN agencies, only 16% of girls aged between 15 and 24 have a comprehensive knowledge of HIV in Bangladesh.

However, it has been realized that HIV/AIDS has been recognized and considered as most damaging national health and social problems, therefore it should be addressed immediately. Considering these facts, this study has attempted to address the socio-demography, nutritional status, HIV/AIDS awareness and risk factors among drug addicted in Bangladesh.

Methodology

Study design

The study was carried out among the 200 female college students in Vikarunnessa Noon School & College and Motijheel Ideal School & College of Dhaka city during March to August, 2008. The study population consists of the 200 female college students who were selected randomly.

Development of questionnaire

A standard questionnaire was developed in accordance with the study objectives to obtain relevant information on the socio-demographic conditions, height & weight of the subjects, sexual lifestyle, and HIV/AIDS related information. The initial questionnaire was then pre-tested among few selected same age group female in Dhaka city and necessary corrections and changes were made and a final recoded.

Anthropometric measurements

Body weight: A lever balance (Detecto-Medic, Detecto scales, USA) was used to record body weight. The balance was calibrated everyday with known weight before use for accuracy. Body weight recorded to the nearest 0.1 kg on bare foot with minimum clothing.

Height: Height of the subjects were measured with a standard scale (Detecto-Medic, Detecto scales Inc. USA) to the nearest 0.1 cm in standing up-straight without assistance, with bared heels close together, legs straight, arms at the sides and shoulders relaxed, looking straight ahead. During measurement of height the person was allowed to take a deep breath and stature at maximum inspiration was recorded.

Body mass index (BMI): According to FAO (1994) body mass was calculated from the body weight and height of the subjects using the following formula:

$$BMI = \frac{\text{Weight of the subject in kg.}}{(\text{Height of the subject in meter})2}$$

Statistical analysis

The data were analyzed using SPSS/PC (version 12). The raw data recorded in questionnaire was coded first. The coded data were entered into the computer in SPSS program.

Results and discussion

Table 1 represents the socio-demographic and economic information like age, religion, occupation, family size, monthly income and expenditure of the respondents and indicates that most of the subjects were 15 to 16 years (73%) and 17 to 18 years (26%).However, the average age of the female students were 16.1 ±2.1 years. Among them about 87% of them were Muslim and another 13% were Hindu. Occupation of the household head were mainly business (20%), 19 % and 26% were Govt. and NGO service holders respectively. Again a certain numbers of Doctors / Physician (13%) and Engineers (9%) were the main family head.

Table 1. Socio-economic and Socio demographic information.

Variables	Frequency	Percentage
Age distribution (Years)		
15-16	146	73
17-18	52	26
19-20	2	1
Religion		
Islam	174	87
Hindu	26	13
Occupation		
Business man	42	22.0
Govt. Service holder	38	19.0
NGO Service holder	52	26.0
Physician	26	13.0
Engineering	18	9.0
Others	24	12.0
Family Size		
3-5	111	55.5

6-8	53	26.5
9-11	32	16.0
≥12	4	2.0
Monthly Income(Taka)		
<20,000	22	11.0
20,000- 29,999	66	33.0
30,000 – 39,999	80	40.0
40000 – 49,999	18	9.0
≥50,000	14	7.0
Monthly Expenditure(TK)		
<10,000		4.5
10,000-19,999		21.5
20,000-24,999		48.5
25,000-29,999		18
≥30,000		7.5

More than fifty five percent (55.5%) of the respondent's family had three to five members and more than one forth (26.5%) family had six to eight members and only 2% of them had more than or equal 12 members, all of these indicated that the nuclear family concepts were ahead in Dhaka city of Bangladesh. Again, shows that average family size was 4.8±1.3.Majorities (40%) of the respondents were found in 30,000 – 39,999 income groups and 33% had income within 20,000- 29,999 Taka. But comparatively the higher income (≥50,000 Taka) was seven percent. Again, majorities (48.5%) of the respondents were found in 20,000 –24,999 expenditure group and 18.0% had spent within 25,000- 29,999 Taka. But 7.5% of them were spent comparatively the higher amount (≥30,000 Taka).

Table 2. Distribution of the weight, height and BMI of the respondents.

Variables	Frequency	Percentage
Weight (Kg)		
42.00–45.00	4	2.0
45.00 – 50.00	22	11.0
51.00 – 55.00	34	17.0
56.00 – 60.00	84	42.0
61.00– 65.00	42	21.0
66.00 – 70.00	10	5.0
71.00–75.00	4	2.0
Height (cm)		
140.00—145.00	2	1.0
145.00 – 155.00	20	10.0
156.00 – 165.00	132	66.0
166.00 – 172.50	46	23.0
BMI		
< 16.0	14	7.0
16.00-16.99	36	18.0
17.00 – 18.49	52	26.0
18.50 – 24.99	80	40.0
25.00 – 29.99	18	9.0

Anthropometric information

Table 2 represents the body weight of female college students ranged from 42.0 to 75.0 kg and the mean (±standard deviation) body weight of them was 58.25 (±4.62) kg. Again, the height of female college students ranged from 142.5 to 172.50 cm and the mean (±standard deviation) height of smokers was 164.82 ± 6.56 cm. It was assessed 51% (n = 200) of the female college students were suffering from varying degrees of Chronic Energy Deficiency (CED), of which 7%, 18% and 26% were in CED_3, CED_2 and CED_1 respectively. However, only 9% of them were normal.

Table 3. Distribution of the respondents by their knowledge, sign symptoms about HIV/AIDS and how HIV/AIDS can spread or contaminated.

Variables	Frequency	Percentage
Knowledge on HIV/AIDS		
Yes	191	95.5
No	9	4.5
Knowledge about sign Symptoms of HIV/AIDS		
Yes	178	89
No	22	11
Knowledge about how can HIV/AIDS spread or contaminated		
Blood transfusion	191	95.5
Via Syringe	199	99.5
Unprotected sexual life style	200	100
Cough and sneezing in HIV/AIDS infected person	102	51.0
Food intake with HIV/AIDS infected person	98	49.0
Used same bathroom for bathing	24	12.0

Table 3 shows that all most all (95.5%) of the respondents were known about the HIV/AIDS and 95.5 & 99.5% of the respondents were known that blood transfusion and syringe used can spread or contaminated HIV/AIDS. Again, all the female college students knew that unprotected sexual life style spread or contaminated HIV/AIDS. However, only 12% and 49% of them answered using same bathroom for bathing and food intake with HIV/AIDS infected person causes the spread of HIV/AIDS.

Table 4. Distribution of the respondents by the way of prevention of HIV/AIDS.

Knowledge on prevention	Frequency	Percentage
Don't mix with HIV Positive	6	3.0
Proper use condom	14	7.0
Avoid reused needle / syringe	30	15.0
Proper use of condom & needle/syringe	96	48.0
More than one responses	48	24.0
Total	200	100.0

One study stated that 86.3% and 85.4% of knowledgeable score towards HIV/AIDS in tertiary level (Shiferaw *et al.,* 2011) and high school students (Addis *et al.,* 2013) respectively. About ninety percent (89%) of the respondents had proper knowledge about sign symptoms of HIV/AIDS and 10% of the respondents had knowledge on chronic coughing, 16% had knowledge on weight loss, 14% had knowledge on fever and 35% had idea on both fever and weight loss are the symptoms of AIDS. And one

fourth of them answered all of the above symptoms are visible in case of HIV/AIDS patients. The difference in the level of knowledge between the present study and others might be due to the difference in the sociodemographic characteristics, especially the educational level of the study participants and the type of indicators used to measure the level of knowledge.

Table 4 represents that the way of prevention of HIV/AIDS and highlighted that 3% respondents had knowledge to avoid sex with HIV/AIDS affected person. 7% were showed to use condom properly during sexual activities, 15% had knowledge to avoid used needle/syringe. Majority of the respondents 48% had knowledge to prevent HIV/AIDS were properly used condom and avoid reused needle and syringe.

Table 5. Distribution of the respondents by their sources of HIV/AIDS knowledge gathers.

Sources of knowing HIV/AIDS	Frequency	Percentage
TV/Radio/Newspaper	32	16.0
Friends	28	14.0
Read books	12	6.0
More than one sources	120	60.0
NGOs	8	4.0
Total	200	100.0

Table 5 shows that from which sources knowledge gathering about HIV/AIDS and indicated that 16% respondents heard from TV/Radio/Newspaper etc. whereas 4% heard from NGOs. 60% respondents heard from more than one sources and 14% heard from their friends.

Conclusion

The nutritional practice in this study was shown to be significantly associated with attitude towards healthy nutrition. A significant level of awareness with some misconception towards HIV/AIDS among female college students of Dhaka was also observed. Some students who do not have enough knowledge about HIV/AIDS, government should be more active to increase the knowledge level of female college students.

The mass media and educational institute should give proper knowledge about misconception as well as actual knowledge of HIV/AIDS.

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