

Health

BRAC HIV and AIDS Programme: The Mid-term Evaluation

Hashima-e-Nasreen

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BRAC Research Report



BRAC Research and Evaluation Division
BRAC Centre, 75 Mohakhali, Dhaka 1212, Bangladesh
E-mail: research@brac.net, Fax: (88-02) 8823542, 8823614
Telephone: 9881265, 8824051, 8824180-87

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For more details about the report please contact: nasreen.h@brac.net

BACKGROUND

The HIV epidemic in Bangladesh, from an epidemiological perspective, is evolving rapidly. While still a low prevalence country for overall HIV rates, a small pocket of intravenous drug users (IDU) under second generation of surveillance has shown an HIV prevalence increased from 1.4% to 4% to 8.9% (in one locality) in the past three years (The Sero and Behavioural Surveillance 2004). The behavioural surveillance data (2004) also indicate an increase in risk behaviours, such as sharing of injecting equipment and a decline in consistent condom-use between IDUs and female sex workers. The IDU population is well integrated into the surrounding urban slums, socially and sexually, thus raising grave concern about the spread of HIV infection to the general and other vulnerable populations.

The national HIV surveillance system shows that the prevalence of HIV infection is still less than 1% in the country, however the low prevalence is not due to the decrease in risk behaviour. The high prevalence rate of sexually transmitted infections (STI), high rates of pre- and extra-marital sexes, homosexual activities, wide sexual networking, larger market in commercial sex, very low condom-use rate, unsafe blood transfusion, poor or no access to healthcare, poor information about the healthcare facilities, and culture of silence and stigma would act as risky rapid precursor of the epidemic (Behavioural surveillance 2004; CARE 2004; UNDP 2003; Sabin 1997; Naved 1996; Khan 1997; Folmar 1996). Moreover, the location of Bangladesh between India and Thailand, with their recent AIDS explosions, in- and out-migration with them also points its susceptibility.

The government, bilateral, national and international agencies have taken several preventive approaches but mostly with the high-risk and marginalized populations. However, the potentiality of transmission from high-risk to general population by the bridging community has been reflected in the behavioural surveillance (2004) through inter-connected vicious circle. About 69% of rickshaw pullers and truck drivers buy sex from commercial sex workers (CSW) and most of them were married. This high-risk behaviour demands for an appropriate and culture sensitive HIV prevention intervention to halt the epidemic in Bangladesh.

Considering the situation, BRAC has initiated HIV prevention activities since late 1990s through conducting studies on HIV/AIDS awareness in Matlab. Such studies show a very little proportion of rural people knew about AIDS and a few proportion of them knew about its prevention (Fulton 1996; Nasreen 1997). In response to that, BRAC Research and Evaluation Division developed and tested a low cost and culture-sensitive HIV/AIDS awareness module which was delivered to couples in Matlab through its grassroots network of women's credit and development groups, and to adolescents through youth clubs and BRAC school (Nasreen 1998). After piloting the module in Mirzapur and Tangail districts in 2000 for scaling-up, BRAC in 2002, undertook a 4-year HIV/AIDS prevention programme in four other districts targeting the high-risk and general populations. In mid 2005, the programme felt a need for an evaluation to see the targeted effects according to the given timeline in relation to the process and resource invested.

BRAC HIV/AIDS EDUCATION PROGRAMME

The community-based HIV/AIDS education programme was initiated in 2002 to increase awareness of HIV/AIDS among community people including adults and adolescents, internal migrants, drug-users and brothel-based CSWs. The programme targets 7.4 million people from

Khulna, Madaripur, Jamalpur and Faridpur with support from SIDA through the government of Bangladesh. The SIDA-funded programme has five main approaches encompassing the whole cycle of preventing HIV transmission from high-risk to general population through bridging community. The five components include 1) mass awareness of HIV/AIDS in the community including couple education, 2) awareness raising among adolescents in secondary schools as well as in the community, 3) preventing HIV and AIDS among the high-risk populations comprising brothel-based CSWs and drug-users, 4) preventing HIV among internal migrants, such as transport workers, and 5) supporting to the people living with HIV/AIDS (PLWHA).

The programme for adults

The programme addresses both BRAC members and non-members in the community. BRAC provided training to 1,524 programme organizers (PO), and 2,300 community health workers (CHW), who in turn, disseminate information among community people on the basics of HIV/AIDS. The CHWs educate community people through one-to-one contact while visiting households. They specifically relay the information to married couples. The POs conduct group meetings, identify RTI and STI patients and refer them to the BRAC Health Centres (BHC) or the GOB health facilities. The popular theater and video show on HIV/AIDS act as reinforcement tools for awareness raising.

The programme for adolescents

Considering the risky behaviour of adolescents (Haider *et al.* 1997; Nasreen 2001; Bosch 2001), the programme targets both out of school and secondary school (class VIII – X) adolescent boys and girls in the community. The two trained teachers, one male and one female, are responsible to provide information on the basics of HIV and AIDS to the students in the classrooms. Each student would get orientation twice a year. Personal hygiene inquiries along with other questions regarding their reproductive and sexual health are a part of discussion as well. The questions can be asked anonymously through a question box.

Gonokendra and *Kishori pathagars* of BRAC Education Programme are used to reach the community based adolescents. Both groups use flipcharts, booklets, and videos as BCC materials.

The programme for commercial sex workers

The programme targets brothel-based sex workers aimed to empower them to reduce risks and vulnerabilities through enhancing safer sex practices. In Asia, the sex workers in Bangladesh have the greatest turnover rate of clients per day, and the lowest condom usage rate. The official data suggest that each brothel-based sex worker sees on average five to six clients per day. In reality the number is closer to about nine or ten. This seemed to be highly risky because of their wide sexual network can easily spread the infection to the rest of the country's population. BRAC initiated the HIV/AIDS awareness programme for the CSWs through group formation of 15-20 members in each. BRAC's trained *Shasthya Shebikas* (SS) and trained volunteers from the group are responsible to educate them on HIV and AIDS and condom promotion for safer sex practices. The empowerment programme include mobilization, savings and consumption loan activities to support their livelihood during the lean and crisis period. BRAC frontline workers and volunteers contacted with the CSWs through group meetings and one-to-one contacts. Condom demonstrations are done by the SSs to relay the correct usage of condoms. The volunteers also distribute condoms and keep track of how many are being used by the sex workers. Good personal hygiene practices are also taught. Moreover, limited curative services for 10 general diseases are provided through trained SSs. The medical officers identify and treat the cases of RTI and STI through syndromic diagnosis and management, and if necessary refer the cases to the BHCs, government health facilities and/or NGO clinics.

The programme for the transport workers (bus, truck and launch drivers and helpers)

As the transport workers are the potential clients of commercial sex, the programme targets them to reduce the risk of spread from sex workers to general population. Most of these transport workers are practicing unsafe sex due to lacking knowledge and unavailability of condom at proper time and place. As part of the awareness raising component, the trained male POs provide them education on the HIV, AIDS and STIs once in a month. Flipcharts and video show are used as IEC materials. The POs also distribute condom among the transport workers at a reasonable price according to the individual needs. Condom demonstration and counseling on safer sex practices are done to relay them the correct use of condom. Moreover, BRAC POs identify and refer STI cases to BHCs or government health facilities.

BRAC has been operating the programme for the last 3 years. Following the system analysis framework, the programme at present needs an evaluation to measure the effects for policy implications.

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. Assess the basic knowledge on HIV, AIDS and STI among target populations, whether 50% of them know about the issues including modes of transmission and prevention;
2. Assess the competence of health providers regarding their knowledge on the issues, STI case identification, referral and condom promotion;
3. Examine the source of information;
4. Determine the condom-use rate whether increased by 15% among brothel-based CSWs;
5. Estimate the prevalence of STIs;
6. Investigate treatment-seeking behaviour of STI patients, whether 40% of identified cases had been treated by the programme;
7. Identify barriers in providing quality services;
8. Appraise clients' satisfaction on the services.

METHODOLOGY

STUDY DESIGN

This is a cross-sectional evaluation study. Exposure is defined as the general population includes adults and adolescents, and high-risk population includes brothel-based sex workers who are getting inputs from the BRAC HIV/AIDS programme. Through this study it is possible to find out the extent of meeting the expected outcomes at the middle of the programme period.

STUDY AREA

The Community-based HIV/AIDS Education Programme of BRAC is being implemented in four districts including Khulna, Madaripur, Jamalpur, and Faridpur. These are rural areas as well as high-risk groups of population in those districts. There are brothels, substance abusers, and bus, truck and launch terminals which introduces targeted internal migrant population. Moreover, few NGOs are working with the high-risk populations in these areas.

Another key factor in choosing the study area was that the presence of BRAC's other core programmes in those districts. This is an important aspect when choosing a study area, because the study population has already been introduced to BRAC and its work. Thus, a sense of trust has already been established within the community regarding BRAC. However, the study was conducted in randomly selected Faridpur and Khulna districts of Dhaka and Khulna divisions.

STUDY POPULATION

The programme is targeting 7.4 million people in the four rural districts. These areas have a good representation of the target groups of the programme. This midterm evaluation addresses the community based population, adolescents from schools and the community, internal migrants including bus/truck drivers-helpers, and high-risk populations include commercial sex workers.

Knowledge of HIV/AIDS depends on many factors, such as education levels, socioeconomic status, marital status, place of residence, occupation, etc. Data suggest that there is a difference between population living in rural and urban settings. Of those living in a rural environment, only 60% of the women and 78% of the men have heard of HIV/AIDS. Whereas those in an urban environment 82% of the women and 93% of the men have heard of HIV/AIDS. In this particular programme, the target areas are rural, thus, about 50% of the women have not even heard of HIV/AIDS. Those who are unmarried have more knowledge about HIV/AIDS. The greater the education the wealthier one is, also generally corresponds with a greater knowledge and perception of HIV/AIDS. The individuals who fall under the 20-24-age range have the greatest knowledge on the matter than any other group (BDHS 2004).

The average literacy rate varied from 33-37% in Faridpur and Khulna with a substantial sex differentiation. Men have the higher literacy rate than women. The majority of the study population is Muslim. Like other rural area, the majority of the study population is poor and their main occupation is agriculture (Banglapaedia).

SAMPLING

The study was conducted in two districts of Dhaka and Khulna divisions. The study follows the cross-sectional sampling methods. The sample size of each group depends upon the target specific population distribution in each division. A total of 4,320¹ respondents were sampled including 1,560 adults, 1,360 adolescents, 290 bus drivers/helpers, 290 truck drivers/helpers, 430 CSWs and 160 health providers.

DATA COLLECTION

A structured questionnaire was developed that will encompass socioeconomic status (SES) of the respondents, their basic knowledge on HIV, AIDS and STI, STI prevalence, treatment-seeking behaviour, condom promotion and usage. The questionnaire was thoroughly pre-tested, modified and edited on the basis of feedback received before finalization.

DATA ANALYSIS

The data were analyzed using SPSS version 11 statistical package. Analysis was done in two stages. Firstly, bi-variate analysis was done to see the population-wise variances with regard to the expected outcome of the programme. Secondly, the data were compared with the baseline survey data to see the effect of the programme.

¹ The sample size for the survey will be determined using formula of the cross-sectional descriptive study. The sample size $n_0 = (Z_a + Z_b)pq/a^2$ or $n = n_0/1 + n_0/N$. Studies have shown that about 60% of general population (women) (BDHS, 2004), 30% of unmarried boys (unicef, 2002), 90% of bus-truck drivers, 86% of construction workers and 80% of CSW (BRAC 2003) and 95% health providers knew about HIV/AIDS. We considered the level of significance $Z_a = 90\%$, power $Z_b = 80\%$, admissible error $a = 5\%$, and non-response rate is 5%. Accordingly the sample size for adult men is 390, adult women is 390, adolescent boys is 340, adolescent girls is 340, bus driver/helpers is 145, truck driver/helpers is 145, construction workers is 195, CSWs is 215 and health providers are 80. Therefore the total sample size from the two districts would be $(2,240 \times 2) = 4,480$.

RESULTS

RESPONDENTS' SOCIO-DEMOGRAPHIC PROFILE

Characteristics of respondents

In this evaluation study, six different types of populations were surveyed, e.g. community adult, student, CSW, bus driver/helper, truck driver/helper, and health provider. CSWs, health providers and about half of community people and students were female. The mean age of community adults, students, CSWs, bus drivers/helpers, truck drivers/helpers and health providers were respectively around 31, 15, 27, 28, 31 and 36 years (Table 1). In our sample, the most CSWs were from BRAC eligible households. Almost all men among community people were involved in some income generating activities. Their main occupation was farming, wage labour and small entrepreneur. In contrast, most community women were housewives. A very small proportion of them were involved with some micro-credit programme, such as poultry rearing, livestock, vegetable, sericulture, and fisheries programme.

The majority of the respondents had some level of education. CSWs have had the lowest level of education compared to other groups. About two-third of the respondents had secondary level of education (6-10 years) and one-third had 1-5 years of schooling. The highest mean years of education was found among students (5.9 years) while the lowest was for truck drivers/helpers (3.8 years).

Except CSWs, the majority of the household head in all categories of respondents were male. About one-third of the community people and CSWs were the members of BRAC. The majority of the respondents were married, however, the proportion was higher among community people. Almost all of the students and majority of CSWs were unmarried. However, the higher frequency of widowed/divorced/separated was found among sex workers. Almost all respondents were Muslim (Table 1).

KNOWLEDGE ON HIV AND AIDS

Respondents were asked whether or not they had heard about HIV/AIDS. Of the total 4,055, about 99% (4,023) had heard about HIV. About 1% respondents could not answer the question and were excluded from further questioning.

Most respondents in all categories had heard of HIV and AIDS. The universal level of knowledge was observed among students, CSWs, bus/truck drivers and their helpers. The results further suggest that there were significant differences of the four categories of population with community adults in this awareness (Table 2).

Table 1. Respondents' socioeconomic profile

	Community people (%)	Students (%)	CSW (%)	Bus drivers/ helpers (%)	Truck drivers/ helpers (%)	Health providers (%)
Age						
Mean age	30.72	14.65	26.74	28.26	31.06	35.67
	30.73 (M)	14.78 (M)				
	30.71 (F)	14.51 (F)				
Sex						
Male	787 (51.0)	685 (50.7)	-	285 (100.0)	193 (100.0)	-
Female	755 (49.0)	666 (49.3)	424 (100.0)	-	-	195 (100.0)
Religion						
Muslim	1399 (90.7)	1117 (82.7)	409 (96.5)	266 (93.0)	283 (96.6)	138 (86.8)
Non-muslim	143 (9.3)	234 (17.3)	15 (3.5)	20 (7.0)	10 (3.4)	21 (13.2)
Marital status						
Unmarried	301 (19.5)	1338 (99.0)	164 (38.7)	121 (42.3)	94 (32.1)	5 (3.1)
Married	1201 (77.9)	13 (1.0)	81 (19.1)	165 (57.7)	199 (67.9)	119 (74.8)
Divorced	11 (0.7)	-	75 (17.7)	-	-	6 (3.8)
Separated	10 (0.6)	-	86 (20.3)	-	-	9 (5.7)
Widowed	19 (1.2)	-	18 (4.2)	-	-	20 (12.6)
Household head						
Female	142 (9.2)	151 (11.2)	410 (96.7)	10 (3.5)	2 (0.7)	49 (30.8)
Male	1400 (90.8)	1200 (88.8)	14 (3.3)	276 (96.5)	291 (99.3)	110 (69.2)
BRAC member	500 (32.4)	153 (11.3)	134 (31.6)	38 (13.3)	45 (15.4)	129 (81.1)
BRAC eligible	616 (39.9)	230 (17.0)	395 (93.2)	70 (24.5)	96 (32.8)	77 (48.4)
Education						
Illiterate	454 (29.4)	-	271 (63.9)	50 (17.5)	63 (21.5)	30 (18.9)
Primary	420 (38.6)	38 (2.8)	101 (66.0)	87 (36.9)	101 (43.9)	52 (40.3)
Secondary (6-10)	530 (48.7)	131 (97.1)	49 (32.0)	146 (61.9)	128 (55.7)	71 (55.0)
SSC+	125 (11.5)	1 (0.1)	-	3 (1.3)	1 (0.4)	5 (3.9)
Did not attend school	13 (1.2)	-	3 (2.0)	-	-	1 (0.8)
District						
Faridpur	787 (51.0)	685 (50.7)	214 (50.5)	141 (49.3)	148 (50.5)	80 (50.3)
Khulna	756 (49.0)	665 (49.3)	210 (49.5)	145 (50.7)	145 (49.5)	79 (49.7)
Total	1543	1350	424	286	293	159

Table 2. AIDS-aware population among different groups of respondents

	Community (%)	Student (%)	CSW (%)	Bus driver/ helper (%)	Truck driver/ helper (%)
	1	2	3	4	5
Have heard of AIDS	1511 (98.0)	1351 (100.0)	424 (100.0)	285 (99.7)	293 (100.0)
Total valid cases	1542	1351	424	286	293
χ^2 significance	1 vs. 2 = <0.001	2 vs. 3 = na	3 vs. 4 = ns	4 vs. 5 = ns	
	1 vs. 3 = <0.01	2 vs. 4 = ns	3 vs. 5 = na		
	1 vs. 4 = <0.05	2 vs. 5 = na			
	1 vs. 5 = <0.05				

A comparative analysis of this awareness was also done between baseline and mid-term evaluation. A significant difference was observed between mid-term and baseline survey among community people, and bus and truck drivers/helpers (Table 3).

Table 3. Respondents who have heard of HIV/AIDS during baseline and mid-term evaluation

	Baseline (%)	Mid-term evaluation (%)	χ^2 significance
Community people	1647 (60.3)	1511 (98.0)	d = 85.68 $P < 0.001$
Students	1189 (97.9)	1351 (100.0)	na
CSW	566 (98.3)	424 (100.0)	na
Bus/truck drivers and helpers	224 (97.0)	578 (99.8)	d = 3.61476 $P < 0.001$

What HIV/AIDS is

Issues regarding perceived idea on the disease were addressed. The most respondents in all categories considered HIV as a disease. About 53% of students deemed HIV as a virus that causes AIDS. However, the majority of respondents in all categories referred AIDS as dangerous and thus a deadly disease (Appendix 1). Most (86.5%) of the respondents mentioned AIDS as an incurable disease. A significantly ($P < 0.001$) higher proportion of respondents (about 51%) said that if anyone infected with HIV, then he/she should not continue the occupational activities with the others.

Regarding the correct knowledge, the highest proportion of students had the correct knowledge on HIV with significant differences with other populations, but not on AIDS. Likewise, a significantly highest level of correct knowledge on AIDS was observed among truck drivers/helpers but not on HIV. Bus drivers/helpers and CSWs had the lowest level of correct knowledge on HIV and AIDS (Table 4).

Spread

Respondents had various views on the mode of transmission of HIV and AIDS though a few proportion said they did not know how one gets AIDS. The majority rightly said that it spreads through sex with HIV infected individuals followed by sharing needles with infected, infected blood transfusion, and infected mother to child. However, a considerable proportion of respondents have had some misconceptions (coded under others) such as, urination in common dirty places, evil wind, insects bite, bad women, sex during menstruation and any sexual acts might play as tools of spreading HIV and AIDS (Appendix 1).

In comparison with the baseline data, respondents' knowledge on HIV transmission had been increased over the period as a result of the intervention.

Table 4 shows the respondents' level of correct knowledge on HIV transmission as 1, 2, 3 or 4. Respondents who had four correct knowledge were considered as complete correct knowledge. A very few proportion of people had the complete correct knowledge. Majority of community adults, truck drivers/helpers and health providers have had two correct knowledge, and students and CSWs had 3 correct knowledge.

Non-transmission

Though the knowledge on non-transmission was slightly increased during midterm evaluation compared to the baseline survey, the level of knowledge regarding how HIV is not transmitted still found lower among respondents compared to the modes of transmission. Around 16-28% of the community people, bus and truck drivers and helpers had no idea that usual social interactions (sharing bed, eating together, shaking hands, etc.) are in no way related to HIV transmission. Around 25-44% of the community people, bus and truck drivers and helpers had two correct knowledge on HIV non-transmission. Approximately 27-29% of students and CSWs had three correct knowledge on the issue (Table 4).

Prevention

Like transmission and non-transmission, the majority of community people, bus and truck drivers and helpers have had two correct knowledge on HIV prevention, and the students and CSWs had three correct knowledge (Table 4). Knowledge on prevention in some aspects was also increased over time as a result of intervention.

It is to be noted that the community people had proportionately the lowest knowledge level in all respects compared to the other groups.

Table 4. Aware respondents' correct knowledge on HIV and AIDS

	Community (%)	Student (%)	CSW (%)	Bus driver/ helper (%)	Truck driver/ helper (%)
	1	2	3	4	5
What HIV is	172 (11.4)	514 (38.0)	51 (12.0)	9 (3.2)	48 (16.4)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = ns 1 vs. 4 = <0.001 1 vs. 5 = <0.05	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = ns	4 vs. 5 = <0.001	
What AIDS is	378 (25.0)	230 (17.0)	48 (11.3)	54 (18.9)	108 (36.9)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = <0.05 1 vs. 5 = <0.001	2 vs. 3 = <0.01 2 vs. 4 = ns 2 vs. 5 = <0.001	3 vs. 4 = <0.01 3 vs. 5 = <0.001	4 vs. 5 = <0.001	
How HIV transmits					
1 correct knowledge	415 (26.9)	90 (6.7)	71 (16.7)	67 (23.4)	61 (20.8)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = <0.05	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.05 3 vs. 5 = ns	4 vs. 5 = ns	
2 correct knowledge	561 (36.4)	474 (35.1)	91 (21.5)	155 (54.2)	168 (57.3)
χ^2 significance	1 vs. 2 = ns 1 vs. 3 = <0.001 1 vs. 4 = <0.001 1 vs. 5 = <0.001	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	
3 correct knowledge	345 (22.4)	563 (41.7)	183 (43.2)	59 (20.6)	58 (19.8)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = ns	2 vs. 3 = ns 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	
4 correct knowledge	62 (4.0)	206 (15.2)	75 (17.7)	2 (0.7)	1 (0.3)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = <0.01 1 vs. 5 = <0.01	2 vs. 3 = ns 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	
How HIV does not transmit					
1 correct knowledge	190 (12.3)	66 (4.9)	21 (5.0)	30 (10.5)	18 (6.1)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = <0.01	2 vs. 3 = ns 2 vs. 4 = <0.001 2 vs. 5 = ns	3 vs. 4 = <0.05 3 vs. 5 = ns	4 vs. 5 = ns	
2 correct knowledge	418 (27.1)	349 (25.9)	92 (21.7)	72 (25.2)	130 (44.4)
χ^2 significance	1 vs. 2 = ns 1 vs. 3 = <0.05 1 vs. 4 = ns 1 vs. 5 = <0.001	2 vs. 3 = ns 2 vs. 4 = ns 2 vs. 5 = <0.001	3 vs. 4 = ns 3 vs. 5 = <0.001	4 vs. 5 = <0.001	
3 correct knowledge	198 (12.8)	359 (26.6)	122 (28.8)	39 (13.6)	74 (25.3)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = <0.001	2 vs. 3 = ns 2 vs. 4 = <0.001 2 vs. 5 = ns	3 vs. 4 = <0.001 3 vs. 5 = ns	4 vs. 5 = <0.01	
How to prevent AIDS					
1 correct knowledge	444 (28.8)	165 (12.2)	113 (26.7)	62 (21.7)	74 (25.3)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = ns 1 vs. 4 = <0.05 1 vs. 5 = ns	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.01	3 vs. 4 = ns 3 vs. 5 = ns	4 vs. 5 = ns	
2 correct knowledge	537 (34.8)	563 (41.7)	114 (26.9)	160 (55.9)	168 (57.3)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.01 1 vs. 4 = <0.001 1 vs. 5 = <0.001	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	
3 correct knowledge	19.4 (22.4)	581 (43.0)	195 (46.0)	53 (18.5)	36 (12.3)
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = ns	2 vs. 3 = ns 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = <0.05	
Total valid cases	1511	1351	424	285	293

Source of information

Majority of AIDS-aware population got information from TV (72%) followed by BRAC (52%). CSWs mentioned BRAC (94%) followed by other NGOs (68%) as the main source of information. Students were getting information primarily from TV, and secondarily from BRAC and school. A substantial proportion of community people and bus drivers also mentioned interpersonal communication with neighbours, relatives and friends as an important mean of HIV information. Radio was also an important media of HIV information for community people, health providers, bus and truck drivers/helpers. A considerable proportion of bus drivers/helpers, students, community people and truck drivers/helpers mentioned poster, leaflet, signboard, flipchart and video as the important media of HIV information (Table 5).

Table 5. Source of HIV information

	BRAC (%)	Radio (%)	TV (%)	Relatives/ friends/ neighbours (%)	School (%)	Other NGOs (%)	Others (%)
Community	459 (30.4)	327 (21.6)	1235 (81.7)	345 (22.8)	-	85 (5.6)	357 (23.6)
Students	836 (61.9)	185 (13.7)	1037 (76.8)	124 (9.2)	703 (52.1)	90 (6.7)	400 (29.6)
CSWs	398 (93.9)	34 (8.0)	87 (20.5)	17 (4.0)	-	286 (67.5)	5 (1.2)
Bus drivers/helpers	81 (28.4)	47 (16.5)	247 (86.7)	78 (27.4)	-	21 (7.4)	98 (34.4)
Truck drivers/helpers	169 (57.7)	51 (17.4)	197 (67.2)	28 (9.6)	-	26 (8.9)	63 (21.5)
Health providers	158 (99.4)	41 (25.8)	104 (65.4)	11 (6.9)	-	3 (1.9)	11 (6.9)

Total valid cases 4,023; Multiple answers considered

KNOWLEDGE ON STI

Respondents were asked whether they heard about STIs. Respondents who had heard about this disease are henceforth termed 'STI-aware'. Significant differences in STI awareness were observed among different target population, such as community people, students, sex workers and transport workers. This knowledge was somewhat similar among transport workers.

Table 6. STI-aware population among different groups of respondents

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
	1	2	3	4	5
Have heard of STI	1242 (80.5)	1050 (77.8)	406 (95.8)	249 (87.1)	252 (86.0)
Total valid cases	1542	1351	424	286	293
χ^2 significance	1 vs. 2 = ns 1 vs. 3 = <0.001 1 vs. 4 = <0.01 1 vs. 5 = <0.001	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.01	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	

Respondents' basic knowledge was then measured by their ability to name of STIs they knew. This is strictly a measure of recognition rather than a measure of knowledge in details. Respondents could name only two to three diseases. Majority of respondents from each category could name gonorrhoea, syphilis, genital ulcer, and urinary incontinence as STIs. A substantial proportion of students were not able to name of any STIs.

Table 7. List of diseases cited by the aware respondents (Do not know is not included in the calculation of the mean number of diseases)

Diseases	Community	Students	CSWs	Bus drivers/ helpers	Truck drivers/ helpers
Gonorrhoea	487 (39.2)	215 (20.5)	276 (68.0)	145 (58.2)	134 (53.2)
Syphilis	530 (42.7)	281 (26.8)	299 (73.6)	186 (74.7)	159 (63.1)
Genital ulcer	574 (46.2)	410 (39.0)	211 (52.0)	65 (26.1)	119 (47.2)
Urinary incontinence	429 (34.5)	352 (33.5)	119 (29.3)	80 (32.1)	82 (32.5)
Lower abdominal pain	158 (12.7)	145 (13.8)	67 (16.5)	10 (4.0)	31 (12.3)
Vaginal/urethral discharge	199 (16.0)	162 (15.4)	104 (25.6)	8 (3.2)	3 (1.2)
Others	236 (19.0)	190 (18.1)	162 (39.9)	22 (8.8)	14 (5.6)
Do not know	60 (4.8)	197 (18.8)	6 (1.5)	10 (4.0)	3 (1.2)
Total no. of diseases	2,613	1,755	1,238	516	542
N	1242	1050	406	249	252
Mean disease	2.1	1.7	3.0	2.1	2.2

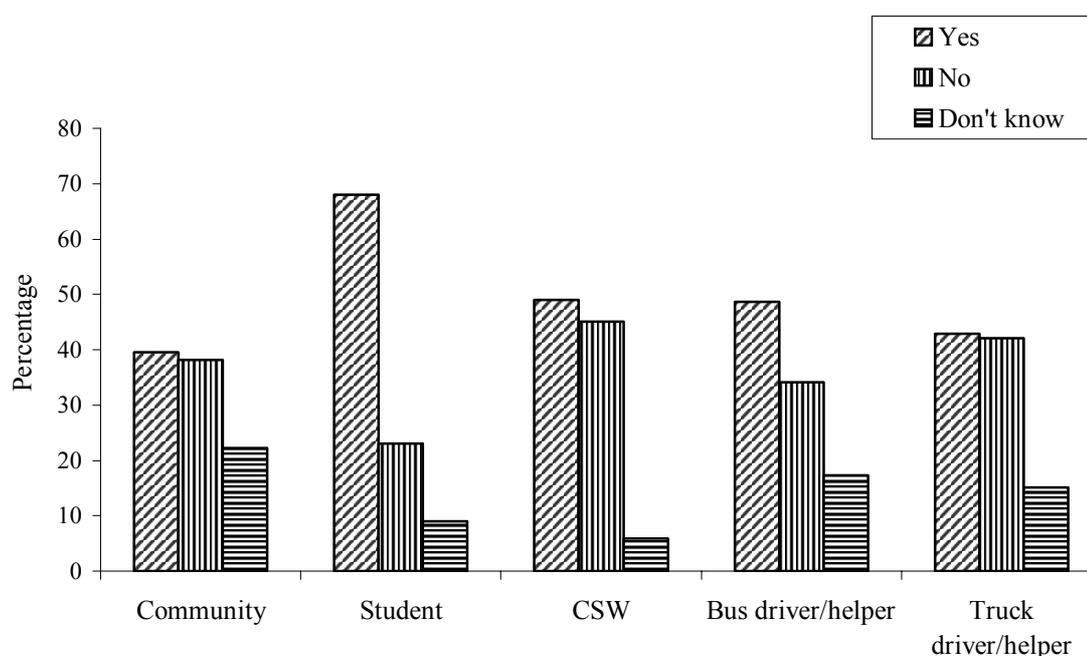
Multiple answers considered

Relationship between AIDS and STDs

The community people had the lowest knowledge about the relationship between STI and AIDS. The highest level of awareness on this issue was observed among students. Nearly half of the CSWs and bus drivers/helpers were aware about the relationship between these two diseases. Nearly 14% of the respondents irrespective of any category did not know about the relationship between STI and AIDS (Fig. 1).

More than 80% of the respondents in all categories who mentioned about relationship between STI and AIDS stated that if any one had STIs then (s)he had more chance to get infected by HIV.

Figure 1. Respondents' knowledge on the relationship between STI and AIDS



Prevention of sexually transmitted infections (STI)

The universal proportion of sex workers, around two-third of transport workers and community people, and about half of the students said that safer sex practice help prevent the spread of STIs. What they mean by safer sex practice is use of condom to prevent the disease rather than conception. The comparable figure for the safe sex practice was lower for the students. A considerable proportion of the respondents from different subgroups except CSWs said, ‘Avoid multiple sex’ could help prevent the disease. A considerable proportion of the students (14%) considered cleanliness as a tool for STI prevention. Approximately 14-16% of the community people and students did not know anything about the prevention of STIs (Appendix 2).

Regardless, a significant difference between the subgroups of study population was found concerning the right knowledge in this respect. CSWs were more aware and students were less aware among different subgroups. People who knew safe sex as means to prevent STIs was being considered as having correct knowledge (Table 8).

Table 8. Respondents’ correct knowledge on STI prevention

	Community (%)	Student (%)	CSW (%)	Bus driver/ helper (%)	Truck driver/ helper (%)
	1	2	3	4	5
Correct knowledge on STI prevention	760 (61.2)	545 (51.9)	392 (96.6)	163 (65.5)	170 (67.5)
Total valid cases	1,242	1,050	406	249	252
χ^2 significance	1 vs. 2 = <0.001 1 vs. 3 = <0.001 1 vs. 4 = ns 1 vs. 5 = ns	2 vs. 3 = <0.001 2 vs. 4 = <0.001 2 vs. 5 = <0.001	3 vs. 4 = <0.001 3 vs. 5 = <0.001	4 vs. 5 = ns	

Source of STI information

The most cited sources of information were television, BRAC, radio, neighbours/friends, school/pathagar, and posters/leaflet/ books. All categories of respondents considered television as the most effective means in reaching or attracting their senses.

Same as the source of HIV information, TV was the main source of STI information. However, most of the CSWs were able to get information from BARC (94%) as well as from other NGOs (59%). The majority of students got information on STIs from TV, BRAC, pathagar, and booklet/leaflet/poster. BRAC was also found to be a major source of information for the truck drivers/helpers. Interpersonal communication with friends, neighbours and radio was also found to be other major sources for the community people. Bus drivers also said book/booklet, leaflet and poster as their major source of STI information (Appendix 3).

DISEASES COMPLAINED BY THE RESPONDENTS DURING LAST THREE MONTHS

Respondents were asked whether or not they had symptom(s) related to infections or problems in the genital organ and/or region during the last three months of the survey. Of the 4,055 respondents, 491 (12.1%) had been suffering from STIs during that period. The highest prevalence was found among the community people and the lowest among truck drivers and helpers (Fig. 2).

Community people, students and CSWs complained of vaginal/urethral discharge followed by lower abdominal pain. Female who complained of vaginal discharge could be of bacterial vaginosis, candidiasis and trichomoniasis. Among transport workers, 86% of truck

drivers/helpers and 48 of bus drivers and helpers were suffering from syphilis. Urinary incontinence was also found to be a prevalent disease among transport workers, community people, and sex workers (Fig. 3).

A considerable proportion of community people, sex workers, bus drivers and helpers complained of symptoms and considered them as STIs, impotency, nocturnal emission, dysmenorrhoea, menorrhagia, prolapse, stone and tumour in genitalia.

Diagnosis of STI

The most STI cases (78%) were identified by patient him/herselves. BRAC SSs identified only 5% of the cases.

Figure 2. Proportion of respondents having STIs during the last three months

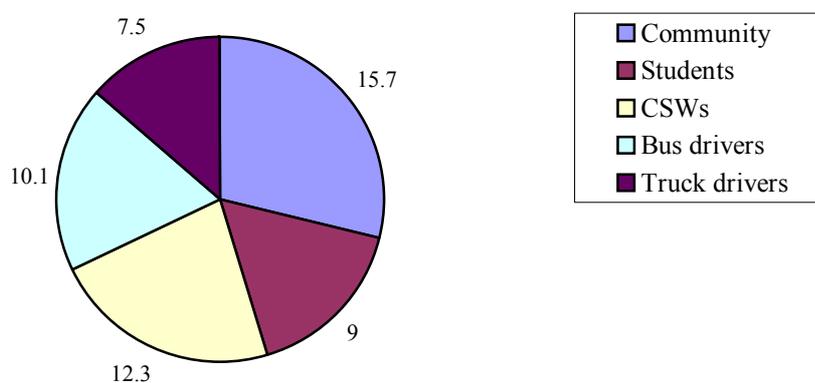
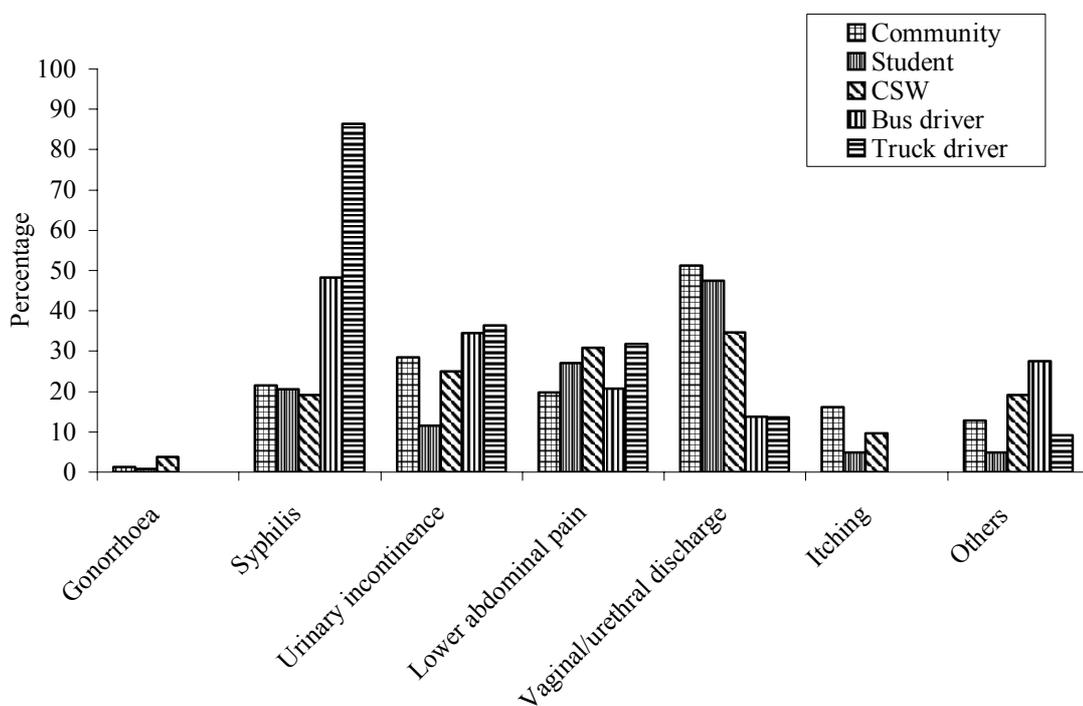


Figure 3. Distribution of STI symptoms among respondents who had STI during the last three months



Health-seeking behaviour

The respondents who suffered from sexual diseases were asked whether they received treatment. Most STI patients received treatment for their problems. This distribution is skewed towards male patients (Table 9).

Table 9. Distribution of respondents by their own and partners' treatment-seeking behaviour

Treatment seeking behaviour	Community (%)	Student (%)	CSW (%)	Bus driver/ helper (%)	Truck driver/ helper (%)
Patients sought treatment	146 (60.3)	52 (42.6)	46 (88.5)	16 (55.2)	18 (81.8)
Partners sought treatment	25 (10.3)	1 (0.8)	1 (1.9)	4 (13.8)	7 (31.8)
Do not know about their partners treatment	10 (4.1)	31 (25.4)	2 (3.8)	9 (31.0)	6 (27.3)
Total valid cases	242	122	52	29	22

A substantial proportion of the respondents who had sexual diseases did not know whether their partners received any treatment. The informal discussion found partners' communication about sexual health problems, such as RTI, STI, pre- and extra-marital sex as a source of serious conflict within their family. A common statement was "*Patients become afraid to discuss their sickness with their partners because of bicker, violence and infidelity.*" A majority of men felt that it was better not to inform their wives about diseases because of fear of quarrel. "*If a man suffer from this kind of disease, it is easy for him to seek treatment from a pharmacist, if he wants to.*" The respondents of all kind did not bother with partners' treatment as well as re-infection as they did not have clear knowledge about the disease cycle. Only a few agreed that both partners should seek treatment together for a better cured.

People and places of seeking treatment

The frequently mentioned people from whom people sought treatment were general practitioners, pharmacists and village doctors. The community people and students usually sought treatment primarily from general practitioners and pharmacists/village doctors respectively. They also sought treatment from traditional/faith healers and homeo doctor. CSWs sought treatment from NGO clinic (non-BRAC), BRAC *shushasthya* and general practitioners. Similarly, the transport workers also received treatment from pharmacists, village doctors, general practitioners, private clinic and traditional healers. The male respondents, transport workers, received treatment proportionately same from medical doctor, pharmacist and traditional healers. A very few proportion of community people, students and bus-truck drivers/ helpers received treatment from NGO clinics (Appendix 4).

SEXUAL BEHAVIOUR

The universal proportions of sex workers have had both pre- and extra-marital sexual relationship with others. The pre- and extra-marital sexual relationship was also common among transport workers. About one third of the community people had experiences on pre-marital sexual relationship. In contrast, only about 3% of students stated about their experiences on pre-marital sexual relationship (Table 10).

The mean number of partners each day by sex workers was 3.5. About 86% of sex workers have had less or equal to 5 partners each day and the rest had more than 5 partners.

Table 10. Respondents' sexual behaviour according to their marital status

	Pre-marital sex (%)	Extra-marital sex (%)
Community	83 (27.6)	133 (10.7)
Students	41 (3.1)	1 (8.3)
CSWs	161 (98.8)	257 (98.8)
Bus drivers/helpers	47 (38.8)	57 (34.5)
Truck drivers/helpers	29 (30.9)	62 (31.2)

N.B. Married respondents were asked about extra-marital sex and the unmarried were asked about pre-marital sexes.

STATUS OF CONDOM-USE

During marital sex

Married respondents were asked whether they use condom everly with their husbands or wives. The ever use of condom was highest for bus drivers/helpers and CSWs. The lowest level of condom-use was found among students (Table 11).

Table 11. Status of condom-use by respondents

	Ever use of condom		Persistent condom-use
	Marital	Non-marital	
Community people	622 (50.1)	151 (69.9)	178 (25.3)
Student	4 (33.3)	10 (23.8)	2 (15.4)
CSW	163 (62.7)	416 (99.3)	395 (93.4)
Bus drivers/helpers	105 (63.6)	69 (66.3)	38 (26.2)
Truck drivers/helpers	97 (48.7)	68 (74.7)	31 (22.0)
χ^2 significance	$P < 0.001$	$P < 0.001$	$P < 0.001$

During pre- and extra- marital sex

The non-marital ever use of condom was also investigated by asking respondents whether they use condom while they have had pre- and extra-marital sex. The universal proportion of CSWs used condom during the non-marital sex. A substantial proportion of community people, bus and truck drivers and helpers used condom while having non-marital sex. The non-marital condom-use rate was found to be very low among students (Table 11).

Frequency of condom-use

Respondents who used condom irrespective of marital status were asked about the frequency. Only four out of 10 respondents reported that they used condom in each of the last three sexual acts. The rest four-fifth used condom occasionally. About 93% of CSWs (who used condom) used condom persistently and the lowest persistent condom-use was found among students (Table 11). Approximately 35% (out of 1,503 respondents) of partners provided objections to use condoms.

Source of condom

Around 56% of respondents who used condom bought condoms from pharmacy followed by BHCs (22%). The majority of community people, students, bus and truck drivers/helpers bought condoms from pharmacy. CSWs bought condom primarily from BHCs (59%) and secondarily from BRAC SSs (35%) and from other NGOs (31%). A substantial proportion of students, bus drivers/helpers and community people bought condom from local shop. Only a negligible proportion of community people got condoms from government health facilities.

RESPONDENTS' SATISFACTION WITH THE SERVICES

Sixty-six % of respondents stated that BRAC SSs visited them regularly to educate them of STI, HIV and AIDS. The highest percentage was found among sex workers and the lowest was among bus drivers/helpers. About 82% of the respondents said that *shasthya shebikas* brought IEC materials while visiting them (Table 12). Community people, students and CSWs mentioned that *shasthya shebika* brought different IEC materials, mainly flip charts. Transport workers, however mentioned primarily about video.

Figure 4. Whether BRAC *Shasthya Shebikas* visit respondents regularly

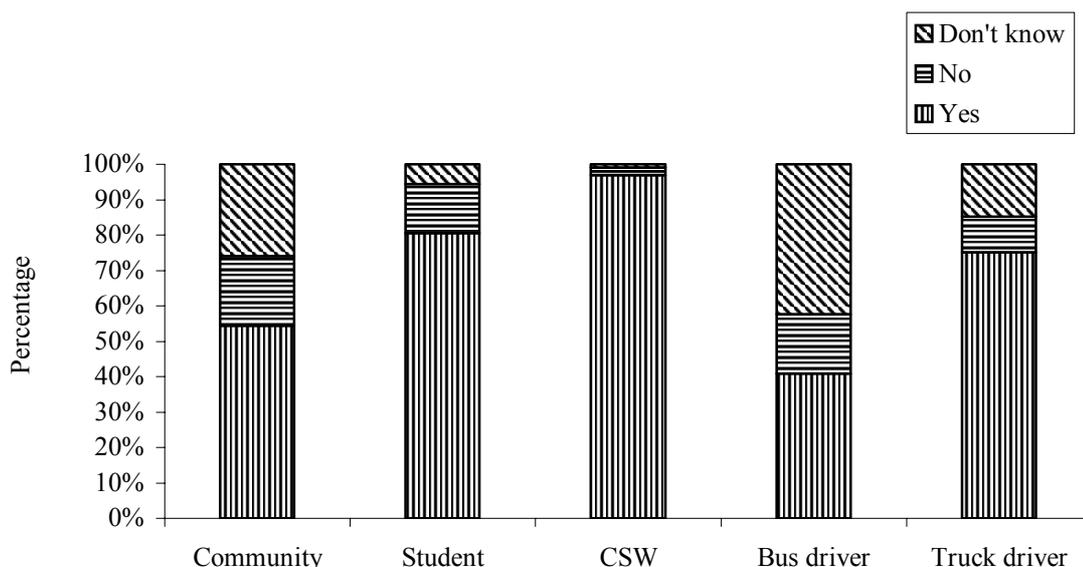


Table 12. List of IEC materials used by *Shasthya Shebikas*

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
Flip chart	355 (49.4)	897 (75.5)	404 (97.6)	31 (26.7)	82 (36.9)
Video	267 (37.2)	394 (33.2)	23 (5.6)	88 (75.9)	180 (81.1)
Leaflet/poster	136 (18.9)	272 (22.9)	67 (16.2)	29 (25.0)	53 (23.9)
Sticker	152 (21.2)	369 (31.1)	106 (25.6)	60 (51.7)	84 (37.8)
Flash card	140 (19.5)	318 (26.8)	45 (10.9)	12 (10.3)	12 (5.4)
Book/booklet	27 (3.8)	132 (11.1)	2 (0.5)	2 (1.7)	-
Penile model	-	-	126 (30.4)	-	-
Others	43 (6.0)	28 (2.4)	4 (1.0)	1 (0.9)	3 (1.4)

About 79% of respondents said that they could discuss about their problems if they have any sexual and reproductive health related problems. Most of the respondents (77%) also mentioned about counseling provided by the SSs regarding appropriate places and people for seeking treatment if they shared their problems. Almost all of the CSWs could share about their problems with *shasthya shebika* and the lowest percentage was found among bus drivers/helpers. Seventy-three percentage of respondents stated that SS told them to use condom, though only 34% of them mentioned about the condom demonstration. Most respondents expressed their satisfaction with the services provided by the SS with the suggestions of some improvement, such as services should be free, available and friendly, confidentiality should be maintained, medical doctor should be available, and services centres/clinics or *shushasthya* should not be far from their place of inhabitants, etc.

PROVIDERS' KNOWLEDGE ON THE STI, HIV AND AIDS

Almost all SSs had heard about HIV and AIDS and about 97% had heard about STIs. However, only 31% of them rightly mentioned that HIV is a virus that causes AIDS and 16% correctly said that AIDS is a deadly disease. Almost all of them knew that AIDS is an incurable disease. About 49% of SSs knew four or complete correct knowledge on HIV transmission and about 41% had three correct knowledge. Interestingly, the knowledge of the health providers regarding the way by which HIV is not transmitted was proportionately low. About 16-25% of *shasthya shebika* knew correctly vis-à-vis 4-7 categories of ways of non-transmission. Presumably, knowledge on prevention of HIV/AIDS was much higher. Seventy-two percent of *shasthya shebika* knew about three categories of correct ways of HIV prevention, and 12-15% of them was acquainted with 1-2 types of means of HIV prevention. Eighty-one percent of *shasthya shebika* knew that STI increases the risk of HIV transmission. All *shasthya shebika* got information on HIV from BRAC as well from TV (65%) and radio (26%).

About 97% of *shasthya shebika* had heard of STI. They could name genital ulcer, urinary incontinence, vaginal/urethral discharge, lower abdominal pain, syphilis, gonorrhoea, etc. Nearly 79% of them knew rightly about the prevention of STI.

DISCUSSION AND RECOMMENDATION

This paper evaluate the effects of community-based HIV/AIDS education programme of BRAC at the mid of the programme aimed for policy implication through re-visiting the design and delivery of the intervention. One of the major limitations of this study is that all variables for the mid-term evaluation were not included in the baseline data. Therefore, some data of the mid-term evaluation may only be compared with the data of the expected outcome of the proposed project, as this evaluation design does not include any control area.

The study has followed the WHO's clinical flowchart in detecting cases in the community and found 12% of target population have had STIs in the study area. The protocol based on symptoms cannot identify and treat asymptomatic cases, which indicate some underestimation of the magnitude of the problem in the study area. Referring statement above, it is evident that syndromic approach may cause either overestimate or underestimate the situation. To get accurate estimate, laboratory investigation is necessary. However, lack of accurate and affordable diagnostic tests would hinder effective STI control in low resource settings, where WHO and other health agencies have promoted the use of syndromic STI diagnosis and management as a cost-effective means (Vulysteke and Mehus 1995; UNAIDS 1998). Nevertheless, there is a debate about the effectiveness of this approach. To improve the effectiveness, WHO proposed to add risk assessment component. Risk assessment uses socio-economic, demographic, clinical and behavioural indicators to predict which clients are at the risk of STI and HIV infection which can be varied according to local circumstances. Considering the importance of risk assessment in the resource poor setting, this study also has addressed the status of probable risk factors as a result of interention in the study area associated with STI, HIV infection, and AIDS.

PROGRAMMATIC ACHIEVEMENT

Comparing the evaluation data with the programmatic expected outcome indicators, it is evident that the programme has achieved success in the behavioural aspects of high risk populations, such as, in the area of increased condom compliance and in treatment seeking behaviour. One important limitation of the data is that the measurement of the condom-use rate is based on respondents' verbal statement and not directly from the process observation. Therefore, it is likely to be over reporting and under reporting depends upon categories of populations.

Condom-use rate is increased among brothel based sex workers, not among transport workers, general populations and adolescents. However, the study findings revealed the evidence of pre- and extra-marital sexes among the other sub-groups of study populations, which is the only factor to increase the risk of HIV epidemic in Bangladesh. The men who did have sexual relations pre- and outside marriage, it was with the sex workers (Caldwell 1999). In order for the epidemic to be beaten, a comprehensive view needs to be undertaken. In Thailand a 100% condom approach was adapted in the brothels, where a condom had to be used by the sex workers. In Cambodia, there has been public information campaigns to avoid risky behaviour amongst the adolescents, tackled stigmatization with HIV infected individuals, encouraged men to use condom while buying sex. Rapid rises of condom-use in commercial sex in Cambodia is significantly associated with decrease in HIV infection among sex workers as well as among their clients (Stanecki 2004). Taking experiences from Thailand, Cambodia and India, in Bangladesh to keep the epidemic low, it needs to take different appropriate condom promotion strategies according to the sub-type of target populations.

Comparative figures of different indicators between mid-term evaluation and expected outcome of the programme

Indicators	Midterm evaluation	Expected outcome by 2005
Awareness raising among community people on HIV/AIDS		
HIV transmission	4.0%	50%
HIV prevention	22.4%	50%
STI prevention	49.3%	50%
Awareness raising among students on HIV/AIDS		
HIV transmission	15.2%	50%
HIV prevention	43.0%	50%
STI prevention	40.2%	50%
Increase condom compliance		
Sex workers	93.0%	15%
Bus drivers/helpers	22.0%	15%
Truck drivers/helpers	26.0%	15%
Treatment STI cases		
Sex workers	88.5%	60%
Bus drivers	55.2%	60%
Truck drivers	81.8%	60%

The programme has achieved a great success in patients' treatment seeking behaviour as most STI cases have received treatment for their illnesses. However, considering culture of silence and stigma, the most patients received treatment either from pharmacists or village doctors, or from traditional or faith healers. Except commercial sex workers, a very few proportion of other populations received treatment from BHCs, other NGO clinic or qualified practitioners. Considering experiences of another operations research in Matlab (Nasreen *et al.* 2000), it is necessary to involve the non-formal health practitioners with the programme as counselors or health educators in order to promote user-friendly health services at the community level. As STI is a co-factor of HIV infection, it is essential to have effective control of STI infection at the study area since a considerable proportion of study population have been suffering from different STIs.

The findings also showed that respondents' correct knowledge on HIV, AIDS or STI was still at lower level compared to the expected level by 2005. Despite the fact that the comparative analysis with the baseline survey have shown an positive changes overtime regarding the knowledge level as a result of intervention. Moreover they bore some misconceptions. Considering the situation, the intervention strategies need to be revisited through different approaches for different target populations. The intervention component should include promoting effective and correct knowledge on the issues; promoting safer sex practices; identification, treatment and referral of complicated STI cases; identification of suspected HIV positive cases; and provide the suspected HIV cases voluntary testing and counseling (VCT) and support services. Moreover, an effective referral networks needs to be developed with the concerned other organizations.

The evaluation findings revealed that the community health workers have had very low level of correct knowledge regarding HIV/AIDS, STI and the relationship between them, which requires a greater attention to the providers' training component of the input of programme development. The regular monthly/quarterly refreshers training need to be included. A regular follow-up and monitoring system should have to be an integral part of the programme.

In conclusion, as the programme is currently half way through its four-year course, this evaluation would provide programme planners about how the programme is fairing, and to see if its goals and targets are being met. A midterm evaluation will be able to give the continuing feedback that is required to run a programme successfully. With the feedback, adjustments can be made to the programme for the remainder of its activities.

ENVISAGED INTERVENTION

Considering differences in all level of life-stages of different target populations, different intervention strategies need to be introduced with or without little variances in programme activities. The suggested intervention strategies are as follows:

1. Community based intervention: The existent door step service delivery approach should include couple education approach, condom demonstration & distribution, suspected STI and HIV infected cases identification and referral, counseling, and follow-up. The trained community health workers should have very close interactions with the clients. Each client should receive IEC once in a month initially and then quarterly. BRAC health center should be health facilities of both community adults and adolescents.
2. Interventions for adolescents: Besides school and pathagar based approach, peer education approach requires to be introduced as worldwide peer education is one of the most deliberated and widely used strategies to address HIV/AIDS and its associated causes among some population including adolescents (Stevens, 1997). A cadre of peers needs to be selected, trained and developed both at the school and at the community level. Moreover, boys and *kishori* clubs at the community level are to be involved as an intervention tool with existent service delivery process.
3. Interventions for the transport workers: Both peer model and drop-in-centre (DIC) based approaches need to introduced to address effectively the targeted transport workers. It is essential to set up drop-in centres (DiC) near to or within the concentrated pockets of transport workers. The DiC should encompass peer education, basic STI curative services and referral of complicated STIs, condom promotion, STI or HIV counseling, partners' treatment, identification and VCT for suspected HIV infections, and follow-up.
4. Interventions for the brothel based sex workers: DiC based approach needs to be introduced for the brothel based sex workers. The DiC should include not only the above said clinical and prevention service facilities, but also resting, bathing, recreational facilities. The recreational facilities should include TV/video show, getting dressed, audio facilities etc.
5. To have an enabling environment for the programme, involvement and sensitizing of stakeholders at international, national and local level would be the common component for all strategies.
6. In order to make the friendly health services, the respondents suggested for:
 - a. Services should be free, available and friendly,
 - b. Confidentiality should be maintained,
 - c. Medical doctor should be available, and
 - d. DiCs/clinics or *shushasthya* should not be far from their place of inhabitants.

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Appendix

Appendix 1

Knowledge of 'AIDS-aware' population on HIV and AIDS

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
What HIV is					
A virus that causes AIDS	261 (17.3)	714 (52.8)	81 (19.1)	32 (11.2)	64 (21.8)
A disease	865 (57.2)	504 (37.3)	236 (55.7)	208 (73.0)	159 (54.3)
A deadly disease	299 (19.8)	382 (28.3)	124 (29.2)	72 (25.3)	56 (19.1)
Others	38 (2.5)	60 (4.4)	24 (5.7)	1 (0.4)	2 (0.7)
Don't know	324 (21.4)	52 (3.8)	41 (9.7)	28 (9.8)	44 (15.0)
What AIDS is					
A deadly disease	787 (52.1)	782 (57.9)	222 (52.4)	125 (43.9)	166 (56.7)
A dangerous disease	861 (57.0)	931 (68.9)	342 (80.7)	228 (80.0)	167 (57.0)
A virus	67 (4.4)	173 (12.8)	19 (4.5)	9 (3.2)	17 (5.8)
A disease	153 (10.1)	74 (5.5)	25 (5.9)	-	1 (0.3)
Others	57 (3.8)	24 (1.8)	11 (2.6)	1 (0.4)	1 (0.3)
Don't know	56 (3.7)	6 (0.4)	1 (0.2)	-	1 (0.3)
How does HIV transmit					
Sex with HIV infected person	1311 (86.7)	1078 (79.9)	413 (97.4)	267 (93.7)	268 (91.5)
Infected blood transfusion	624 (41.3)	953 (70.6)	299 (70.5)	146 (51.2)	110 (37.5)
Infected mother to child	128 (8.5)	361 (26.7)	106 (25.0)	13 (4.6)	27 (9.2)
Sharing infected needle/syringe	757 (50.1)	1159 (85.9)	284 (67.0)	136 (47.7)	170 (58.0)
Multiple/commercial/unsafe sex	87 (5.8)	132 (9.8)	63 (14.9)	5 (1.8)	4 (1.4)
Others	86 (5.7)	25 (1.9)	11 (2.6)	3 (1.1)	2 (0.7)
Don't know	85 (5.6)	8 (0.6)	-	2 (0.7)	5 (1.7)
How HIV doesn't spread					
Sharing bed	721 (47.7)	1027 (75.3)	332 (78.3)	122 (42.8)	193 (65.9)
Sharing toilet	235 (15.5)	498 (36.9)	166 (39.2)	17 (6.0)	86 (29.4)
Eating in same plate	482 (31.9)	902 (66.8)	318 (75.0)	77 (27.0)	108 (35.5)
Shaking hand	156 (10.3)	314 (23.3)	92 (21.7)	25 (8.8)	24 (8.2)
Coughing/sneezing	69 (4.6)	211 (15.6)	49 (11.6)	7 (2.5)	19 (6.5)
Insect bite	36 (2.4)	150 (11.1)	53 (12.5)	6 (2.1)	10 (3.4)
Bathing in same pond	178 (11.8)	311 (23.0)	58 (13.7)	18 (6.3)	14 (4.8)
Sharing cloths	255 (16.9)	401 (29.7)	114 (26.9)	66 (23.2)	78 (26.6)
Others	556 (36.8)	290 (21.5)	194 (45.8)	73 (25.6)	24 (8.2)
Don't know	279 (18.5)	81 (6.0)	13 (3.1)	79 (27.7)	48 (16.4)
How to prevent AIDS					
Safer sex practice ²	1107 (73.2)	834 (61.8)	419 (98.8)	261 (91.6)	253 (86.3)
Safe blood transfusion ³	535 (35.4)	938 (69.5)	235 (55.4)	124 (43.5)	100 (34.1)
Use of disposable or sterilized syringe/needle	813 (53.8)	1352 (100.1)	333 (78.5)	160 (56.1)	183 (62.5)
Avoid sex with AIDS pt./sex workers/multiple sex	169 (11.2)	129 (9.6)	-	14 (4.9)	13 (4.4)
Others	109 (7.2)	112 (8.3)	5 (1.2)	6 (2.1)	5 (1.7)
Don't know	123 (8.1)	21 (1.6)	2 (0.5)	4 (1.4)	4 (1.4)
Total valid cases	1511	1351	424	285	293

Multiple answers considered

² It refers that use of condom during sex

³ Transfusion of HIV free blood

Appendix 2

Respondents' knowledge on the prevention of sexually transmitted infections

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
Use of condom during sex	760 (61.2)	545 (51.9)	392 (96.6)	163 (65.5)	170 (67.5)
Refrain from multiple sex	384 (30.9)	379 (36.1)	27 (6.7)	128 (51.4)	127 (50.4)
Cleanliness	90 (7.2)	149 (14.2)	34 (8.4)	9 (3.6)	1 (0.4)
Follow doctors' and health providers' advice	46 (3.7)	25 (2.4)	1 (0.2)	1 (0.4)	-
Treatment of STIs	21 (1.7)	5 (0.5)	1 (0.2)	-	-
Self awareness	17 (1.4)	21 (2.0)	3 (0.7)	3 (1.2)	-
Others	62 (5.0)	70 (6.7)	5 (1.2)	6 (2.4)	5 (2.0)
Don't know	169 (13.6)	169 (16.1)	10 (2.5)	11 (4.4)	6 (2.4)
Total valid cases	1242	1050	406	249	252

Total valid cases 3,353; Multiple answers considered

Appendix 3

Source of STI information

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
BRAC	323 (26.0)	551 (52.5)	380 (93.6)	52 (20.9)	110 (43.7)
Radio	303 (24.4)	151 (14.4)	22 (5.4)	44 (17.7)	22 (14.3)
TV	696 (56.0)	571 (54.4)	65 (16.0)	169 (67.9)	60 (39.0)
Booklet/leaflet/poster	197 (15.9)	296 (28.2)	6 (1.5)	80 (32.1)	6 (3.9)
Relatives/neighbours/friends	346 (27.9)	118 (11.2)	16 (3.9)	60 (24.1)	5 (3.2)
Other NGOs	50 (4.0)	40 (3.8)	238 (58.6)	8 (3.2)	16 (6.3)
Hospital/doctors/health providers	54 (4.3)	12 (1.1)	1 (0.2)	2 (0.8)	2 (0.8)
School/pathagar	2 (0.2)	337 (32.1)	-	-	1 (0.4)
Others	47 (3.8)	18 (1.7)	1 (0.2)	24 (9.6)	12 (4.8)
Total valid cases	1242	1050	406	249	252

Appendix 4

Distribution of people and places from whom patients sought treatment

	Community (%)	Student (%)	CSW (%)	Bus driver/helper (%)	Truck driver/helper (%)
Hospital	15.8	11.5	6.5	6.3	16.7
Private clinic	7.5	5.8	-	12.5	55.6
General practitioner	38.4	23.1	26.1	56.3	88.9
NGO clinic	3.4	3.8	52.2	12.5	11.1
Pharmacist/village doctor	24.6	34.6	8.7	62.5	44.4
Traditional/faith healer	21.2	19.2	2.2	31.3	5.6
Homeo doctor	28.8	26.9	-	18.8	-
BRAC health centre/providers	0.7	-	30.4	-	-
Self medication	2.1	-	-	-	-
Total valid cases	146	52	46	16	18