JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Educational Intervention on STIs

[1]Mohammad Zakir Hossain[*], [2]Sheuly Begum
Lecturer
Syeda Zohra Tajuddin Nursing College
Kapasia, Gazipur, Bangladesh

ABSTRACT

A quasi-experimental study was conducted on prevention of sexually transmitted infections among the rural college students in Matlab(North), Chandpur. The study period was from April 2012 to June 2012. The objective of the study was to conduct an educational intervention and evaluate the level of knowledge on prevention of sexually transmitted infections (STIs) among the rural college students. Total respondents were 106, who were selected purposively. A baseline survey was done by using a pre-tested structured questionnaire through face to face interview. An educational intervention programme was done through group discussion which arranged in 9(nine) sessions comprising of 12 students in a group. Flipchart, poster and pictures were used as teaching aids. After 2 weeks post intervention data were collected using the same questionnaire. The study found that out of 106 respondents, the mean age of respondents was 17.08; (SD = ± 1.114) years, 56.6% were male and only 0.9% were married. Mean monthly family income was Tk. 6476.42; (SD = ± 4831.140). Before intervention 25.5% respondents stated books as the source of getting information about STIs, after intervention it was 97.5%. Before intervention 57(53.8%) respondents mentioned unsafe sex as the spread of STIs, but it increased to 92.5% after intervention. In this study, regarding risks of STIs, before intervention 33(31.2%) mentioned not use condom during sexual activity. After intervention it was 87(82.1%) and only 10(8.4%) mentioned commercial sex workers, 40.6% respondents mentioned Ulceration of genitalia as the sign and symptoms of STIs before intervention but it increased to 94.5% after intervention. Before intervention good knowledge were 2.8% of respondents but it increased to 74.5% after intervention. Before intervention 31(29.2%) respondents mentioned STIs could be prevented by use condom during sexual activity but after intervention it was 93(87.7%) of total respondents. Relationship between the knowledge on prevention of STIs among the college students in pre and post intervention scoring was compared by Pearson's Chi square test which was P>0.001. The relationship was statistically significant. It shows that the short term educational intervention can increase the knowledge on prevention of STIs among the college students in a rural community.

Keywords: *sexually transmitted infection, knowledge, attitudes, reproductive age*

Introduction

Over the last two decades, health education intervention has established as effective method for providing health knowledge and achieving individual behavior change. The central concern of health education can help the people to prevent various infectious diseases like sexually transmitted diseases. Sexually transmitted infections (STIs) are called venereal diseases also. The word 'Venereal' was derived from 'Venus' the goddess of love and beauty in Roman mythology[1]. It is called STDs or STIs- Sexually transmitted infections (STIs) that can be transferred from one person to another through sexual contact.[2]

Sexually transmitted infections (STIs), including HIV infection, are prominent emerging infectious diseases. Changes in human behavior, ecology, population growth, demographic transition, rural to urban migration and war and attendant socio-cultural disruption have all contributed to the epidemic increases in STDs. STDs can be categorized as those gonorrhea, chlamydial infection, syphilis, chancroid, donovanosis, trichomoniasis are curable and all viral STDs are not yet curable. Reasons for aggressive STDs control efforts include high STDs incidence worldwide.[3]

Sexually transmitted infections (STIs) are infections whose primary route of transmission is through sexual contact and bodily fluid exchange. STIs can be caused mainly by bacteria, viruses or parasites with protozoa (single celled microscopic organism), and represent a major public health concern in today's society. They are among the most common forms of illness, with far reaching social and economic consequences, particularly in the developing world. STIs cause considerable reproductive morbidity and poor health outcomes, including pelvic inflammatory disease (PID), infertility, ectopic pregnancy, neonatal disorders,

cervical cancer, and even death. In addition to the physical impact of the diseases, there is also significant "psychological morbidity" and depression caused to patients, together with social problems arising from stigmatizations. For a variety of behavioral, biological, and cultural reasons, sexually active adolescents 15–19 years old and young adults 20–24 years old are at higher risk for acquiring STIs. For some STIs, adolescent women may have a natural, physiological susceptibility to infection. The disproportionate rate of STIs among adolescents demonstrates other barriers to necessary health services. These barriers include lack of insurance or ability to pay, lack of transportation, a feeling of awareness in facilities designed for adults, and questions about confidentiality. According to estimates, 15- 24 year-olds acquire approximately half of all new STIs while only representing a quarter of the ever sexually active population. HIV/AIDS is a human development problem fueled by poverty, the inequality of presence of other STDS. As a result the socio-cultural, economic as well as health determinants of the transmission of HIV/AIDS & STD must be addresses in formulating a national policy for HIV/AIDS and STD related issued, the need arises to incorporate the above as policy concerns as part of an action strategy for future programes.[6]

The HIV prevalence among the general public is not fully known, currently available surveillance data only covers high risk groups this ambiguity is partly because voluntary and confidential counseling and testing (VCT) services are not widely available in Bangladesh.[7] Prevention should be a key element in the national response to HIV. One of the four key priorities of the UNICEF and UNAIDS global unite for children, unite against AIDS campaign preventing infection among adolescents and young people is especially pertinent in Bangladesh. Young adults need and have the right to access comprehensive information about in STIs. HIV/AIDS prevention and positive living and to make informed decisions about sex and sexuality. This study will help identify the level of knowledge about STIs and HIV/AIDS which will help the young adults to prevent and control the spread of STDs and HIV/AIDS.[7-8]

Global Situation

In 1990, WHO estimated that in that year there were over 250 million new cases of sexually transmitted diseases. Recently there has been an increase in publications on STDs prevalence in developing countries in Africa, Asia, Latin America and the Caribbean. Using the information from other sources such as official STDs, prevalence estimates from industrialized countries and WHO archival information from country-specific reports, prevalence rates of gonorrhoea, chlamydia infection, syphilis and trichomoniasis were estimated by sex and by (UN standard) region.[4] Regional adult prevalence for 1995 was calculated using mid-year population estimates of adults 15-49 years of age. Because of a lack of published and archival information on chancroid, no estimates of this disease using this methodology could be made. Likewise, estimates were not made for the viral STDs such as herpes, human papilloma virus and hepatitis B. There were approximately 12 million new cases of syphilis among adults worldwide. With the greatest number of cases occurring in South and South-East Asia followed by sub-Saharan Africa and 62 million new cases of gonorrhoea among adults worldwide, with the greatest number in South and South-East Asia followed, as for syphilis, by sub-Saharan Africa. In1995, it is estimated approximately 89 million new adult Chlamydia infections worldwide, again with the greatest number in South and South-East Asia followed, as for syphilis and gonorrhoea, by sub-Saharan Africa. During 1995 it was approximately 170 million new cases of trichomoniasis among adults worldwide, with the greatest numbers in developing countries and higher prevalence and incidence rates than for any other STDs in both developing and industrialized countries. In other regions, such as Eastern Europe and Central Asia, the incidence of STDs is increasing. In Estonia, Latvia, Lithuania, and Russia, for example- reported gonorrhoea has increased since 1991. However, in neighboring Poland, reported gonorrhoea has declined.[29-33]

Bangladesh Situation

The overall prevalence rate of Neiseria gonorrhoeae, Chlamydia trachomatis, Trichomonas vaginalis, and Treopnema pallidum infection was 0.5%, 1.9%, 2.0%, and 2.9% respectively. Overall, 35% of the women had antibodies to hepatitis-B core antigen, 0.9% had Hepatitis-C Virus and 12% Herpes Simplex Virus-2 infection. Risk factors for gonorrhoea, Chlamydia trachomatis infection were a husband not living at home or suspected of being unfaithful. HSV-2 infection was associated with the same risk factors and with a polygamous marriage. The prevalence of HSV-2 infection among women "at risk" was 23%. HIV infection was not diagnosed. Repeated serological examination indicated that only 32% of women with serological evidence of syphilis had active disease. The sero-incidences of HBV, HCV, and HSV-2 were 0.03, 0.007, and 0.009 per person year. Sero-conversion for syphilis was not observed. The Government of Bangladesh has received funds from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) under Round 6 entitled "HIV Prevention and Control among High-Risk Population and Vulnerable Young people in Bangladesh" and selected Save the Children "National AIDS monitoring and Evaluation Framework and Operational Plan" National Strategic Plan for HIV/AIDS 2004-2010" that are providing directions to implement HIV/AIDS programs.[9-10.]

This study will form a basis to equip people with right information and knowledge. This may be helpful for developing appropriate education strategies, materials and messages to inform and educate people and act as a guide for the prevention of STIs in our country.

Objective

General Objective: To conduct an educational intervention and evaluate the level of knowledge on prevention of sexually transmitted infections (STIs) among the rural college students.

Specific Objectives

1. To assess the level of knowledge about the name of Sexually Transmitted Infections (STIs) among the respondents.
2. To assess the level of knowledge about the Cardinal signs and symptoms of Sexually Transmitted Infections (STIs) of the respondents
3. To assess the level of knowledge on mode of transmission of Sexually Transmitted Infections (STIs) of the respondents.
4. To assess the level of knowledge on prevention of Sexually Transmitted Infections (STIs) of the respondents.
5. To compare the level of knowledge on Sexually Transmitted Infections (STIs) before and after educational intervention among the respondents.
6. To assess socio-demographic condition of the respondents.

Methodology

Study design: It was an educational intervention study of pre-test and post-test design. In this study design the outcome was obtained by comparing pre-intervention and post-intervention level of knowledge on prevention of STIs of the respondents.

Study place: The study place of the research work was Nischintapur Degree College, Matlab (North), Chandpur. The study place was selected purposively.

Study period: The study was conducted from1st April 2012 to June 2012.

Study population: The students of higher secondary school in a rural college.

Selection Criteria

Inclusion criteria

(a) The students irrespective of sex and religion
(b) The students of higher secondary school certificate
(c) Voluntary participation

(d) Able to communicate with researchers

Exclusion criteria:

(a) The students who were not the students of higher secondary school certificate.

Sample size: Statistically the following formula was used to calculate the sample size

$$n = \frac{z^2 pq}{d^2} \quad \text{or} \quad \frac{p(1-p)}{d^2}$$

Where,
n= asking sample size
z= level of confidence or level of significance
d= Standard error
p= the proportion in the population possessing the characteristic of interest

The 'p' is the proportion among students having knowledge about prevention of STIs, which was evidently unknown. Since p=0.5 in the formula yields the maximum value of 'n' and the sample was yield at least the designed accurateness. A 95% confidence interval (z = 1.96) with 0.05 standard error (d = 0.05) was to be desired in this study. Convenient sampling technique was used to get sample. There were 106 sample was taken for this study.

Research tools: Based on the objectives, contents and variables of the study; tools were selected and developed. A structure questionnaire was prepared initially which was pre-tested before finalization and changes was made for easy understanding. Extensive literatures were reviewed before the development of tools for data collection. The questionnaire seemed to be the most appropriate tools for data collection for the students.

Pre-testing of tools: Pre-testing was conducted at Kalipur School and College, Matlab, Chandpur, Bangladesh. The main purpose of pre-testing to know the feasibility of tools; assess the adequacy of the measuring instrument and to detect problems related to its design. After the pre-testing, all necessary changes and modifications were done as required.

Data collection procedures: Before starting data collection; I personally introduced with the Principal of the college and explain the purpose of the study and approval from the concerned authority. Verbal consent also maintained before taking interview to the respondents. The answers were not uttered to the respondents before taking interview. Data were collected through pre-tested questionnaire by researcher himself.

Data processing and Statistical Analysis: After collection of data, all filled questionnaire were checked for completeness and accuracy of data by the investigator himself. Data were compiled, analyzed, coded and verified for consistency before handed by using computer-based software. A software package of SPSS (version 17.0: Inc., Chicago, IL, USA) was used to analyze the data. Descriptive statistics was used for all variables. Values were expressed as percentage and mean.

Results

In total number of 106 respondents in college, students of rural area were interviewed to assess their knowledge about on prevention of STIs. They were interviewed with a specific pre-designed, pre-tested questionnaire, and some information were gathered by document review. After health educational intervention to the respondent's posttest are taken from them. Collected data were cleaned edited and analyzed with the help of software SPSS windows version 17. The analyzed data have been presented in this chapter through tables and appropriate graphs. The results of the study have been described as follows:

Table-1: Distribution of students by age (n=106)

Age group	Frequency	Percent
≤ 16 years	29	27.4
17-18 years	73	68.9
>18 years	4	3.8
Total	106	100.0

Mean = 17.08; (SD = ± 1.114)

Table-1 shows that out of 106 respondents most of them was 17-18 years old, they were 73 (68.9%). Rest of them 27.4% were less than 16 and 3.8 % were more 18 years of age. It was also revealed that mean age of respondents was 17.08; (SD = ± 1.114) years.

Figure-1. Distribution of students by sex (n=106)

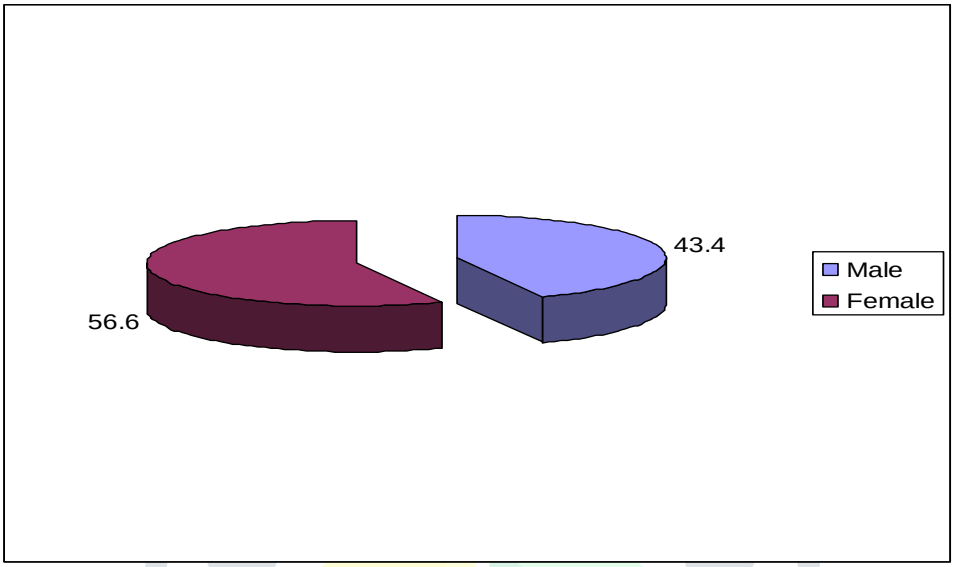


Figure-1 represents the sex distribution of the college students, out of 106 students highest of 56.6 percent were male and 43.4 percent were female.

Figure-2: Distribution of students by marital status (n=106)

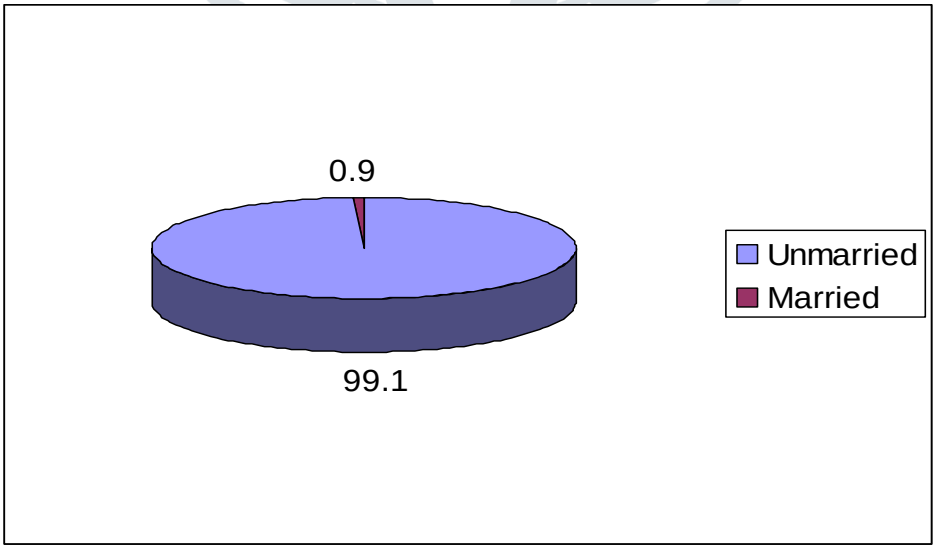


Figure-2 shows that 99.1 percentage were unmarried and only .9 % were married.

Table-2: Distribution of students by religion (n=106)

Religion	Frequency	Percent
Islam	100	94.3
Hindu	6	5.7
Total	106	100.0

Table-2 Shows the most of the respondent were Muslim. It is about 100 that are 94.3 percent. Only 6 was Hindu that is 5.7%.

Figure-3: Distribution of respondents by their father's occupation (n=106)

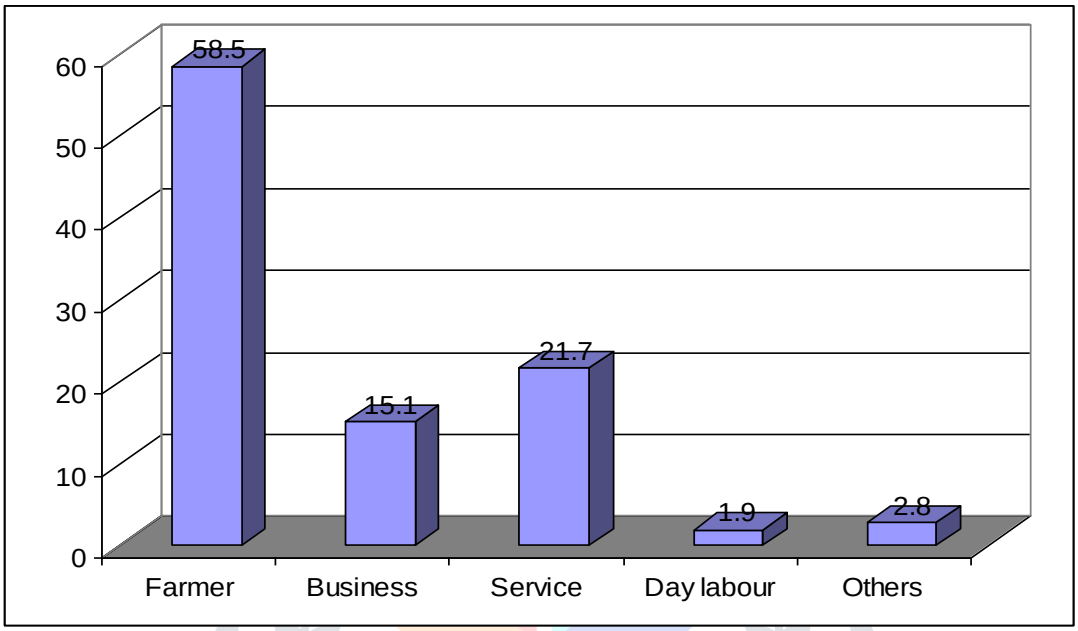


Figure-3, Most of the respondent's father were farmer (58.5%) Only 1.9% were day labour. Service, business and others were 21.7%, 15.1% and 2.8 % respectively.

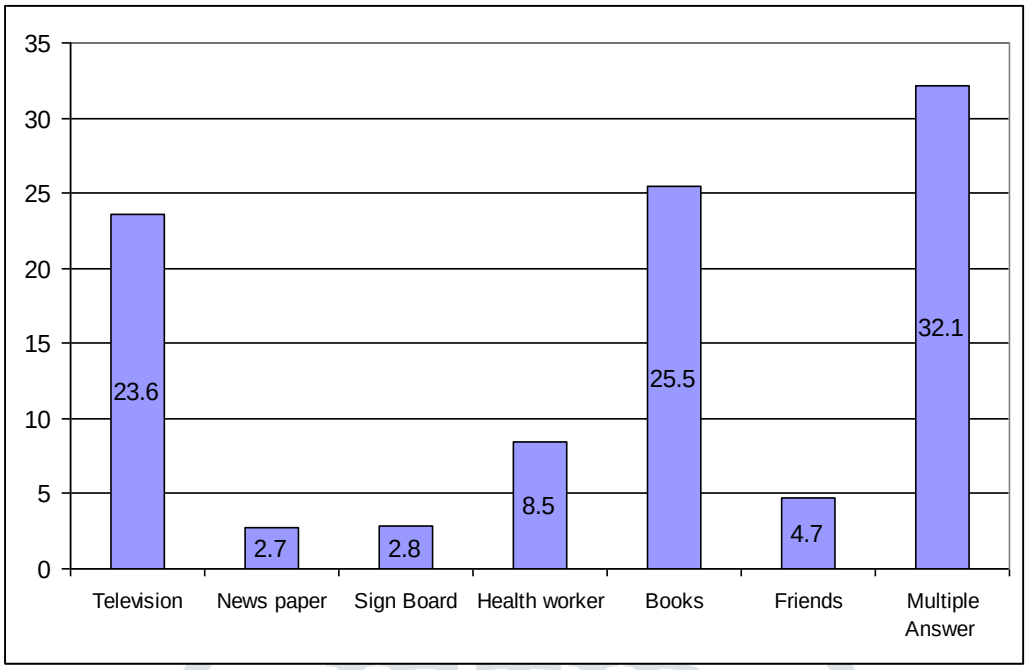
Table-3: Distribution of students by monthly family income (n=106)

Monthly family income Taka	**Frequency**	**Percent**
Taka ≤ 4000	33	31.1
Taka 4001-8000	48	45.3
Taka 8001-12000	17	16.0
Taka >12000	8	7.5
Total	**106**	**100.0**

Mean = 6476.42; (SD = ± 4831.140)

Table-3 shows that among the respondents, most of the respondents 45.3% were monthly family income of Taka 4001-8000, followed by 31.1% were in family income less than Taka 4000, 16.0% were monthly family income of Taka 8001-12000 and only 7.5% were in family income Taka >12000 respectively. Their Mean family income of respondents was taka 6476.42; (SD± 9828.793).

Figure-4: Distribution of the students by source of information regarding STIs n=106



The above bar diagram shows the distribution of various sources of getting information about STIs. Before intervention 32.1% of respondent stated multiple correct answers as the source of getting information about STIs. This was followed by Books 25.5%, TV 23.6%, Health worker 8.5%, friends 4.7%, Sign board 2.8% and News paper 2.7% only. Whereas after intervention multiple correct answers have given 97.5%.

Table 4: Distribution of the students by knowledge on common name of STIs (n=106)

Name of STIs.	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Syphilis	0	0.0	5	4.7	
Gonorrhoea	0	0.0	3	2.8	
Hepatitis-B	4	3.8	0	0.0	
AIDS	90	84.9	8	7.5	0.001
Multiple Answer	12	11.3	90	84.9	
Total	106	100.0	106	100.0	

Table-4, shows that before intervention out of 106 respondents 90 (84.9%) mentioned name of HIV/AIDS, 12 (11.13%) mentioned multiple name and 4 respondents mentioned the name of Hepatitis-B. After intervention multiple names was increased dramatically. It was 90 (84.9%) followed by 7.5% respondents mentioned the name of AIDS, Syphilis 4.7%, and Gonorrhoea 2.8%.

Table-5. Distribution of the students by knowledge on spread the STIs (n=106)

Spread the STIs	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Through anal sex	0	0.0	0	0.0	
Sex with multiple partners	24	22.6	6	5.6	
Unsafe sex	57	53.8	2	1.9	0.001
Though contaminated blood transfusion	4	3.8	2	1.9	
Through oral sex	0	0.0	0	0.0	
Multiple Answer	2	19.8	96	90.6	
Total	**106**	**100.0**	**106**	**100.0**	

Above table shows that before intervention out of 106 respondents, 21 (19.8%) given multiple correct answers, 57 (53.8%) mentioned Unsafe sex, 24 (22.6%) mentioned Sex with multiple partners, 4 (3.8%)

mentioned though contaminated blood transfusion. After intervention most of the respondents gave multiple correct answers. It was 96 (90.6%) of total respondents.6(5.6%) mentioned Sex with multiple partners and only 2(1.9%) respondents mentioned the spread of STIs through unsafe sex.

Table-6. Distribution of the students by knowledge on risk for STIs (n=106)

Risk for STIs	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Commercial sex worker	10	9.4	10	9.4	
I.V drug user	21	19.8	4	3.8	
Homosexuality	5	4.7	1	0.9	0.001
Not respect social & religions rules	24	22.6	2	1.9	
Not use condom during sexual activity	33	31.2	2	1.9	
Multiple Answer	13	12.3	87	82.1	
Total	**106**	**100.0**	**106**	**100.0**	

Above table shows that before intervention out of 106 respondents 33 (31.2%) mentioned not use condom during sexual activity, 24 (22.6%) mentioned Not respect social & religions rules, 21 (19.8%) mentioned I.V drug user, 13 (12.3%) given multiple correct answers, 10 (8.4%) mentioned Commercial sex worker, and 5 (4.7%) mentioned Homosexuality. After intervention most of the respondents gave multiple correct answers. It was 87 (82.1%) of total respondents and 10 (8.4%) mentioned Commercial sex worker.

Table-7. Distribution of the students by knowledge on symptoms of STIs (n=106)

Symptoms of STIs	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Ulceration of genitalia	43	40.6	6	5.8	
Discharge of pus per urethra with foul smelling	21	19.7	1	0.9	
Frequency of urine	4	3.8	1	0.9	0.001
Pruritis of genitalia	15	14.2	3	2.8	
Lower abdominal pain	11	10.4	1	0.9	
Multiple Answer	12	11.3	94	88.7	
Total	**106**	**100.0**	**106**	**100.0**	

Table-7, shows that before intervention out of 106 respondents 43(40.6%) mentioned ulceration of genitalia, 21 (19.7%) mentioned discharge of pus per urethra with foul smelling, 15(14.2%) mentioned pruritis of genitalia, 11 (10.4%) mentioned lower abdominal pain and 4(3.8) respondents mentioned Frequency of urine. After intervention most of the respondents gave multiple correct answers. It was 94(88.7%) of total respondents.

Table-8. Distribution of the students by knowledge the complications of STIs (n=106)

Complications of STIs	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Infertility	12	11.3	6	5.7	
Stricture of urethra	23	21.7	2	1.9	
PID	14	13.2	2	1.9	
Acute Arthritis	6	5.7	0	0.0	0.001
Uterus Cancer	42	39.6	2	1.9	
Multiple Answer	9	8.5	94	88.7	
Total	106	100.0	106	100.0	

Table-8 shows that, before intervention 39.6% respondents mentioned Uterus Cancer. This was followed by 21.7% mentioned Stricture of urethra, 13.2% respondents mentioned PID, 11.3% respondents mentioned infertility and 8.5% has given all correct answers on the complications STIs. Only 5.7% respondents mentioned Acute Arthritis. Whereas after intervention the highest respondents gave their opinion on all diseases, that were 88.7%.

Table-9: Distribution of the students by knowledge on prevention of STIs (n=106)

Prevention of STIs	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Use condom during sexual activity	31	29.2	6	5.7	
Screening of blood before transfusion	6	5.7	1	0.9	
Use of disposable syringe and needle	29	27.4	2	1.9	
Respect social & religions rules	20	18.9	2	1.9	0.001
Confidence between husband and wife	0	0.0	2	1.9	
Multiple Answer	20	18.9	93	87.7	
Total	**106**	**100**	**106**	**100.0**	

Above table that before intervention 31 (29.2%) respondents mentioned STIs could be prevented by use condom during sexual activity, Followed by 29 (27.4%) respondents mentioned use of disposable syringe and needle, 20 (18.9%) respondents mentioned respect social & religions rules. But after intervention most of the respondents has given multiple correct answers on prevention of STIs. That was 93 (87.7%) of total respondents.

Table-10: Distribution of the students by knowledge about treatment place for STIs (n=106)

Treatment of STIs	Pre-Intervention		Post-Intervention		P value
	No	%	No	%	
Ayurvedic Hospital	2	1.9	0	0.0	
Community Clinic	6	5.7	2	1.9	
Upazilla Health Complex	38	35.8	1	0.9	
Homeopathic Hospital	6	5.7	5	4.7	0.001
Infectious Disease Hospital	42	39.6	2	1.9	
Multiple Answer	12	11.3	96	90.6	
Total	**106**	**100.0**	**106**	**100.0**	

Above table shows that before intervention out of 106 respondents 42 (39.6%) mentioned Infectious Disease Hospital, and 38 (35.8%) mentioned Upazilla Health Complex. After intervention it was 96 (90.6%) both of total respondents and none mentioned Ayurvedic Hospital.

Table-11: Distribution of the students by knowledge on effect of STI in the body (n=106)

Effect of STI in the body	Pre-Intervention		Post-Intervention		P value
	No.	%	No.	%	
Discharge pus or blood from genitalia	19	17.9	1	0.9	
Uterus Cancer	29	27.4	2	1.9	
Late Syphilis	1	0.9	1	0.9	
Abortion	0	0.0	2	1.9	0.001
Even Death	41	38.7	2	1.9	
Multiple Answer	16	15.1	98	92.5	
Total	106	100.0	106	100.0	

Table-11 shows that before intervention out of 106 respondents 41(38.7%) mentioned even death, followed by 29 (27.4%) mentioned uterus Cancer, 19 (17.9%) mentioned discharge pus or blood from genitalia. After intervention 98 (92.5%) respondents gave multiple correct answers and 2 (1.9%) respondents mentioned abortion, uterus Cancer and even death.

Table-12: Distribution of students by level of knowledge on before intervention (n=106)

Level of knowledge	Frequency	Percent
Poor Knowledge	83	78.3
Average Knowledge	20	18.9
Good Knowledge	3	2.8
Total	**106**	**100.0**

Mean = 22.27; (SD = ± 3.23)

Above table shows that before intervention 78.3% respondents had poor knowledge, 18.9% had average knowledge and only 2.8% respondent had good knowledge. Mean knowledge of respondents were 22.27; (SD = ± 3.23)

Table-13: Distribution of level of knowledge of the respondents after Intervention (n=106)

Level of knowledge	Frequency	Percent
Poor Knowledge	4	3.8
Average Knowledge	23	21.7
Good Knowledge	79	74.5
Total	**106**	**100.0**

Mean = 22.78; (SD = ± 3.26)

Above table shows that after intervention 3.8% respondents had poor knowledge, 21.7% had average knowledge and 74.5% respondent had good knowledge. Mean knowledge of respondents were 22.78; (SD = ± 3.26)

Table-14: Distribution of respondents by the comparison knowledge on pre & post intervention (n=106)

Knowledge on pre & post intervention	Pre-Intervention		Post-Intervention		Total
	No.	%	No.	%	
Poor Knowledge	83	78.3	4	3.8	87(82.1%)
Average Knowledge	20	18.9	23	21.7	43(40.6%)
Good Knowledge	3	2.8	79	74.5	82(77.3%)
Total	**106**	**100.0**	**106**	**100.0**	**212(100%)**

χ 2 = 159.219; P value = <0.001

Table-14, Relationship between the knowledge on prevention of STIs among the college students in pre and post intervention and their knowledge scoring was compared by Pearson's Chi square test in which the 'P' <0.001 than the expected value that is 0.05. So the relationship is statistically significant. There is strong association between the knowledge about prevention of STIs and pre & post intervention.

Discussion

This study was carried out in College Students Rural Area of Bangladesh knowledge on educational intervention on prevention of sexually transmitted infections pre and post intervention. The study area consists of rural college of Chandpur district. The purpose of the study was to identity the knowledge related to pre & post intervention. The study population was the College Students having HSC level. The study focused the Socio demographic Characteristic of the students, determinants of their knowledge pre & post intervention.

Sexually transmitted infections are responsible for many mortality, morbidity and loss of productivity and money. Further HIV/AIDS becomes as a development crisis affecting all the sectors. Lack of knowledge about mode of transmission preventive measures treatment facilities and source of information may result in occurrence of different types of STDs including HIV/AIDS epidemic, a great public health problem that may go beyond our resources.

In this study table-1 majority of students 73 (68.9%) were in the age between 17-18 years, they were rest of them 27.4% were less than 16 and 3.8% were more 18 years of age. It was also revealed that mean age of respondents was17.08 with (SD = ± 1.114) years.

Figure-1 represents the sex distribution of the college students, out of 106 students highest of 56.6 percent were male and 43.6 percent were female. Figure-2 shows that 99.1% respondents were unmarried and only 0.9 % were married. Table-2 Shows the most of the respondent were Muslim. It is about 100 that are 94.3%. Only 6 was Hindu that is 5.7%. Figure-3, Most of the respondent's father was farmer 58.5%. Only 1.9% was day labour. Service, business, and others were 21.7%, 15.1% and 2.8 % respectively.

Among the respondents, most of the respondents 45.3% were monthly family income of Taka 4001-8000, 31.1% were in family income less than Taka 4000, followed by 16.0% were monthly family income of Taka 8001-12000 and only 7.5% were in family income Taka >12000 respectively. Their Mean family income of respondents was 6476.42; (SD± 9828.793).

The bar diagram 4 shows the distribution of various sources of getting information about STIs. Before intervention 32.1% of respondent stated multiple correct answers as the source of getting information about STIs. This was followed by This was followed by Books 25.5%, TV 23.6%, Health worker 8.5%, friends 4.7%, Sign board 2.8% and News paper 2.7% only. Whereas after intervention 97.5% all correct answers and only 2.5% mentioned friends.

Nibedita Karmaker(2003)[34] study found that 71.1% respondents mentioned the name of gonorrhoea in before intervention. Her study also revealed that 86.7% respondents mentioned the name of gonorrhea on the contrary, knowledge on syphilis as higher than my study. On the other hand it was found that after intervention 98% respondents mentioned HIV/AIDS is sexually transmitted diseases.

But in this study before intervention out of 106 respondents 90 (84.9%) mentioned name of HIV/AIDS, 12 (11.13%) mentioned multiple correct name and 4 respondents mentioned the name of Hepatitis-B. After intervention multiple names was increased dramatically. It was 90 (84.9%) followed by 7.5% respondents mentioned the name of AIDS, Syphilis 4.7% and Gonorrhoea 2.8%.

Regarding mode of transmission before intervention out of 106 respondents 57 (53.8%) mentioned Unsafe sex, 24 (22.6%) mentioned Sex with multiple partners 21 (19.8%) given multiple correct answers and 4 (3.8%) mentioned though contaminated blood transfusion. After intervention most of the respondents gave multiple correct answers. It was 96 (90.6%) of total respondents, 6 (5.6%) mentioned sex with multiple partners and only 2 (1.9%) respondents mentioned the spread of STIs through contaminated blood transfusion and Unsafe sex.

It was expressed that before intervention out of 106 respondents, 33 (31.2%) mentioned not use condom during sexual activity, 24 (22.6%) mentioned not respect social & religions rules, 21 (19.8%) mentioned I.V drug user, 13 (12.3%) given multiple correct answers, 10 (8.4%) mentioned Commercial sex worker and 5 (4.7%) mentioned homosexuality. After intervention most of the respondents gave multiple correct answers. It was 87 (82.1%) of total respondents. 10 (8.4%) mentioned Commercial sex worker,4 (3.8%) respondents mentioned I.V drug user and 2 (1.9%) respondents mentioned not use condom during sexual activity and not respect social & religions rules both. Only 1 (0.9%) respondent mentioned homosexuality. The persons who did not use condom during sexual activity and not respect social & religions rules had most risk to STIs.

Another study, ICDDRB conducted a number of operations research (OR) studies to support the implementation of GFATM project activities, and to inform the development of national policy and programs for the prevention of HIV/AIDS among young people aged 10 to 24.It found that, approximately half of the youth had their first sexual exposure before the age of 18, with female sex workers the single most common sex partners in such exposures. Youth clients reported to have had vaginal, oral and anal sex with the sex workers, and condoms were used in approximately half of the vaginal sex acts. More than 20% of youth reported STI symptoms in the last year, and of them, only 15% visited qualified physicians. One in every tenth youth had an STI, and more than half of the youths perceived themselves at risk for STI and HIV. Although the youths had good knowledge about STI/ HIV, misconceptions regarding transmission and prevention were high. Clients have been identified as a bridging population for the HIV/AIDS epidemic Bangladesh. Around half of them visit FSWs at least once in a month. They have high rates of STI and low STI care-seeking behaviour. Although they have knowledge about HIV/AIDS, their condom use is low. Youth friendly health services need to be strengthened to offer STI management and STI/HIV counseling services targeted to youth. Appropriate strategies for intervention among young clients of sex workers need to be implemented. Different strategies targeting both female sex workers and clients need to be tested. For these types of combined strategies, the involvement of gatekeepers (particularly hotel management) is essential.[16]

Table-7 shows that before intervention out of 106 respondents 43(40.6%) mentioned ulceration of genitalia, 21 (19.7%) mentioned discharge of pus per urethra with foul smelling, 15 (14.2%) mentioned pruritis of genitalia, 12 (11.3%) give multiple correct answers as the common symptoms of STIs. 11 (10.4%) mentioned lower abdominal pain and 4 (3.8%) respondents mentioned frequency of urine. After intervention most of the respondents gave multiple correct answers. It was 94 (88.7%) of total respondents. 3 (2.8%) respondents mentioned pruritis of genitalia and 1 (.9%) respondent mentioned discharge of pus per urethra with foul smelling, lower abdominal pain and ulceration of genitalia respectively. Bahadur B.S (Phudong) 2005.[43] study found that out of 97 respondents 88.7% mentioned foul smelling from genitalia as common sign and symptoms of STDs in female.

In this study, Table-8 shows that, before intervention 42 (39.6%) respondents mentioned Uterus Cancer. This was followed by 23 (21.7%) mentioned stricture of urethra, 14 (13.2%) respondents mentioned PID, 12 (11.3%) respondents mentioned infertility and 9 (8.5%) has given all correct answers on the complications of STIs. Only 6 (5.7%) respondents mentioned acute arthritis. Whereas after intervention the highest respondents gave their opinion on all diseases, that were 94 (88.7%) and none mentioned acute arthritis.

Regarding prevention of STIs before intervention 31 (29.2%) respondents mentioned STIs could be prevented by use condom during sexual activity, followed by 29 (27.4%) respondents mentioned use of disposable syringe and needle, 20 (18.9%) respondents mentioned respect social & religions rules and multiple correct answers and 6 (5.7%) respondents mentioned screening of blood before transfusion. But after intervention most of the respondents has given multiple correct answers on prevention of STIs. That was 93 (87.7%) of total respondents. Others were more or less same percentage except using condom during sexual activity. It was 5.7%.

Another study Sonwmini CN (1997)[23] found that condom use rose from 27.7% to 42.9% in the study period. On the other hand this study found that 76 (78.4%) respondents mentioned that sexual relation with husband wife as measures of STDs prevention. This finding consists with establishing monogamous relationship and avoiding sexual contact to unfamiliar sex partner. It is also observed that after intervention 60.8% respondents opined that STDs could be prevented by early diagnosis and treatment. This may be due to fact that STDs are considered as life threatening diseases. in fact that in case of STDs management and prevention private sector does not participate in the reporting system. As a majority of STDs patients, 60-70% or more, seek care from private sector. The private sector should also necessary to involve early diagnosis and treatment and planning and policy making process.

This study revealed that before intervention out of 106 respondents 42 (39.6%) mentioned Infectious Disease Hospital, followed by 38 (35.8%) mentioned Upazilla Health Complex, 12 (11.3%) mentioned multiple correct answer, 6 (5.7%) mentioned Homeopathic Hospital and Community Clinic both. Only 2 (1.9%) mentioned Ayurvedic Hospital. After intervention most of the respondents gave multiple correct answers. It was 96 (90.6%) of total respondents and none mentioned Ayurvedic Hospital.

Table-10 effects of body due to STIs before intervention out of 106 respondents 41 (38.7%) mentioned even death, followed by 29 (27.4%) mentioned uterus Cancer, 19 (17.9%) mentioned discharge pus or blood from genitalia, 16 (15.1%) has given multiple correct answers and none mentioned abortion. Only 1 (.9%) mentioned late Syphilis. After intervention most of the respondents gave multiple correct answers. It was 98 (92.5%) of total respondents. 2 (1.9%) respondents mentioned abortion, uterus Cancer and even death.

The knowledge level of respondents before intervention 78.3% respondents had poor knowledge, 18.9% had average knowledge and only 2.8% respondent had good knowledge. Whereas after intervention 3.8% respondents had poor knowledge, 21.7% had average knowledge and 74.5% respondent had good knowledge.

Table-14 stated relationship between the knowledge on prevention of STIs among the college students in pre and post intervention and their knowledge scoring was compared by Pearson's Chi square test in which the P>0.001 than the expected value that is 0.05. So the relationship is statistically significant. There is strong association between the knowledge about prevention of STIs and pre & post intervention.
Another study it was found that before intervention 64.05% respondents had poor knowledge, only 35.05% had average knowledge about STD prevention. After intervention this level of knowledge remarkably increased and all responded were above the poor level of knowledge. Bahadur B.S (Phudong) 2005.[43]

Conclusion

At present STIs are major public health concerns in both industrialized and developing countries. In generally the prevalence rate of STIs tends to be higher in urban residents especially in unmarried individuals and in young adults. From the study finding it was found that before intervention 11.3% respondents had good level of knowledge on signs and symptoms of STIs. After intervention it increased to 88.7%. Before intervention 19.8% respondents had good knowledge on spread the STIs. After intervention, it was increased to 90.6%. Before intervention 11.03% respondents had knowledge about the treatment place of STIs but it increased to 90.6% after intervention. Finally found that before intervention only 2.8% respondents had good knowledge on prevention of STIs. But after intervention 74.5% respondents had good knowledge on prevention of STIs. It shows that the short-term educational intervention can increase the knowledge on prevention of STIs among the college students in a rural community.

Recommendations

Based on the findings from the study and the observation, the following recommendations are proposed as considerations.

1. This type of educational programme is very effective for the college students. So it need to developed more educational programme in different colleges.
2. Provision of STIs including HIV/AIDS information through mass media should be regularly broadcast to reinforce the knowledge level.
3. People who are more vulnerable for the STIs would be able to realize the consequences of unsafe sexual behavior practices.
4. Mass educational campaign employing effective BCC programme against the sexually transmitted infections should be conducted throughout the country particularly among the vulnerable population and areas.
5. Appropriate designed 'sex education' may be fruitful to incorporate in our secondary school and college curriculum so that the students able to aware themselves on risk sexual behavior and STIs.

References

1. Chowdhury MR Mordern Medical Microbiolgy 5 th ed, Moumad Iabal 44/a, Azimpur road, Dhaka-1205,1999 p-208.
2. Sexually transmitted disease. http//www epigee org/health/stds html, Page1of 2, (Cited 2005, April, 20)
3. Holmes KK De Lay PR, Cphen MS Introduction STD control, A public health priority in Control of sexually transmitted diseases, Ahandbook for the design and management of programs,Virginia, Family Health International (FHI) AIDS Control and prevention Project (AIDSCAP), 1996.
4. Appropriate health resources and technologies action Group, RTI: An update on biomedical issues. AIDS Action, 1997: 36:12-14.
5. Chakrabortry PA, Text book of microbiology, central book agency (P) Ltd 8/1, Chintamoni Das lane Calcutta, 700009, India 1996, p-17.
6. Rahman M A HIV/AIDS: Challenges for Bangladesh, Health & medicine Journal, The Independent, 2004.
7. AVERT International AIDS charity Avert, Org Bringing you information on HIV/ AIDS,1:/ STD statistics world wise html, (cited 2005, April-1.)
8. STDs overview, American Social health Association. 2005 http://www.unicef.com/std/index html, (cited 2005, March, 28)
9. World Health Organization, Global prevalence and incidence of selected curable Sexually transmitted infections overview and estimated, 2001.
10. Sustainable Development Networking programme (SDNPE), 2002 Agargaon Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh. http://www.sndpbd.org/sti/international (Cited 2005, March, 5)
11. Day Helen Ward Sopie , Protitution, Recent advances in : Sexually Transmitted Diseases, 1991, p-183-187.
12. World Health Organization. Management of patients with Sexually Transmitted Diseases, Geneva, 1992, p 1-4.
13. Family Care International. Action for the 21th century reproductive health and rights for all: summary report of recommended actions on reproductive health and rights of the Cairo ICPD Programme of actions, New York: International conference on population and developmemt,994:14-22.
14. World Health Organization,Management of Sexually transmitted infections, report of an inter country workshop, WHO, Yangon,Myanmar,2001.
15. Naved RT Risky sexual behaviour in a "conservative" society, Dhaka: Bangladesh Field office, save the children (USA) 1996:40-57.
16. Rahman Saifur, Ahmed Mohsin U, Khuda Barket-e, Ahmed Shameem, Kane Thomas T, et al. Prevention and management of Reproductive tract infections and Sexually transmitted Diseases review, ICDDRB, 1999.
17. Messermith LJ, Social and economic impact of HIV/AIDS: Global situation, Dhaka: UNAIDS Bangladesh 1997:2.
18. An introduction to sexually transmitted infections NIAID, Facts Sheet.htt://www.niaid.nih.gov/factsheet /stinfo html, (2005, April, 25.)

19. WHO, World health day Safe motherhood. WHO, Geneva,1999
20. Ministry of Health and Family Welfare, National Integrated Population and Health Programme, technical standard and service delivery protocol for management of RTI/ STD, 1999.
21. htt//query Fegi emd=Retrieve & db = pubmed & dopt abstract & list Uids = 1237043/ 2004, Singapore Med J 2002 July: 43(7):359-64.
22. Canarte Aymerich MT Lopez Montes de oca DM,Campanioni Rodriguez M Education in AIDS and STDs, Experience of the family doctor and health educators with university students in : A portfolio of AIDS/STD behavioral, interventions and research, edited by Lydia S. Bond. Washington , D C, Pan American Health Organization (PAHO), 1992, 24-6.
23. Sowmini CN Community education in sexually transmitted diseases: an experimental study, Asian Journal of Infectious Diseases,1997:1 (1-2):52-4.
24. Kaldmae P, Priimagi L, Raudsepp A, Grintchak M, Valjaots E, Promotion of safer sexual behavior and HIV/STD prevention among adolescent students army recruits, AIDS Care, 2000 (6):783-8.
25. Lagrade E, Enel C, Seek K Gueye-Ndiaye A, Piau J. Religion and protective behaviours towards AIDS in rural Senegal, AIDS, 2000:14(13): 2027-33.
26. Best K Good counseling vital for clients with STDs, Network, 1999:19(2):23-6.
27. Barnes C, Cathcart S, The role of training in STDs prevention and control, Africa Health, 1998:20(3): 15-6.
28. UNAIDS/ WHOI Report on the global AIDS epidemic, 2004, I:/The ABC of HIV prevention htm.
29. Cates W, How much do condoms protect against sexually transmitted diseases? IPPF medical bulletin, 1997:31 (1):3 p, http//www ippf.org (Cited 2000, April, 4.)
30. World Health organization, The safety and feasibility of female reuse: report of a WHO consultation. WHO, Geneva, 2002.
31. Khan S I and Sharmin T, Programmes on Males who have sex with Males in Bamgladesh: Necessity and Barriers ICDDRB, GPO Box,128, Dhaka-1000, Bangladesh.
32. I Gibney, N Saquib, M Macalusa, K N Hasan, STD in Bangladesh's trucking industry: prevalence and risk factors , sex transmits, Information 2002:78:31-36.
33. Khan MA, Rahman M Akther P and Barkat-e-Khuda,Awareness of transmission and prevention of sezually transmitted diseases (STDs) among rural women in Bangladesh. Presented at the Annual Meeting of the Population Association of America, New Orleans, Louisiana, 1996, p-9.
34. Karmakar Nibedita, Assessment of parents' knowledge of RT I/STDs, opinion on relevant education of their adolescent children. NIPSOM Dhaka University (Dissertation) 2003, Unpublished.
35. Akhter Sharmin, Profile of tribal girl and their knowledge on human sexually transmitted diseases. JOPSOM 2003: 22(2):22-27.
36. National AIDS Committee: KABP study in Relation to AIDS in Bangladesh.1990.
37. Rahman I, Awareness about hepatitis-B infection among the grass root level Health and family planning workers in a selected health complex at Dhaka District Dhaka. NIPSOM, Dhaka University (Dissertation) 2001, Unpublished.
38. Center for Disease Control (2007), Sexually transmitted diseases surveillance, 2007 Retrieved October 30, 2009 from http://www cdc gov/std/stats07/adol htm.
39. Potterat JJ, Contact tracing's price is not its value. Sex Trans Dis 1997, 24:519-21
40. Centers for Disease Control and Prevention (1998) "1998 Guidelines for Treatment of Sexually Transmitted Diseases." Morbidity and Mortality Weekly Report 47(RR-1):1–116.
41. Centers for Disease Control and Prevention (1999), STDs Surveillance, 1998, Atlanta, GA: Centers for Disease Control and Prevention, 1–115.
42. Centers for Disease Control and Prevention (2000) "Youth Risk Behavior Surveillance: United States, 1999" Morbidity and Mortality Weekly Report 49(SS-5).
43. Bahadur B S (Phudong) Educational Intervention on prevention of STDs in selected university students of BD NIPSOM, Dhaka University (Dissertation), 2005, Unpublished.
44. Golden, M R, W L Whittington, H H Handsfield, (2001). "Partner management for gonococcal and chlamydial infection: expansion of public health services to the private sector and expedited sex partner treatment through a partnership with commercial Pharmacies.
45. Kissinger, P J, L M Niccolai, (2003) "Partner notification for HIV and syphilis: effects on sexual behaviors and relationship stability."

46. Rothenberg, R B, J N Wasserheit, M E St Louis, (2000). “The effect of treating sexually transmitted diseases on the transmission of HIV in dually infected persons”
47. Pacheun O, Swe EE, Powwattana A explored in a study of Risk behaviors for HIV/ AIDS among youth in rural area of Myanmar in the year 2008 Oct: 20.
48. http://www.unaids.org/html/pub/ Global reports/ Barcelona/ BR Table Country Estimates End2001_en_pdf.pdf.