A survey of HIV, syphilis and risk behaviours among males having sex with males, male sex workers and hijra

Global Fund Rolling Continuation Channel Project of icddr,b

2014

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
BCC	Behaviour Change Communication
BSS	Behavioural Surveillance Surveys
BSWS	Bandhu Social Welfare Society
CBO	Community Based Organisation
DIC	Drop in Centre
ELISA	Enzyme Linked Immunosorbent Assay
Fhi360	Family Health International
FPC	Finite Population Correction
HIV	Human Immunodeficiency Virus
HPNSDP	Health, Population and Nutrition Sector Development Program
KP	Key Populations
LIA	Line Immunoassay
MSM	Males Who Have Sex with Males
MSW	Male Sex Worker
NASP	National AIDS/STD Programme
NGO	Non-Government Organisation
NS	Not significant
PSU	Primary Sampling Unit
PWID	People Who Inject Drugs
RCC	Rolling Continuation Channel
RPR	Rapid Plasma Reagin
SPSS	Statistical Package of Social Sciences
STI	Sexually Transmitted Infection
TLS	Time Location Sampling
TPPA	Treponema Pallidum Particle Agglutination
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

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Executive Summary

Bangladesh has been providing HIV prevention services for males having sex with males (MSM), male sex worker (MSW) and hijra for more than a decade. In parallel to providing HIV prevention services, Bangladesh has been collecting risk behaviour and HIV prevalence data on these population groups through a national surveillance system which was set up by the Government of Bangladesh in 1998. The surveillance system has been crucial in providing key information that has helped Bangladesh to monitor changes in risk behaviours and infection prevalence over time, the data has been the backbone against which the national HIV strategic plans have been developed and global reports have been prepared. These data also enable measuring the effect of the on-going large scale HIV prevention programs for MSM, MSW and hijra.

With this background, from September 2013 to February 2014 a cross sectional survey was conducted to assess changes in risk behaviours and prevalence of HIV and active syphilis among MSM, MSW and hijra.

And the objectives of the survey were:

1. To determine the prevalence of HIV and active syphilis among MSM, MSW and hijra from selected sites in Bangladesh
2. To measure HIV risk behaviours in MSM, MSW and hijra from selected sites in Bangladesh
3. To determine changes in the prevalence of HIV, active syphilis and risk behaviours with the previous rounds national HIV surveillance

The serological survey was conducted in three cities (Dhaka, Chittagong and Hili) among 1,503 MSM, MSW and hijra. Blood was collected from the participants by trained phlebotomists through HIV intervention programmes at drop in Centres (DICs) on a first-come-first-serve basis. Testing for HIV was unlinked and anonymous while that for syphilis was linked and results were provided to the participants in order to provide free treatment. The HIV risk behavioural survey was conducted in three cities (Dhaka, Chittagong and Sylhet) among 2,351 MSM, MSW and hijra. The risk behaviour information was collected through interviews using structured questionnaires and a two-stage cluster sampling method was used. Trained interviewers interviewed MSM and MSW in public places where they gathered during a particular time frame in a day. The interviews for hijra took place in their homes or at the houses of the gurus ensuring privacy.

The results showed that in Dhaka the prevalence of HIV in MSM, MSW and hijra was less than 1% while in Hili, HIV was detected only among two hijra out of 28 (7.1%) and in this same group active syphilis was <1%. Over the years, in Dhaka, the prevalence of active syphilis declined significantly in hijra (from 10.4% in 2003 to 3% in 2013; $p<0.05$) and in MSW (from 7.7% in 2000 to 2.2% in 2013; $p<0.05$). The prevalence of active syphilis in MSM in Dhaka remain unchanged since 2000 and was <2%. No one was found to be HIV positive in Chittagong while 2.2% (MSM and MSW combined) was positive for active syphilis. The overall prevalence of HIV from all three sites (Dhaka, Hili and Chittagong) for MSM was 0.4%, for MSW was 0.4% and for hijra was 1%. The overall prevalence of active syphilis from all three sites (Dhaka, Hili and Chittagong) for MSM was 1.2%, for MSW was 2.4% and for hijra was 2.8%.

Over time, from 2002 to 2013, remarkable improvements were observed in HIV risk behaviours among MSM, MSW and hijra in Dhaka, Chittagong and Sylhet, respectively. Significant increases were observed in condom use both in the last sex act and consistently with all types of sex partners either in last month or week prior to the survey. Data on MSM showed that condom use in the last sex act in the last one month with non-transactional male partners increased from 17.1% to 47.4% and with transactional males increased from 24.9% to 46.0%, respectively ($p<0.05$ for both). Consistent condom use increased from 8.4% to 30.5% with non-transactional and from 11.5% to 36.9% with transactional male partners ($p<0.05$ for both). In MSW, in the last one week, last time condom use with new clients increased from 32.0% to 56.2% and with regular clients from 29.0% to 52.7% ($p<0.05$ for both). Consistent condom use also increased from 10.0% to 44.7% with new clients and from 9.4% to 41.1% with regular clients, respectively ($p<0.05$ for both). A similar pattern was also observed

in condom use among hijra in Dhaka. The last time condom use in the last week with new clients increased from 15.1% to 40.4% and with regular clients from 12.9% to 45.7%, respectively ($p<0.05$ for both). Consistent condom use with new clients increased from 7.8% to 29.1% and with regular clients from 6.3% to 30.5%, respectively ($p<0.05$ for both). Similar to Dhaka, both last time and consistent condom use increased significantly among MSM in Sylhet and MSW in Chittagong with all types of sex partners. In Sylhet, condom use increased from 7.7% in 2002 to 46.3% in 2013 and consistent condom use increased from 2.6% in 2002 to 36.7% in 2013 with non-transactional males ($p<0.05$ for both). In Chittagong, condom use in the last sex act increased from 14.8% in 2002 to 67.9% in 2013 and consistent condom use increased from 2.6% in 2002 to 53.8% in 2013 with new clients ($p<0.05$ for both).

Alongside improvement in condom use, service uptake increased over time which is likely a direct result of expansion of services throughout the country through the Global Fund grant. In Dhaka, between 2002 and 2013, the percentage of MSW who had accessed HIV prevention services in the last one year increased from 64.8% to 71.8% ($p<0.05$) and for hijra this increased from 35.1% to 82.4% in ($p<0.05$ for all). Concurrently, percentages of MSW and hijra who complained of STI symptoms in the last year declined from 70.2-76.3% in 2002 to 12.5-13% in 2013 in MSM, from 74.9-81.4% in 2002 to 11.6-15.3% in 2013 in MSW and 75.4% in 2002 to 19.1% in 2013 in hijra ($p<0.05$ for all).

However, although HIV sexual risk behaviours among these population groups has improved, this survey highlights other issues of concern; vulnerability of their female sex partners and use of illicit drugs. Approximately, 29-42% of the sampled MSM were married and 16-29% bought sex from female sex workers in the last one month prior to the survey which suggests that a substantial percentage of MSM were bisexual. Among MSM in Dhaka and Sylhet approximately 60% used a condom in the last sex act and approximately 45% used condoms consistently while buying sex from female workers in the last one month and the percentage of MSM reporting condom use (both last time and consistently) significantly increased over time ($p<0.05$ for both). The worrisome issue here is the vulnerability of the female sex partners who are often unaware of their male partners' male to male sexual behaviour which therefore increases the vulnerability of the female sex partners to HIV and other sexually transmitted infections (STIs). Illicit drugs were used in the last year by approximately 10% of the MSM, MSW and hijra sampled in this survey. The drugs most commonly used were methamphetamine (Yaba) and the codeine containing cough syrup (Phensidyl). Of MSM in Dhaka and Sylhet, 2.6% and 7.2% respectively said they had taken Yaba and 4.7% and 9.4% respectively had taken Phensidyl. Of MSW in Dhaka and Chittagong 1.4% and 4.8% respectively took Yaba and 1.4% and 2.8% respectively took Phensidyl. Among hijra in Dhaka, 7.7% took Yaba and 4.5% took Phensidyl.

In summary, the data from this 2013 HIV surveillance among MSM, MSW and hijra showed that risk and vulnerability to HIV significantly declined over time which is probably a direct result of the ongoing HIV prevention programs. However, issues of concern remain and prevention programs need to assess how better to address these issues. Nonetheless, given the improvements in condom use and reduction in complaints of STIs it is essential that prevention programs are sustained to ensure healthy lives of these population groups.

Chapter 1: Introduction

1.1 Background

Males having sex with males (MSM) are hidden, marginalized and stigmatized population groups not only in Bangladesh but also globally [1-5]. Transgendered people, known as hijra in Bangladesh, are less hidden but are equally subject to stigmatization and marginalization [6]. Considerable heterogeneity in the sexual behaviours of MSM has led MSM in the Indian subcontinent to be categorised into different sub-groups [3, 7]. These subgroups are: 'Kothi' who are feminized males; 'Panthi', is the name given by Kothi to their sex partners who are usually insertive partners; 'Parikh' are the male lovers of Kothi; 'Do-parata' is MSM who practice both insertive and receptive sex roles. There is often an overlap between Kothi and hijra but hijra are distinguished from Kothi in that they have a strict social hierarchy that forms an essential aspect of the hijra culture[1]. The hijra community is organized around a traditional occupation called 'badhai' which refers to collecting money from the markets, and blessing the new born. The community follows a strict hierarchical system with a 'guru" (teacher) who has under her wing 'chela' (disciples). The guru-chela relationship is well defined and there is set of rules including that of initiation. The roles are also well defined so that all chela must be linked to a guru and a chela is identified by her link to her guru while a guru is recognized by the number of chela under her leadership. This relationship is the fundamental basis of the hijra community. Traditionally hijra did not sell sex but over time, with economic pressures, many hijra are selling sex although a few still do not do so. Similarly, among MSM, a certain proportion sells sex and may be categorised as male sex workers (MSW) but the larger MSM community do not sell sex.

Bangladesh has been providing HIV prevention services for MSM, MSW and hijra for more than a decade now. HIV prevention for MSM and MSW started in 1997 and has been implemented by a self-help group which subsequently registered as a non-governmental organisation (NGO). For hijra, activities were initiated in 2000 and in 2003-04 community based organisations (CBOs) for hijra were established and registered. These CBOs are now directly implementing HIV prevention programmes for hijra. In the initial stages, the number of MSM, MSW and hijra receiving these services were limited and were available in only a few cities of Bangladesh. They were supported with funds from the Government of Bangladesh's Health Sector Project and Family Health International (fhi360/USAID). Since 2010, funds from the Global Fund Rolling Continuation Channel (RCC) grant for HIV to Bangladesh and to icddr,b enabled a massive scaling up of coverage both in terms of numbers of MSM, MSW and hijra reached and the geographical areas covered. Icddr,b through its implementing partner NGOs, Bandhu Social Welfare Society (BSWS) and Light House Consortium is now providing HIV prevention services to approximately 35,600 MSM (including MSW) and 4000 hijra across 40 districts. Along with the Global Fund Project the Government of Bangladesh through the Health, Population and Nutrition Sector Development Program (HPNSDP) Funds will also start implementing similar activities through NGOs. Taken together, at present among the estimated numbers of hijra (approximately 9,000) and approximately 145,000 MSM/MSW [8], 80.1% and 28.5% (source) respectively are being covered by HIV prevention services.

The package of HIV prevention services in Bangladesh for MSM, MSW and hijra is similar irrespective of the implementing organisation. Services are provided through static Drop in Centres (DICs) located in the vicinity of the community members and through outreach provided primarily through peer outreach workers to reach the target population at field sites. The services include delivering behaviour change communication (BCC) materials, raising awareness, distributing condoms and lubricants, managing and treating sexually transmitted infections (STIs) and general health complaints, referral for VCT to other organisations. Treatment and management for STIs and general health complaints are provided through clinical sessions held at the DICs at fixed times each week. Outreach workers contact the target populations at field sites, deliver prevention

messages, distribute condoms and lubricants and refer them to DICs for attending group education sessions and the clinic.

In parallel to providing HIV prevention services, Bangladesh has been collecting risk behaviour and HIV prevalence data on these population groups through a national surveillance system which was set up by the Government of Bangladesh in 1998 [9]. The design of the surveillance system in Bangladesh was based on the UNAIDS/WHO guidelines for 2nd generation HIV surveillance [10] which aims at a flexible system so that it can be adapted to the state of the epidemic in a country and includes both serological surveillance and a behavioural surveillance surveys (BSS). In Bangladesh, key populations (KPs) considered to be most vulnerable to and at risk of HIV have been targeted which include female sex workers, people who inject drugs (PWID), MSM, MSW and hijra. Serological surveillance measures HIV prevalence among the selected KPs at sentinel sites spread across the country; syphilis is also measured as a surrogate marker to corroborate behavioural data regarding unprotected sex. Through the BSS, behaviours that carry a risk of HIV infection are evaluated. The serological surveillance and BSS are run in parallel in similar KPs but the individuals sampled are different, some of the inclusion criteria are different and the sampling methodologies for the two systems are also different [11]. Initially, both BSS and serological surveillance was conducted regularly and till 2007 six rounds of BSS and eight rounds of serological surveillance were conducted. The 9th round of serological surveillance was conducted in 2011 but there has been no BSS since 2007. The surveillance system has been crucial in providing key information that has helped Bangladesh to monitor changes in risk behaviour and infection prevalence over time, the data has been the backbone against which the national HIV strategic plans have been developed [12] and global reports have been prepared [13].The lack of more recent information, particularly on behavioural risk factors has made it difficult to assess whether Bangladesh is moving in the right direction to prevent an HIV epidemic and to model the future course of the epidemic. Moreover without these data, it has not been possible to measure the effect of the on-going large scale HIV prevention programs.

In 2010, a behavioural survey was conducted among MSM, MSW and hijra in Dhaka for the Global Fund RCC Project of icddr,b as a baseline prior to starting the implementation of the HIV prevention program (unpublished reports). The methodology followed for this baseline survey was similar to that of BSS. Data from this baseline survey has served to provide information on key indicators that was previously provided by the BSS and Bangladesh has used these in global reports [13].

Data on MSM, MSW and hijra have shown their high risk and vulnerability to HIV but relatively low rates of infection. The 9th serological surveillance conducted in 2011 showed that HIV in MSM and MSW is below 1% while that for hijra is 1% in Dhaka and Manikganj (adjacent to Dhaka) [14]. A recent study conducted in 2012 among 889 hijra from several sites outside Dhaka has shown a prevalence rate of 0.8% (unpublished data). Active syphilis rates in the last serological surveillance in Dhaka were recorded at 1.5% for MSM, 4.2% for MSW and 6.1% for hijra. These data suggest that among these groups, hijra are most vulnerable and the relatively high active syphilis rates confirm continued risky sexual behaviours. Data from the BSS [15] and from the baseline survey of the Global Fund RCC project (unpublished) show that risky behaviours were highly prevalent in these population groups. Mean age at first sex was as low as 12 years for hijra and 14 years for MSW. For the sex workers (MSW and hijra), they not only had transactional sex partners but also non-transactional partners and group sex was not uncommon. Moreover, a substantial proportion of MSM and MSW were married. Condom use by MSW and hijra with their clients varied. Analysis of trends for condom use in last anal sex with new or regular clients showed no changes over the years among MSW and hijra. Thus between 2002 (BSS round 4) and 2010 (Global Fund RCC baseline survey), condom use in last sex with new clients was reported by 32% and 39%

respectively of MSW in Dhaka and 15.1% and 18.9% respectively of hijra. Similarly, between 2002 and 2010, 29% and 24.9% respectively of MSW and 12.9% and 21.8% respectively of hijra reported condom use in last sex with regular clients. These behavioural data were all collected prior to scaling up of services and it shows clearly that risky behaviours were highly prevalent. Among the three groups, HIV was highest amongst hijra and this was the first time that prevalence of HIV reached 1% in hijra and it is essential to monitor this closely.

From December 2012 the Global Fund RCC project entered its second phase, and up-to-date information on both behavioural risk factors and infection prevalence was needed as midline data. For this purpose a cross sectional midline survey was proposed to assess changes, if any, in risk behaviours and prevalence of HIV and active syphilis among MSM, MSW and hijra. This survey was therefore designed to provide data on key impact and outcome indicators related not only to the Global Fund Project but also for the country as a whole. In order for the data to be comparable to earlier surveys and surveillance, sampling was conducted in similar sites and using similar methodologies. The midline survey was the first to measure risk behaviours since the scaling up of programmes and therefore, along with the HIV and syphilis prevalence data, is of crucial importance in providing key data for determining the effectiveness of programmes.

1.2 Specific Objectives

The midline survey had three objectives:

4. To determine the prevalence of HIV and active syphilis among MSM, MSW and hijra from selected sites in Bangladesh
5. To measure HIV risk behaviours in MSM, MSW and hijra from selected sites in Bangladesh
6. To determine changes in the prevalence of HIV and active syphilis and risk behaviours using comparable data from the baseline survey of the Global Fund RCC project and national surveillance system

Chapter 2: Research Design and Methods

As the midline survey of MSM, MSW and hijra was not only measured the prevalence at the time but also trends over time, the methodologies including definitions, inclusion criteria, sampling sites and sampling methods, used previously for serological surveillance, BSS and the baseline survey of the Global Fund RCC project was followed. These are described in details below.

2.1 Population Groups

The population groups that were sampled are MSM, MSW and hijra. The definitions for these groups are shown in Table 1.

Table 1: Definitions

Population groups	Serological survey	Behavioural survey
Males who have sex with males (MSM)	Males who have sex with males but do not sell sex	Males who have sex with males but do not sell sex
Male Sex Workers (MSW)	Male who sell sex in exchange of money or compulsory gift in the last month	Male who sell sex in exchange of money or compulsory gift
Hijra	Who identify themselves as belonging to a traditional hijra sub-culture	Who identify themselves as belonging to a traditional hijra sub-culture

2.2 Inclusion Criteria

The inclusion criteria for MSM, MSW and hijra were as follows:

- Definition – individuals were included if they fit the definitions shown in Table 1.
- Age – 15 years or older

2.3 Sampling Sites

Based on the 6th round of BSS and 9th round of serological surveillance the sites that were selected for the mid-line survey are shown in Table 2.

Table 2: Sampling sites

Geographical Location		Population Groups	Serological survey	BSS
Division	**City**			
Dhaka	Dhaka city	MSW MSM Hijra	✓ ✓ ✓*	✓ ✓ ✓
Chittagong	Chittagong city	MSW MSM/MSW combined	 ✓	✓
Sylhet	Sylhet city	MSM		✓
Rangpur	Hili	MSM/MSW combined Hijra	✓ ✓	

*Hijra was sampled from Dhaka City and Manikganj

2.4 Sampling Methods and Procedures

The methods used for sampling in the earlier rounds of serological surveillance and BSS were different. In the serological system participants were sampled non-randomly through intervention programmes. Participants were asked to visit DICs where blood was drawn following informed consent. Sampling for BSS, on the other hand, was random using two-stage cluster sampling method and individuals were interviewed in public venues where they gathered for negotiating sex. The rationale for keeping the two systems separate was that refusals were likely to be higher as many individuals do not want to give blood in public venues or be tested for HIV for fear of stigmatisation.

In addition to different sampling methodologies, the procedures involved were different for the two and therefore the serological and behavioural surveys are described separately.

a) Serological survey

Field Preparation and Activities

MSM, MSW and hijra were accessed through DICs of NGOs providing HIV prevention services to those populations. For organizing sample collection at the DICs, meetings were held at DICs with DIC staff as well as peer educators/outreach workers to orient them about the activities related to the survey. Following this the peer educators/outreach workers contacted individuals in the field and encouraged them to attend the DICs for providing blood. In each city the target sample size for each KP was proportionately distributed among the DICs and the numbers that were being covered by all the DICs were used to estimate the proportionate sample sizes for each DIC. Blood samples were collected on a first come first serve basis.

During sampling, availability of all facilities was ensured at the DIC which included trained medical personnel, equipment including refrigerator and centrifuge. During sampling, phlebotomists from the survey team collected blood, separated serum from blood, labelled tubes, stored and transported specimens to icddr,b by maintaining the cold chain. The survey team also completed a set of short demographic questionnaires. For the border areas, as mobility enhances vulnerability [16] and as no risk behaviour survey was conducted in these individuals, a small number of questions related to mobility had been added. The same questionnaire was used in previous rounds of national serological surveillance.

Laboratory Methods

Similar to all rounds of serological surveillance, each blood sample was split into two: one unlinked sample for HIV and the other linked sample that could be traced to the individual. The latter was used for syphilis testing and linking was essential so that treatment could be provided if necessary.

i) Blood collection, separation, storage, labelling and transport

Blood was collected by venepuncture into sterile, plain Vacutainers (Becton Dickinson, Rutherford, NJ, USA) and serum was separated by centrifugation. Samples were transported to the laboratory by maintaining a cold chain where they were stored at -20^{o}C till testing.

ii) HIV testing

Samples were initially tested by a commercial enzyme linked Immunosorbent assay (ELISA) kit (Organon Teknika) and positive results were confirmed by a Line Immunoassay (LIA, Organon Teknika). An indeterminate result by LIA was considered as negative.

iii) Testing for syphilis

Syphilis was tested by the Rapid Plasma Reagin (RPR) test (Nostion II, Biomerieux SA, 69280-Marcy-l'Etoile, France) and Treponema Pallidum Particle Agglutination (TPPA) test (Serodia TPPA, Fujirebio Inc., Japan). Tests were done for active syphilis only. Samples positive for TPPA with an RPR titre of $\geq$8 was considered to reflect active syphilis. TPPA test was carried out only when RPR was positive.

Testing was done as soon as possible so that results were given to sentinel sites within two weeks of blood collection for treatment purposes.

b) Behaviour Survey

For all groups a two stage probability sampling method was used [17]. For MSM and MSW this was Time Location Sampling (TLS) and for hijra this was modified TLS method which was used during the baseline survey of the Global Fund RCC project and was called the birit-based method [18]. The two stages of the sampling processes were mapping and interviewing.

Primary sampling units (PSUs) were identified during mapping. The definitions of the PSUs are shown in Table 3.

Table 3: Definition of the spot/PSU from where individuals in each population group will be sampled

Population groups	Definition of a spot/PSU
MSM	A place was considered as a spot/PSU if at least three MSM are found during a specific time frame
MSW	A place was considered as a spot/PSU if at least three MSW are found during a specific time frame
Hijra	A house where at least three hijra were living

The mapping procedure was the same for MSM and MSW but different for hijra.

For MSM and MSW mapping was conducted at specific time frames (6 PM to 11 PM) as it was known that those individuals were likely to be present at those spots at those times. The survey team collected mapping information with the help of local guides, key informants and peers of the population groups and the information was recorded in a prescribed format. In addition, the members of the assessment team also applied their own judgment to explore new spots. Efforts were taken to cover the entire Dhaka city and to identify all spots irrespective of coverage by HIV prevention programmes.

For hijra, the birit based method led us to a census of hijra in Dhaka city. As hijra gurus operate within a birit, within the boundaries of which their chela conduct their activities. An initial list of gurus was prepared through a series of consultations with the hijra community in Dhaka city. The area covered by a birit and the number of chelas under each guru were then listed. The list thus obtained was cross checked with gurus and chelas. This list was further verified by identifying all houses of chelas within the gurus' birits and counting the number of chelas within those households. This then constituted the sampling frame of hijra for each guru.

The second stage of the TLS was the interview and a 'fixed' or 'take all' approach was applied depending on the calculated sample size. Thus, a 'take all' approach was applied if the total number of individuals counted during

mapping was less than or equal to the desired sample size. However, when the total number of individuals counted during mapping was more than the desired sample size, a 'fixed' number of people were interviewed. Accordingly, a 'take all' approach was applied to interview MSW in Chittagong and MSM in Sylhet. For hijra in Dhaka a proportionate random sampling was adopted. A 'fixed' number of individuals were chosen systematically from each randomly selected spot for interview for MSM and MSW in Dhaka. To interview MSM and MSW, the interview place was the public cruising spots and for hijra, the location of interview was the house of chelas.

Risk Behaviour Questionnaires

For each of the KPs, interviews were conducted using semi-structured questionnaires which were similar to the baseline survey of the Global Fund RCC project and to the last round of BSS conducted in 2006-2007 [15]. The questionnaires included information on socio-demographic characteristics and marriage, drug use, partner and sexual history, sexual risk-behaviour experiences, mobility, knowledge on male condoms and lubricants, knowledge of and healthcare seeking for STIs, knowledge of HIV/AIDS, knowledge on confidential HIV testing, violence, HIV risk assessment and involvement with NGO activities. Sex partners were considered under two broad categories - transactional, which involved the exchange of sex for money or goods and non-transactional, where there was no exchange of money or goods for sex. Transactional sex included both selling and buying sex and their clients to whom they sold sex could be either new (one time) or regular. Similarly non-transactional sex partners could be regular or one time also referred to as casual partners. All the questionnaires were translated to Bangla and interviewers were trained thoroughly. Questionnaires were field tested for each of the groups in some field sites on the basis of which questionnaires were modified to strengthen the quality of data and for a smooth data collection as well.

During interviews, one team member from each data collection team recorded the number of persons available, duplicates, refusals and those who slipped away during data collection from each spot while other team members conducted the interviews. This information was required to calculate sampling weights [17] for MSM and MSW in Dhaka where a second stage sampling of individuals was employed to conduct the interview.

2.5 Sample Size Calculations

Since the midline survey was composed of two cross-sectional surveys therefore, separate indicators and methods were used in the calculation of sample sizes described as follows:

Serological Survey

In order to calculate the sample size the following standard formula [19] has been used.

$$n_1 = \frac{z^2_{1-\frac{\alpha}{2}}}{d^2} pq$$

In the above equation:

n_1=Calculated sample size

p= Estimated percentage points of the prevalence of HIV in the previous HIV serological surveillance round-9 conducted in 2011 [14]

q= 1-p

$Z_{1-\alpha/2}$=The Z-score corresponding to the desired level of significance=1.96 (at the 95% confidence interval)

d=Desired level of precision

For some geographical locations, in case of 0% prevalence of HIV in the previous round, 1% prevalence and 1% absolute precision was assumed and the sample size was calculated. The sample size thus calculated was inflated by 5% to adjust for refusals. Thereafter the calculated sample size was further adjusted for the finite population correction (FPC) according to the following formula [20]:

$$n_2 = \frac{n_1}{1 + \frac{n_1}{N}}$$

In the above equation:
n_2=Calculated sample size after adjusting for refusals and FPC
N=Population size for each of the risk groups (Number being covered by the NGOs)

Based on the prevalence of HIV from the 9th round of serological surveillance conducted in 2011 and using the above mentioned formula the calculated sample size is shown in Table 4.

Table 4: Calculated sample size for serological survey among MSM, MSW and hijra

Population Groups	Geographical Location/City	Prevalence of HIV in previous round (Sero-9, 2011)	Absolute precision (%)	Calculated sample size based on absolute precision with 5% refusal (without FPC) n1	Number being covered by the NGOs (N)	Final sample size (with FPC) n2	Sample size achieved
MSW	Dhaka	0	x	399	4,340	366	313
MSM	Dhaka	0	x	399	1,104	293	292
MSM and MSW combined	Chittagong	0	x	399	1,687	323	325
	Hili	0	x	399	321	178	178
Hijra	Dhaka, Manikganj	1	1	399	4,205	365	367
	Hili	3.2	2	312	36	32	28
Total				**2,309**		**1,557**	**1,503**

Behaviour Survey
The sample size was calculated using a standard formula [17] that was used in the BSS and in the RCC baseline survey as follows.

$$n = D\frac{\left\{z_{1-\propto}\sqrt{2\bar{p}(1-\bar{p})} + z_{1-\beta}\sqrt{p_1(1-p_1)+p_2(1-p_2)}\right\}^2}{(p_2-p_1)^2}$$

In the above formula:
D=Design effect
p_1= Estimated proportion of risk behaviour at the time of previous survey
p_2= The target proportion at some future date, so that (p2-p1) is the magnitude of change that we want to be able to detect
p (bar)=$(p_1+p_2)/2$
$Z_{1-\alpha}$=The Z-score corresponding to desired level of significance=1.645
$Z_{1-\beta}$= The Z-score corresponding to desired level of power=0.83

The calculation of the sample size for the groups in Dhaka was based on a set of major risk behavioural indicators from the RCC baseline survey 2010. For the groups in Chittagong and Sylhet, previous estimates of the indicators were taken from the previous round of BSS conducted in 2006-2007. For hijra, condom use in the last anal sex act with males and condom use in last anal sex act with non-transactional sex partners was used. For MSW, estimates of condom use in last anal sex act with new and regular clients were used. For MSM, estimates of condom use in the last anal sex act while buying sex from males (not *hijra*) and condom use in the last anal sex act while having sex with non-commercial male/*hijra* sex partners was used.

The sample size was calculated in order to detect 10-12% changes (1-way change detectable) in the risk behaviour over time for the population groups with desired design effect, inflation rates of the indicators (percent of the population that is eligible to be considered for the indicators), 95% confidence level and 80% power. Separate sample sizes were calculated for each of the indicators in each group in each survey area and were adjusted for 5% refusals (Table 5). The largest sample size from each group was selected for the survey. Hence, in MSM Dhaka the target sample size was 476, in MSM Sylhet 438, in MSW Dhaka 491, in MSW Chittagong 407 and in hijra Dhaka 520.

Table 5: Proposed sample size for the HIV risk behaviour survey among MSM, MSW and hijra

Risk behaviours by population or Indicators used in the calculation of sample size	Sample sizes in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	Estimates of the indicators in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	1-way change detect-able	Inflation Factor	Design effect¶	Required Sample Size
MSM-Dhaka						
Last time condom use in last anal sex while buying sex from males (not Hijra) in last month (among those who bought sex from males in last month)	457	23.7	12%	0.467	1.2	476
Last time condom use in last anal sex with non-transactional male/Hijra in last month (among those who had sex with non-transactional male/Hijra sex partners in last month)	457	20.9	12%	0.451	1.0	387

Risk behaviours by population or Indicators used in the calculation of sample size	Sample sizes in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	Estimates of the indicators in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	1-way change detect-able	Inflation Factor	Design effect[¶]	Required Sample Size
MSM-Sylhet						
Last time condom use in last anal sex while buying sex from males (not Hijra) in last month (among those who bought sex from males in last month)	425	34.5	11%	0.812	1.4	438
Last time condom use in last anal sex with non-transactional male/Hijra in last month (among those who had sex with non-transactional male/Hijra sex partners in last month)	425	27.2	11%	0.847	1.1	302
MSW-Dhaka						
Last time condom use in last anal sex with new clients in last week (among those who had new clients in last week)	471	39.0	12%	0.717	1.6	491
Last time condom use in last anal sex with regular clients in last week (among those who had regular clients in last week)	471	24.9	12%	0.677	1.2	336
MSW-Chittagong						
Last time condom use in last anal sex with new clients in last week (among those who had new clients in last week)	383	48.6	12%	0.635	1.0	347
Last time condom use in last anal sex with regular clients in last week (among those who had regular clients in last week)	383	50.0	12%	0.538	1.0	407
Hijra-Dhaka						
Last time condom use in last anal sex with a male sex partner in the last year (Denominator is who had anal sex with a male sex partner in the last year)	629	17.5	10%	0.966	1.0	231

Risk behaviours by population or Indicators used in the calculation of sample size	Sample sizes in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	Estimates of the indicators in the GF RCC baseline 2010 or in the previous round of BSS 2006-2007	1-way change detect-able	Inflation Factor	Design effect[¶]	Required Sample Size
Last time condom use in last anal sex with non-transactional male sex partners in the last month (among those who had sex with non-transactional male sex partners in the last month)	651	18.6	10%	0.444	1.0	520

[¶]For each risk behavioural indicator, the design effect was calculated from the corresponding previously conducted survey data using Stata Survey Commands (Version 10)

2.6 Data Analysis

Serological Survey

The demographic data were entered twice using Epi Info for Windows (Version 3.5.1) and laboratory data were entered using Statistical Package for Social Sciences (SPSS, Version 15.0). Data analysis was carried out using SPSS and Epi Info. The distribution of continuous variables was checked for normality by using One-Sample Kolmogorov-Smirnov Z Test and then Median test was used to compare non-parametric data (medians) between groups. Categorical data was compared using chi-square statistics. For comparison of data on the prevalence of HIV and active syphilis over time chi-square for trends was used by Epi Info. During blood collection in Hili, codes were used to disentangle MSM from MSW.

Behaviour Survey

Data were entered twice using Epi-Info for Windows (Version 3.5.1); range and consistency checks were incorporated in the data entry screens. Thereafter, all data files were converted to Excel for further cleaning by filtering. Clustering of observations was incorporated in the calculation of 95% confidence interval and sampling weights were incorporated in the estimation of proportions/means/medians/inter quartile range. Data were analysed using Stata (Version 10) survey commands for two-stage cluster sampling design [17]. Some of the important risk behavioural variables in MSM, MSW and hijra were compared both over time and between rounds (in Dhaka, data were compared between 2010 with 2013 and in Chittagong and Sylhet, data were compared between 2006/07 with 2013).

2.7 Quality Control and Monitoring

For HIV testing, the Virology laboratory of icddr,b is under an external quality control scheme. In addition, internal quality control is also conducted every six months.

The serological survey team comprised of laboratory and field staff. Priority was given to those who had experience in conducting serological survey. The serological survey team was supervised and monitored directly under a research investigator, field research supervisor and concerned laboratory personnel.

Several members of the behavioural survey field team were from the MSM/MSW and hijra community. This allowed greater accessibility as they were able to build trust with the respondents that ensured smooth running of mapping and interviews. Team members who did not belong to the communities were experienced in conducting quantitative surveys.

To ensure the quality of information, all collected data were checked and verified at the field level both by the interviewers and field research officers. The members of the data collection teams adopted a strategy of checking each other's data while at the field or when they came back to office in the next day or hotel particularly for the outside of Dhaka after the work. Before data entry, the research supervisors at the icddr,b office regularly reviewed some completed questionnaires to identify inconsistencies in data collection and feedback were provided to the team members when needed.

During data collection in mapping and interview of behavioural survey and blood collection in the serological survey, monitoring visits were conducted by researchers from the Dhaka icddr,b office at different spots and DICs regularly in each city. In addition, monitoring visits were under taken by the technical experts from National AIDS/STD Programme (NASP) during interview and blood collection.

2.8 Personnel Training

For the serological survey, an 8-day training was organized at the icddr,b. The training programme included basics of HIV, risk behaviours, sensitivity of the population groups, the procedures involved including maintaining Universal Precautions. In addition, hands on training for the staff was provided on Universal Precautions, serum separation, labelling, de-linking, sample transportation and storage. Trained team members from the RCC project of the Global Fund and from the virology laboratory of icddr,b conducted the training.

For the behavioural survey, the supervisors, interviewers and data management assistants received a comprehensive training for 13 days on the issues related to HIV/AIDS, sexuality, vulnerable groups, mapping and interviewing techniques. Also, they received hands on training on the questionnaires. Most of the sessions of the training applied participatory learning methods.

For both surveys, the importance of maintaining confidentiality and respect was stressed upon.

2.9 Ethical Assurance for the Protection of Human Rights

The survey was approved by the Research Review and Ethical Review Committees of icddr,b.

In the serological survey, written consent in Bangla was taken for those who are $\geq$18 years and written assent in Bangla was taken for those who are 15 to less than 18 years as has been done in a previous study on hijra [21]. In the behaviour survey, verbal consent in Bangla was taken for those who are $\geq$18 years. For those who are 15 to <18 years, written assent was taken from local gatekeepers or guides whose help was sought to identify participants. The assent was read out to gatekeepers/guides and their signature was taken on the survey forms. The main reason for taking verbal consent was to ensure anonymity, gaining trust and establish a rapport between the respondent and the interviewer while collecting personal and sexual risk behavioural data.

Serum samples were divided into two-one for HIV and the other for syphilis. Tubes containing whole blood and serum for HIV were labelled with the code for DIC and unique ID of the study participant. However, the tube containing serum for syphilis testing was linked and had all details of the study participant-name, age, DIC name and date of collection. This allowed participants to have results and free treatment (if required).

A unique ID was given to each study participant that was not linked to the name of the individual. The PSU/DIC that was selected for sampling was also coded. All questionnaires was delinked and contained the code for PSU/DIC and unique ID of the study participant.

All files were kept in locked cabinets in the icddr,b GF RCC Project Office in Dhaka. The cabinets were only accessible to the investigators of the study. All computers containing data were password protected.

Chapter 3: Findings from the Serological Survey

3.1 Socio-Demographic Characteristics (Table 6)

The median age ranged from 24 to 31.5 years and hijra in Hili were the oldest compared to other groups in other sites (p<0.05 for all comparisons). There were very few in all three groups who were between 15 to less than 18 years; only one MSM in Dhaka (0.3%), ten MSW in Dhaka (3.2%) and four MSM/MSW in Hili (2.2%). Ever attending in a school was lowest among hijra in Hili compared to the other groups in other sites (p<0.05 for all comparisons). Information on the duration of working as a sex worker was collected from MSW and hijra; the median duration as a sex worker was highest among hijra in Hili compared to MSW and hijra in other sites except MSW in Dhaka (p<0.05 for all comparisons).

Table 6: Socio-demographic characteristics of MSM, MSW, combined MSM/MSW and hijra

Indicators	MSM, Dhaka N=292, unless otherwise stated % (n)	MSW, Dhaka N=313, unless otherwise stated % (n)	Hijra		MSM/MSW combined	
			Dhaka and Manikganj N=367, unless otherwise stated % (n)	Hili N=28, unless otherwise stated % (n)	Hili N=178, unless otherwise stated % (n)	Chittagong N=325, unless otherwise stated % (n)
Age in years						
15-24	41.1 (120)	55.0 (172)	33.5 (123)	10.7 (3)	50.0 (89)	45.2 (147)
>24	58.9 (172)	45.0 (141)	66.5 (244)	89.3 (25)	50.0 (89)	54.8 (178)
Mean	26.4	25.6	28.3	33.4	26.4	27.5
Median (IQR)	25.0 (22.0-30.0)	24.0 (21.0-28.0)	26.0 (23.0-32.0)	31.5 (27.0-39.5)	24.5 (21.0-31.0)	25.0 (22.0-30.0)
Ever attended school	76.0 (222)	85.6 (268)	79.3 (291)	28.6 (8)	89.3 (159)	82.5 (268)
Education (in years)						
No education	24.0 (70)	14.4 (45)	20.7 (76)	71.4 (20)	10.7 (19)	17.5 (57)
1-5	25.3 (74)	21.1 (66)	31.1 (114)	14.3 (4)	19.1 (34)	26.8 (87)
6-10	38.7 (113)	43.1 (135)	39.8 (146)	14.3 (4)	51.1 (91)	44.3 (144)
>10	12.0 (35)	21.4 (67)	8.4 (31)	0 (0)	19.1 (34)	11.4 (37)
Mean	5.8	7.5	5.6	1.9	7.7	6.2
Median (IQR)	6.0 (1.3-9.0)	8.0 (5.0-10.0)	5.0 (3.0-8.0)	0.0 (0.0-4.5)	9.0 (5.0-10.0)	6.0 (3.0-9.5)
Duration as a sex worker (in months)			N=365		N=61[ϕ]	N=168[ϕ]
Mean	NA	92.6	129.01	196.7	142.8	80.5
Median (IQR)		72.0 (36.0-120.0)	120.0 (60.0-180.0)	180.0 (120.0-240.0)	120.0 (60.0-192.0)	60.0 (36.0-120.0)
Duration of selling sex at the same site (in months)			N=364		N=61[ϕ]	N=168[ϕ]
Mean	NA	82.8	112.5	168.5	126.3	74.0
Median (IQR)		60.0 (24.0-	96.0 (48.0-	144.0	120.0	60.0 (24.0-

Indicators	MSM, Dhaka N=292, unless otherwise stated % (n)	MSW, Dhaka N=313, unless otherwise stated % (n)	Hijra		MSM/MSW combined	
			Dhaka and Manikganj N=367, unless otherwise stated % (n)	Hili N=28, unless otherwise stated % (n)	Hili N=178, unless otherwise stated % (n)	Chittagong N=325, unless otherwise stated % (n)
		120.0)	144.0)	(78.0-237.0)	(42.0-180.0)	120.0)

IQR, Inter Quartile Range
NA refers to not applicable
$^{\phi}$ This question was asked only to MSW

3.2 Other Characteristics of Combined MSM/MSW and Hijra in Hili (Table 7)

Table-2 shows the information on cross-border mobility in Hili among hijra and the combined MSM/MSW group. More hijra compared to MSM/MSW crossed the border to India in the last one year ($p<0.05$). While abroad, 32.7% MSM bought sex from males/females/hijra, 24.1% MSW and 21.1% hijra sold sex to males in the last year. Of those who reported buying /selling sex, very few used condom in the last sex act.

Table 7: Cross border mobility in the last year of MSM, MSW and hijra from Hili

Variables	MSM N=117, Unless otherwise stated % (n)	MSW N=61, Unless otherwise stated % (n)	Combined MSM and MSW N=178, Unless otherwise stated % (n)	Hijra N=28, Unless otherwise stated % (n)
Crossed the border to India in the last year	47.0 (55)	47.5 (29)	47.2 (84)	67.9 (19)
Had commercial sex while abroad in the last year* (Among those who had crossed the border in the last year)	N=55 32.7 (18)	N=29 24.1 (7)	N=84 29.8 (25)	N=19 21.1 (4)
Used condom during last episode of commercial sex while abroad in the last year (Among those who had crossed the border in the last year and had commercial sex)	N=18 33.3 (6)	N=7 42.9 (3)	N=25 36.0 (9)	N=4 25.0 (1)

*For MSM, commercial sex refers to buying sex from females/hijra/males; for MSW and hijra, commercial sex refers to selling sex to males

3.3. HIV and Syphilis (Table 8)

In Dhaka, two MSM and MSW each and in Hili, two hijra tested positive for HIV; MSM/MSW from Chittagong and Hili were all HIV negative. Of the two MSM in Dhaka who were HIV positive one was from the 15-24 years

age group and another was from >24 years age group. Of the HIV positives hijra and MSW in Dhaka and Hili all were >24 years in age. The overall prevalence of HIV from all three sites (Dhaka, Hili and Chittagong) for MSM was 0.4% (2/566), for MSW was 0.4% (2/542) and for hijra was 1% (4/395). The overall prevalence of active syphilis from all three sites (Dhaka, Hili and Chittagong) for MSM was 1.2% (7/566), for MSW was 2.4% (13/542) and for hijra was 2.8% (11/395). However, in all cities prevalence of active syphilis was below 5% for all three groups.

Table 8: Prevalence of HIV and active syphilis among MSM, MSW and hijra 2013

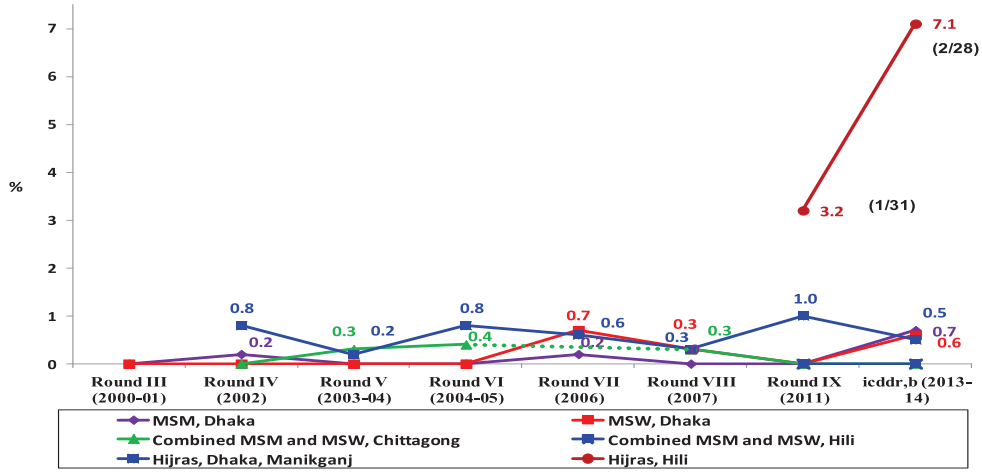
Geographical location (Number sampled)	**HIV % (n)**	**Active syphilis % (n)**
Males who have sex with males (MSM)		
Dhaka (292)	0.7 (2)	1.7 (5)
Male sex workers (MSW)		
Dhaka (313)	0.6 (2)	2.2 (7)
Hijra		
Dhaka and Manikganj (367) Hili (28)	0.5 (2) 7.1 (2)	3.0 (11) 0
MSM/MSW combined		
Hili (178) Chittagong (325)	0 0	0.6 (1) 2.2 (7)

3.4 Changes in the Prevalence of HIV and Active Syphilis over the Rounds

3.4.1 Prevalence of HIV

The prevalence of HIV in Dhaka, Chittagong and Hili among MSM, MSW and hijra, is still less than 1% and no changes were observed over the eight data points from the year 2000 to 2013 (Figure-1). In 2011, 3.2% (1/31) and in 2013, 7.1% (2/28) of hijra in Hili tested positive for HIV and the difference was not statistically significant.

Figure 1: Prevalence of HIV in MSM, MSW and hijra in Bangladesh



3.4.2 Prevalence of Active Syphilis

The prevalence of active syphilis significantly declined in MSW and hijra in Dhaka (Figure-2). No significant changes were observed among MSM/MSW in Hili and in Chittagong among MSM/MSW and hijra (Figure-3).

Figure 2: Prevalence of active syphilis over time: Dhaka

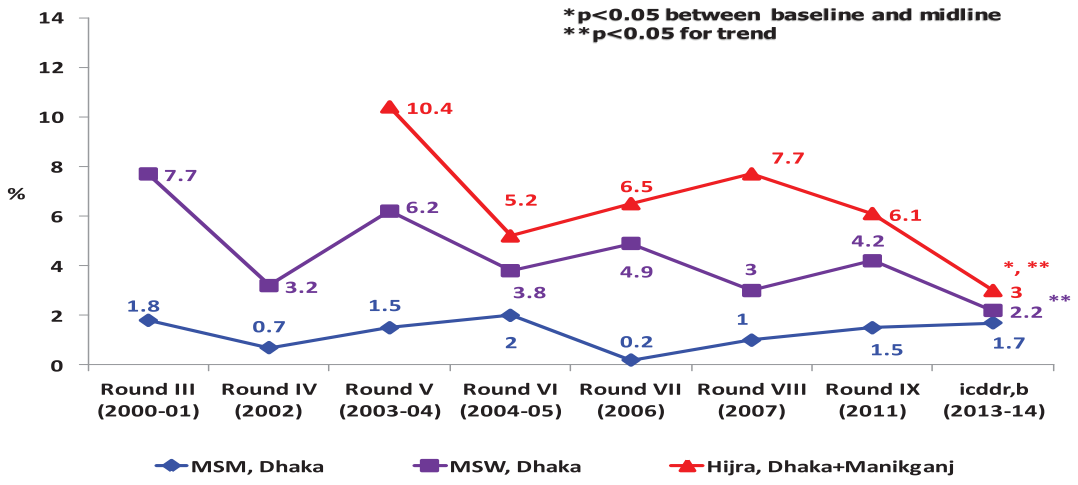
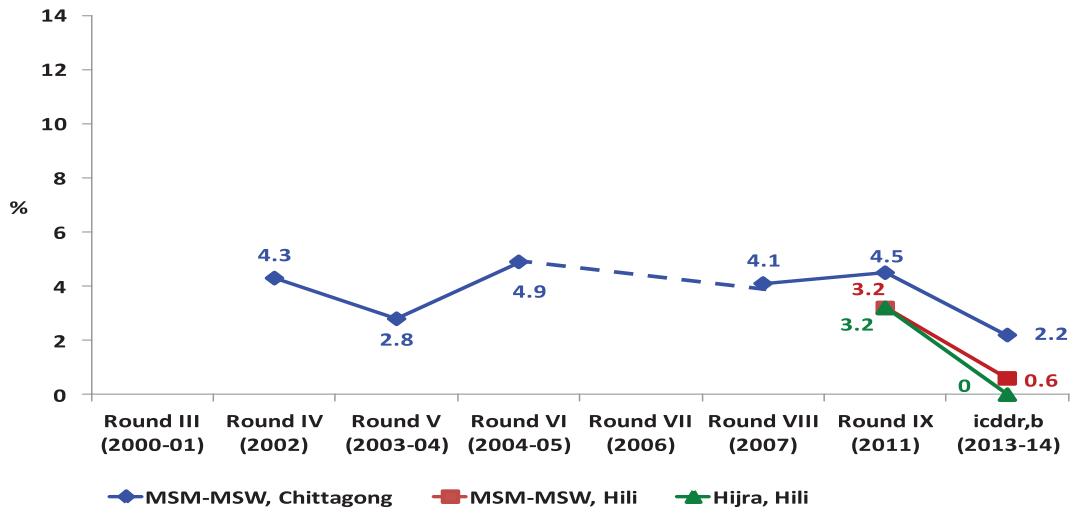


Figure 3: Prevalence of active syphilis over time in Chittagong and Hili



The prevalence of active syphilis was compared between the age groups of 15-24 years and >24 years over time. In Dhaka, no changes were observed in the prevalence of active syphilis between the two age groups among MSM (Figure-4). However, in MSW and hijra the prevalence declined significantly over time in all age groups (Figures 5 and 6). In the combined MSM/MSW and hijra in Chittagong and Hili, no significant changes were observed over time in either age group (Figure-7).

Figure 4: MSM Dhaka: Prevalence of active syphilis over time by age groups

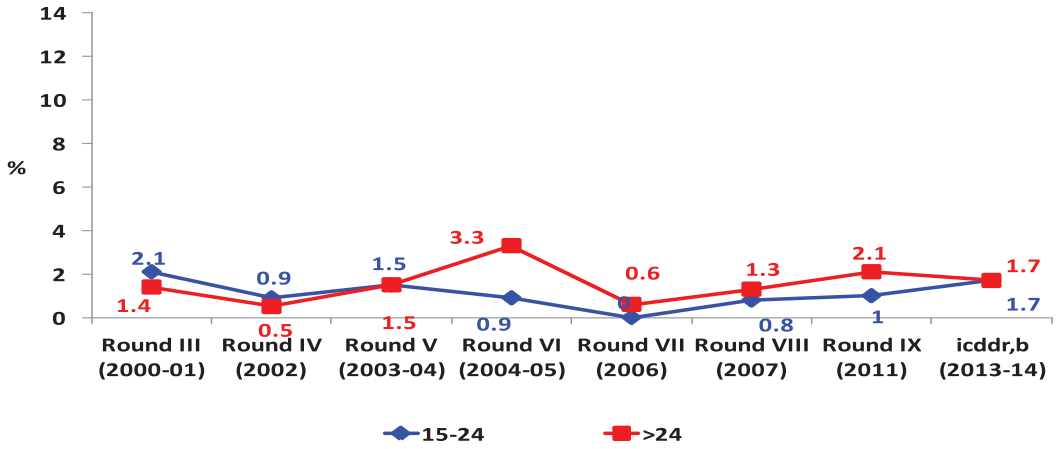


Figure 5: MSW Dhaka: Prevalence of active syphilis over time by age groups

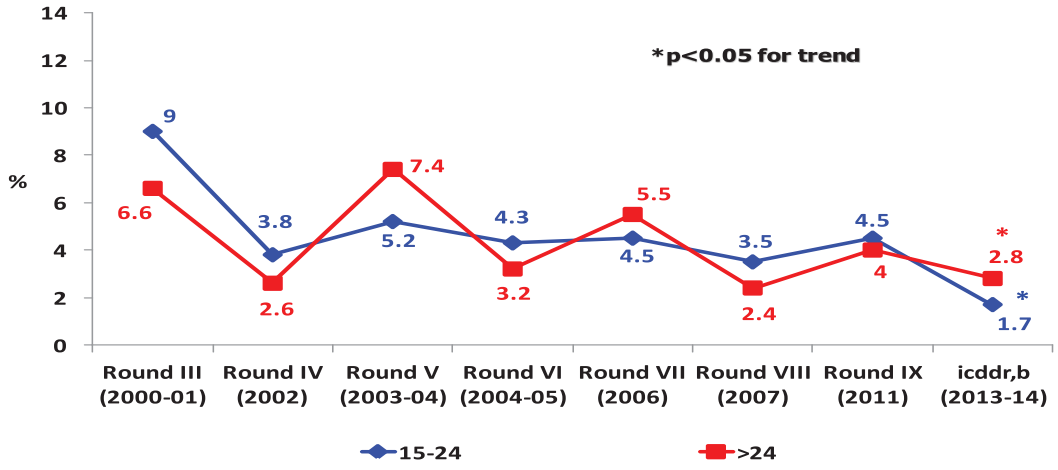


Figure 6: Hijra Dhaka: Prevalence of active syphilis over time by age groups

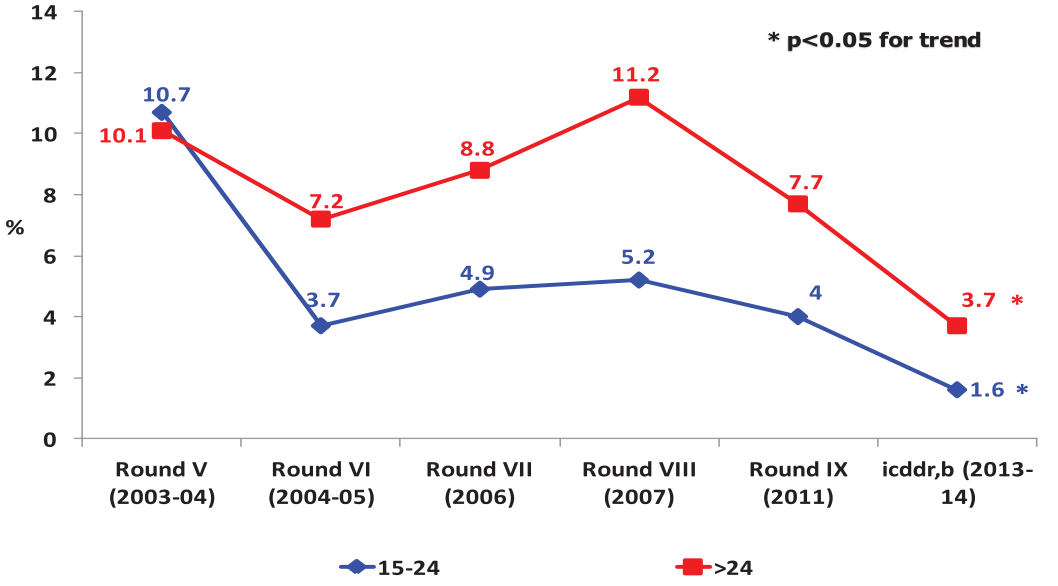
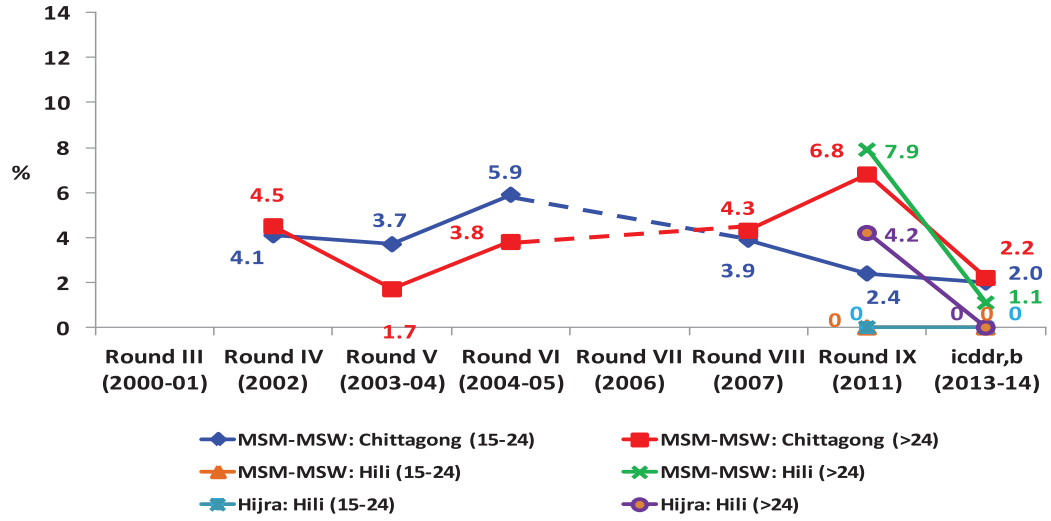


Figure 7: Combined MSM/MSW and hijra: Prevalence of active syphilis over time by age groups



Chapter 4: Risk Behaviours of MSM (Dhaka and Sylhet)

4.1 Results

The midline survey among MSM in Dhaka was conducted from October 1st to 10th 2013 following seven days of mapping and in Sylhet it was conducted from February 15th to February 18th 2014 following two days of mapping. During TLS, 859 MSM were directly counted from 234 spots in Dhaka and 297 MSM from 51 spots in Sylhet. In both cities, mapping was conducted from 6pm to 11pm. Finally, 487 MSM in Dhaka were interviewed following a two-stage cluster sampling method and in Sylhet, 383 were interviewed adopting a 'take all' approach.

4.2 Socio-demographic Characteristics (Table 9)

The proportion of MSM between 15-24 years age group were 41.5% and 37.6% in Dhaka and Sylhet, respectively. There were very few MSM between 15 to less than 18 years; 2.3% (95% CI: 1.3-4.1) in Dhaka and 1.6% (95% CI: 0.7-3.3) Sylhet respectively. Substantial proportions in Dhaka had more than 10 years of schooling (28.4%) compared to 9.1% in Sylhet ($p<0.05$). A great majority of the MSM earned money from service in the last month in both cities although significantly more MSM in Sylhet than in Dhaka reported business as their main source of income ($p<0.05$). MSM in both cities mostly identified themselves as being a 'regular man' (man/manly/general person) but the proportion was significantly greater in Sylhet (83%) compared to Dhaka (66.1%) ($p<0.05$). 'kothi' as an identity was more common among MSM in Dhaka than Sylhet (21.3% and 2.6% respectively) ($p<0.05$).

Table 9: Socio-demographic characteristics

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Age (in years)			
15-24	41.5 (36.3-47.0)	37.6 (31.8-43.7)	NS
>24	58.5 (53.0-63.7)	62.4 (56.3-68.2)	NS
Mean (95% CI)	27.0 (26.3-27.8)	28.2 (27.0-29.3)	NS
Median (IQR)	26.0 (22.0-31.0)	26.0 (22.0-32.0)	NS
Years of schooling			
	N=485	N=383	
No education	9.5 (6.0-14.8)	14.1 (10.1-19.3)	NS
1-5	23.5 (19.3-28.4)	35.5 (30.5-40.8)	<0.05
6-10	38.5 (33.5-43.8)	41.3 (36.7-46.0)	NS
>10	28.4 (23.3-34.2)	9.1 (5.8-14.1)	<0.05
Mean (95% CI)	8.0 (7.3-8.7)	6.0 (5.4-6.6)	<0.05
Median (IQR)	8.0 (5.0-12.0)	6.0 (4.0-8.0)	
Duration of stay in this city			
Whole life	29.6 (24.8-34.9)	68.1 (61.5-74.2)	<0.05
≤10 years	41.9 (36.4-47.6)	17.5 (13.9-21.8)	<0.05
>10 years	28.5 (23.7-33.8)	14.4 (10.6-19.1)	<0.05
Income (in taka) in the last month			
Mean (95% CI)	9778.5 (9072.4-10484.6)	10936.6 (10329.7-11543.5)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Median (IQR)	8000.0 (6000.0-12000.0)	10000.0 (7000.0-13000.0)	
Main sources of income in the last month			
Business	25.0 (21.0-29.5)	36.8 (31.5-42.4)	<0.05
Service	44.4 (39.2-49.7)	35.8 (30.6-41.2)	NS
Motor driver	6.8 (4.5-10.0)	13.1 (9.3-18.1)	NS
Private tuition/Teacher	4.0 (2.5-6.4)	1.3 (0.5-3.3)	NS
Family	13.4 (10.3-17.4)	3.4 (1.8-6.3)	<0.05
Day labour	3.9 (2.0-7.5)	8.4 (5.5-12.5)	NS
Mechanics	1.1 (0.4-2.9)	0	-
Rickshaw puller	1.3 (0.6-2.6)	0	-
Work at house/house maid	0.2 (0.0-1.1)	0.5 (0.1-2.2)	NS
Others	0	0.8 (0.3 -2.2)	-
Self identification			
Man/Manly/General people	66.1 (59.6-72.0)	83.0 (77.1-87.7)	<0.05
Parikh	2.6 (1.2-5.7)	1.0 (0.3-3.6)	NS
Hero	0.2 (0.0-1.1)	1.3 (0.4-4.3)	NS
Panthi	3.3 (2.0-5.4)	11.0 (7.5-15.8)	<0.05
Gay	2.6 (1.4-4.8)	0.3 (0.0-1.8)	NS
Kothi	21.3 (15.8-28.0)	2.6 (1.2-5.6)	<0.05
Do-parata	4.0 (2.3-6.7)	0.8 (0.3-2.4)	NS

IQR, Inter Quartile Range
NS refers to not significant

4.3 Marital Status and Sex Partners (Table 10)

Although the majority of MSM in both cities were currently unmarried, in Dhaka the number of unmarried MSM (67.7%) was significantly higher compared to Sylhet (55.6%) (p<0.05). Almost 64% and 44% in Dhaka and Sylhet, respectively had regular sex partners and among the married MSM, regular sex partners other than spouse was reported more commonly in Dhaka than Sylhet (p<0.05). Having regular female sex partners was not uncommon as substantial proportions of MSM in both cities reported this irrespective of whether they were married or unmarried. Their age at first sex was around 16 years in both cities and for the majority their first sex partner was a male.

In both cities, on average male to male sex had been practiced for 8.9 years.

Table 10: Marital status and sex partners in general

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Current marital status			
Married	28.9 (24.6-33.6)	42.3 (36.0-48.8)	<0.05
Unmarried	67.7 (62.7-72.4)	55.6 (49.4-61.6)	<0.05
Divorced/widower/separated	3.4 (2.1-5.5)	2.1 (1.0-4.4)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% currently living with spouse (Denominator is those who were currently married)	N=136 77.9 (68.6-85.0)	N=162 87.0 (79.6-92.0)	NS
% currently had regular sex partners	63.8 (58.8-68.5)	43.9 (38.2-49.7)	<0.05
% currently married who had regular sex partners besides spouse (Denominator is those who were currently married)	N=136 63.1 (53.7-71.5)	N=162 37.7 (29.2-47.0)	<0.05
% currently unmarried who had regular sex partners (Denominator is those who were currently unmarried)	N=351 64.1 (58.6-69.2)	N=221 48.4 (42.0-54.9)	<0.05
Gender of regular sex partners besides spouse* (Denominator is all MSM who currently had regular sex partner)	N=301	N=168	
Male	88.4 (82.2-92.6)	86.3 (79.3-91.2)	NS
Female	27.4 (21.6-34.2)	36.9 (27.5-47.4)	NS
Hijra	10.7 (6.4-17.4)	1.2 (0.3-4.9)	<0.05
Gender of regular sex partners* (Denominator is who were currently unmarried and had regular sex partner)	N= 220	N=107	
Male	91.7 (85.6-95.3)	82.2 (73.5-88.6)	NS
Female	17.8 (12.2-25.2)	31.8 (22.1-43.3)	NS
Hijra	7.2 (3.7-13.7)	1.9 (0.4-7.6)	NS
Gender of regular sex partners besides spouse* (Denominator is who were currently married and had regular sex partner)	N= 81	N=61	
Male	80.0 (66.6-89.0)	93.4 (79.1-98.2)	NS
Female	51.5 (38.7-64.1)	45.9 (29.6-63.1)	NS
Hijra	19.5 (10.5-33.3)	0	-
Age at first sex (in years) (Denominator is who had sex and could recall)	N=486		
Mean (95% CI)	15.6 (15..3-15.9)	16.0 (15.7-16.3)	NS
Median (IQR)	16.0 (14.0-17.0)	16.0 (14.0-18.0)	
Gender of first sex partner			
Male	65.5 (59.7-70.8)	56.4 (50.0-62.6)	NS
Female	31.1 (26.4-36.2)	43.1 (37.0-49.4)	<0.05
Hijra	3.4 (1.8-6.3)	0.5 (0.1-1.9)	NS
Duration of practicing male to male sex (in years)			
Mean (95% CI)	8.9 (8.2-9.7)	8.9 (7.9-9.9)	NS
Median (IQR)	8.0 (4.0-12.0)	8.0 (4.0-12.0)	

*Multiple responses
IQR, Inter Quartile Range

NS refers to not significant

4.4 Sexual History with Male Partners including Condom Use (Table 11, Figures 8-11)

Figure 8 and 9 shows the proportion of MSM reporting anal sex and condom use with different partners during the last anal intercourse in the last 6 months and last one month respectively.

In Dhaka, both in the last six months and last one month, more MSM reported having non-transactional anal sex with male/hijra sex partner than in Sylhet ($p<0.05$ for both time frames). In contrast, buying sex from males was reported by more MSM in Sylhet than in Dhaka both in the last six months and last one month ($p<0.05$ for both time frames). Around 10% of the MSM in both the cities reported that they bought sex from hijra.

Condom use during their last anal intercourse was reported by similar proportions of MSM in Dhaka and Sylhet in all cases.

Figure 8: History of anal sex and condom use during last anal intercourse in the last 6 months

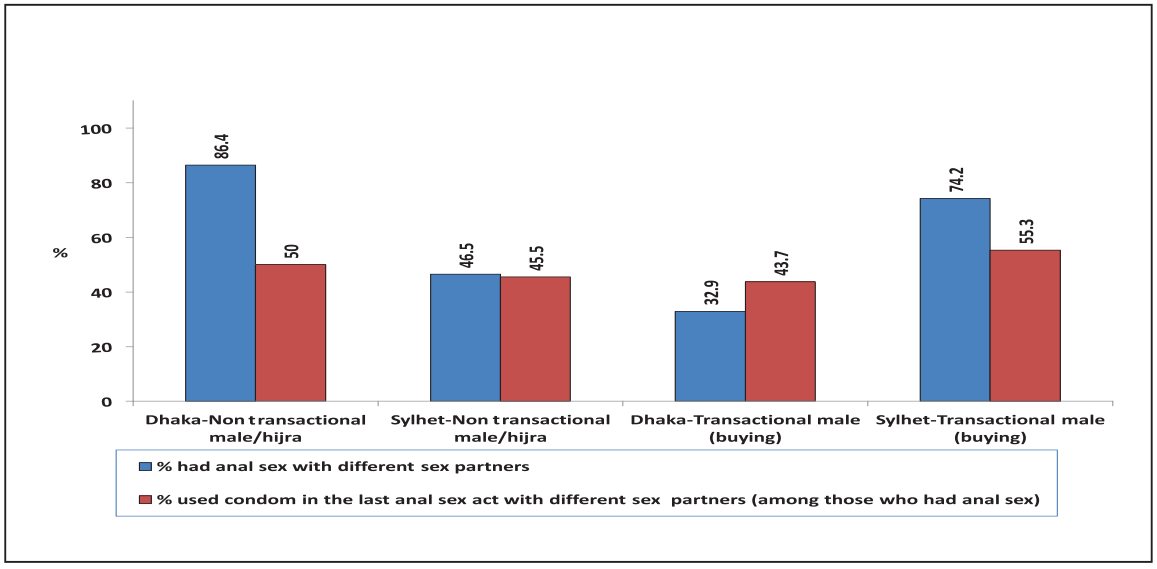
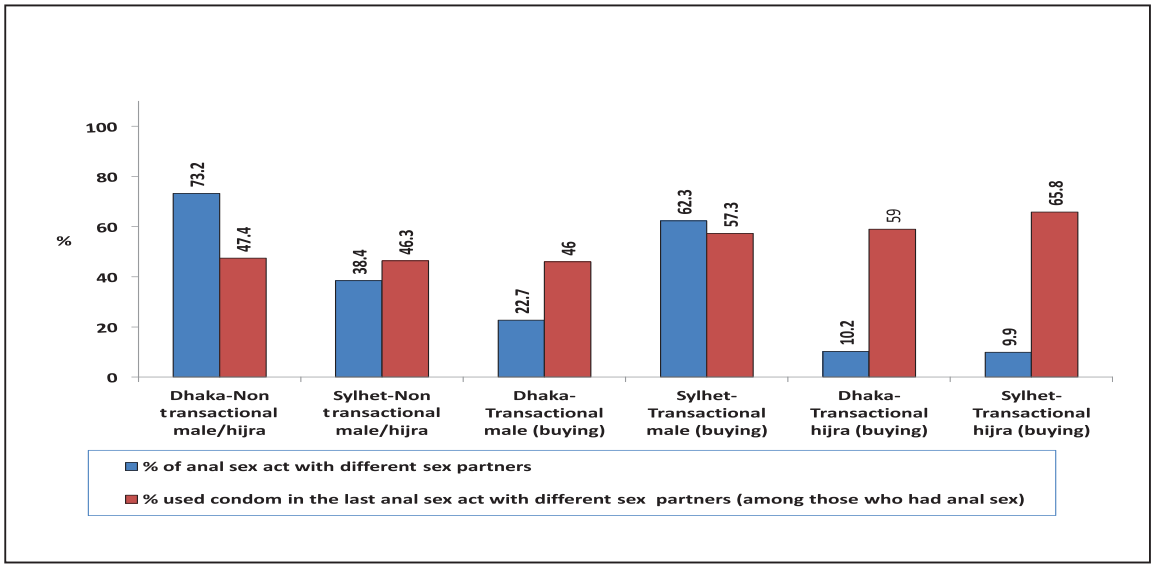


Figure 9: History of anal sex and condom use during last anal intercourse in the last month



The vast majority (87-90.6%) of MSM in both cities had ever used a condom during anal intercourse. Half of the MSM in both cities reported using a condom during the last intercourse with a male sex partner in the last six months. Condom breakage while having sex in the last month was reported by 9.4% and 16.3% of MSM in Dhaka and Sylhet respectively.

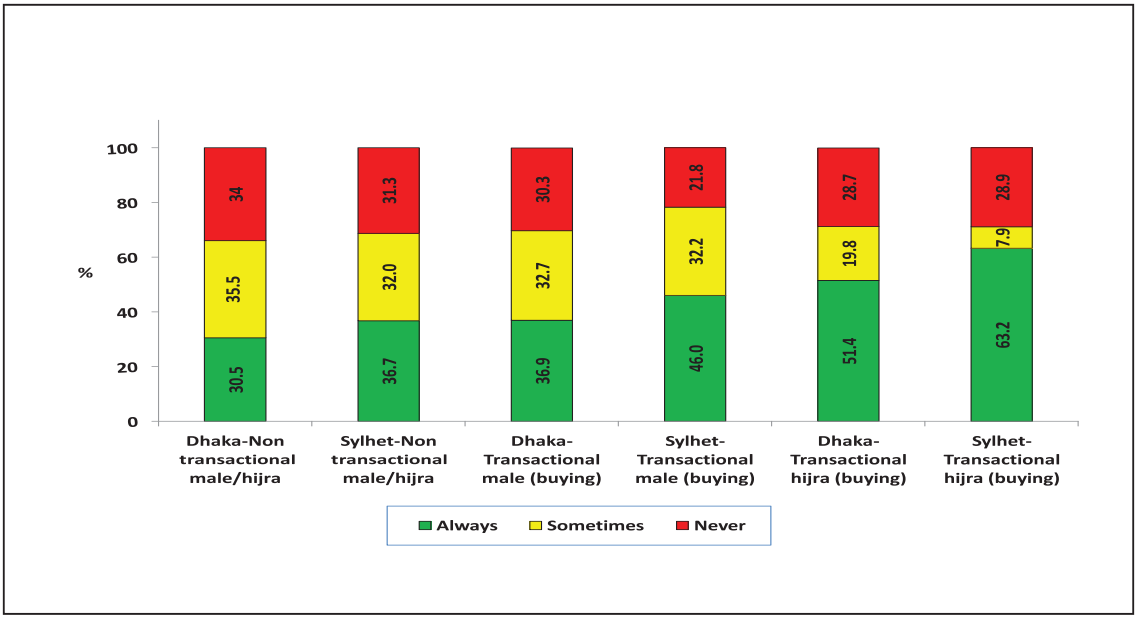
Table 11: Overall use of condom

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% ever used condom during anal sex	87.0 (82.8-90.2)	90.6 (84.9-94.3)	NS
% used condom in the last anal intercourse with a male sex partner (Denominator is who had sex with a male in the last 6 months)	N= 465 49.1 (43.4-54.9)	N=358 50.3 (43.1-57.5)	NS
% had a condom break in the last month (Denominator is who had sex and used condom in the last month)	N=285 9.4 (6.1-14.1)	N=252 16.3 (12.2-21.4)	NS

NS refers to not significant

Figure 10 shows frequency of condom use during anal intercourse with different partners. Never using condoms during anal intercourse in the last month ranged from 21.8-34% of MSM in Dhaka and Sylhet.

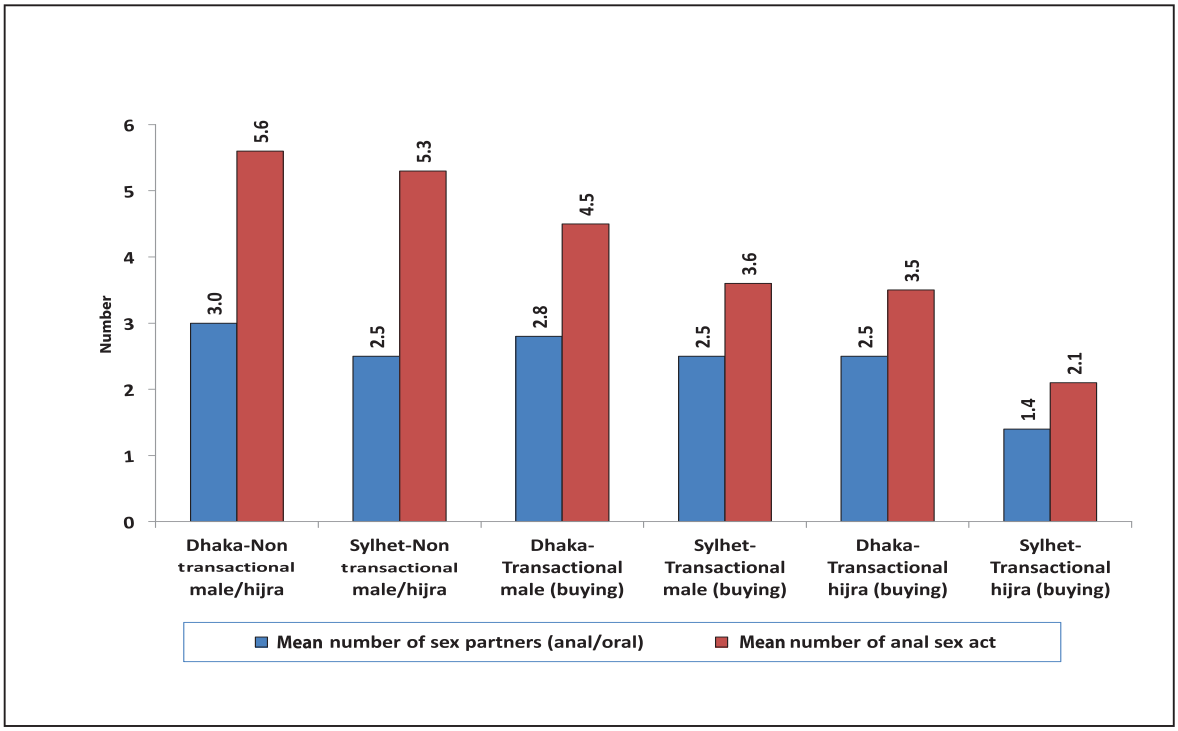
Figure 10: Frequency of condom use during anal intercourse in the last month



The mean number of anal/oral sex partners and transactional and non-transactional anal sex acts with different sex partners are presented in figure 11. The number of sex partners was similar whether with males or hijra and irrespective of whether this was transactional or non-transactional. The mean number of anal sex acts with each type of partner varied from 2-6 in the last month in both cities.

The mean number of anal sex acts in the last month with males/hijra/females whether transactional or non-transactional was 8.0 (95% CI: 7.1-8.9) in Dhaka and 8.9 (95% CI: 8.1-10.0) in Sylhet.

Figure 11: Number of sex partners (anal/oral) and anal sex acts of MSM in the last month



4.5 History of Oral Sex (Table 4.5.1)

More MSM in Dhaka than those in Sylhet reported having non-transactional oral sex with male/hijra in the last month ($p<0.05$). Oral sex was not commonly bought from males/hijra.

Table 12: History of oral sex with male/hijra sex partners

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Non-transactional sex with male/hijra			
% had non-transactional oral sex with male/hijra sex partners in the last month	16.6 (12.7-21.5)	3.9 (2.3-6.6)	<0.05
Number of male/hijra sex partners in the last month with whom non-transactional oral sex was performed (Denominator is who had non-transactional oral sex with males in the last month)	N=81	N=15	
Mean (95% CI)	1.7 (1.4-2.0)	1.3 (1.0-1.6)	NS
Median (IQR)	1.0 (1.0-2.0)	1.0 (1.0-2.0)	
Buying sex from males			
% bought oral sex from male partners in the last month	4.3 (2.5-7.1)	4.4 (2.4-8.2)	NS
Number of male sex partners in the last month from			

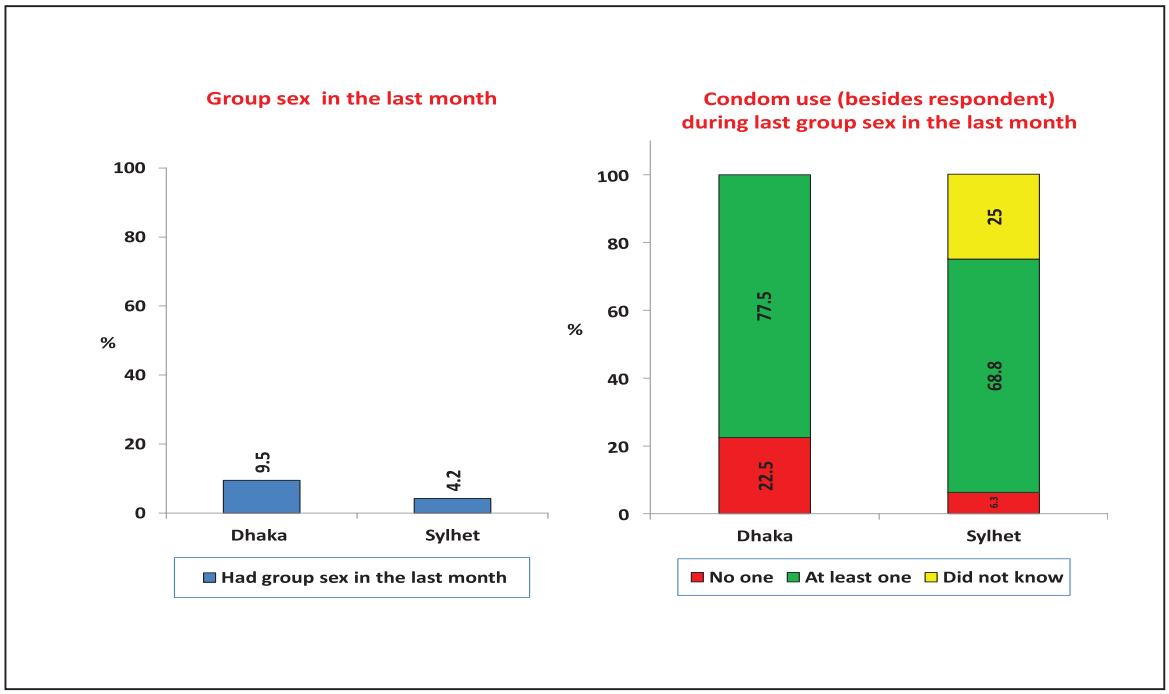
Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
whom oral sex was bought (Denominator is who bought oral sex from males in the last month)	N= 20	N=17	
Mean (95% CI)	1.5 (1.1-2.0)	1.4 (0.7-2.1)	NS
Median (IQR)	1.0 (1.0-2.0)	1.0 (1.0-1.0)	
Buying sex from hijra			
% bought oral sex from hijra in the last month	1.7 (0.7-4.3)	0	-
Number of hijra in the last month from whom oral sex was bought (Denominator is who bought oral sex from hijra in the last month)	N= 8		
Mean (95% CI)	1.3 (0.8-1.7)	-	-
Median (IQR)	1.0 (1.0-2.0)		

IQR, Inter Quartile Range
NS refers to not significant

4.6 History of Group Sex (Figure 12)

More MSM in Dhaka than those in Sylhet had group sex in the last one month ($p<0.05$). The mean number of sex partners in the last group sex was three (excluding the respondent) in both cities. Twenty two percent of MSM in Dhaka and 6% in Sylhet reported that no one used a condom during last group sex . However, 55.5% (95% CI: 41.7-68.5) in Dhaka and 50% (95% CI: 20.0-80.0) in Sylhet reported that they themselves used a condom in the last group sex in the last month.

Figure 12: Group sex and condom use



4.7 Sexual History with Females (Figures 13-16)

A considerable percentage of MSM in both cities reported having female sex partners either transactional or non-transactional in the last month (Figure 13). More MSM in Sylhet compared to those in Dhaka had female sex partners, whether transactional or non-transactional ($p<0.05$ in both cases). Figure 13 also shows the proportion of MSM using condoms in the last vaginal/anal intercourse with females among those who had female sex partners in the last month. Generally condom use in transactional sex was higher than non-transactional sex in either city ($p<0.05$ for both comparisons) and there was no difference between the cities.

For transactional sex, MSM were asked which category of female sex worker they had last bought sex from. In both cities, most of the MSM said they had bought sex from hotel based female sex workers followed by street based female sex workers (Figure 14).

Figure 13: Proportion of MSM having sex with different types of females in the last month and using condoms during last sex

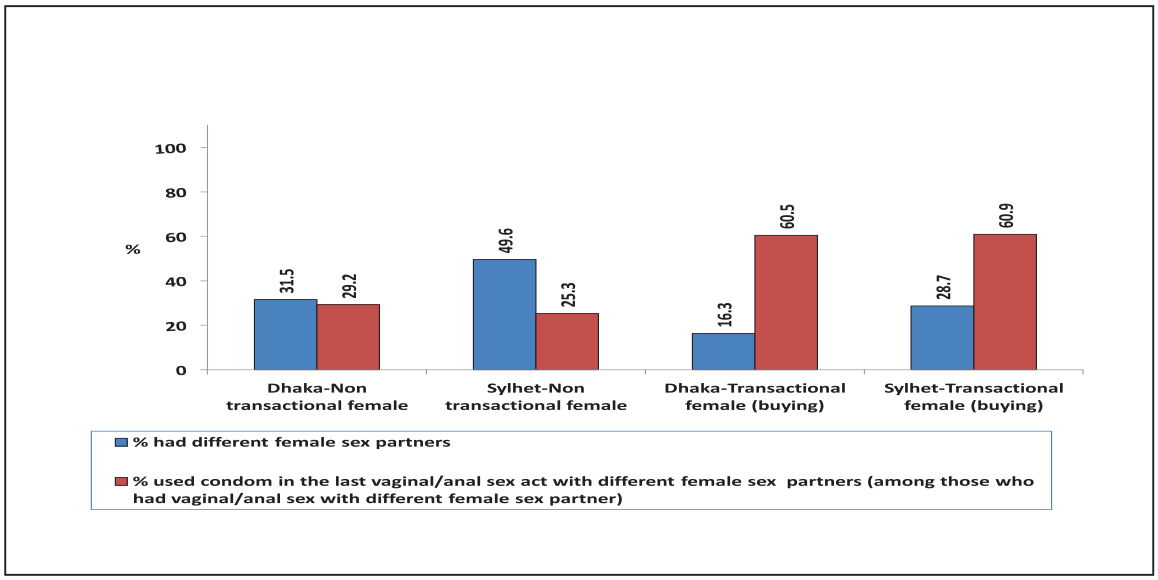
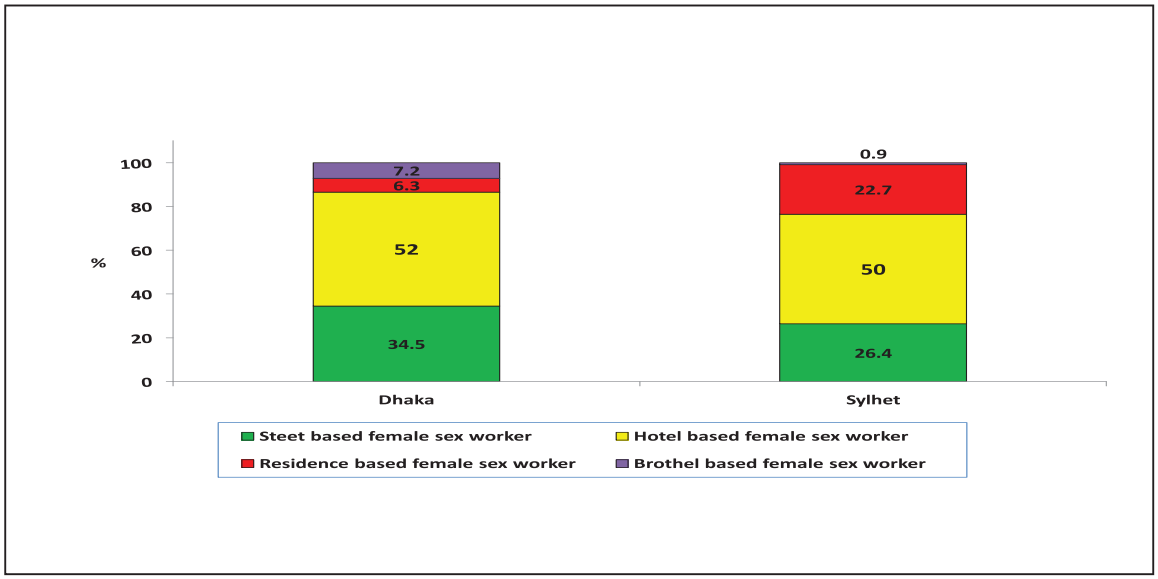


Figure 14: Proportion of MSM buying sex from different categories of female sex workers in the last month



The mean numbers of female sex partners (vaginal/anal) and vaginal/anal sex acts with different types of female sex partners are presented in Figure 15.On average, MSM of both cities had approximately one female sex partner for non-transactional sex and two for transactional sex in the last month. In both cities, in the last month MSM reported an average of two and seven transactional and non-transactional vaginal/anal intercourse respectively with females.

Figure 15: Mean number of female sex partners and vaginal/anal sex acts with females in the last month

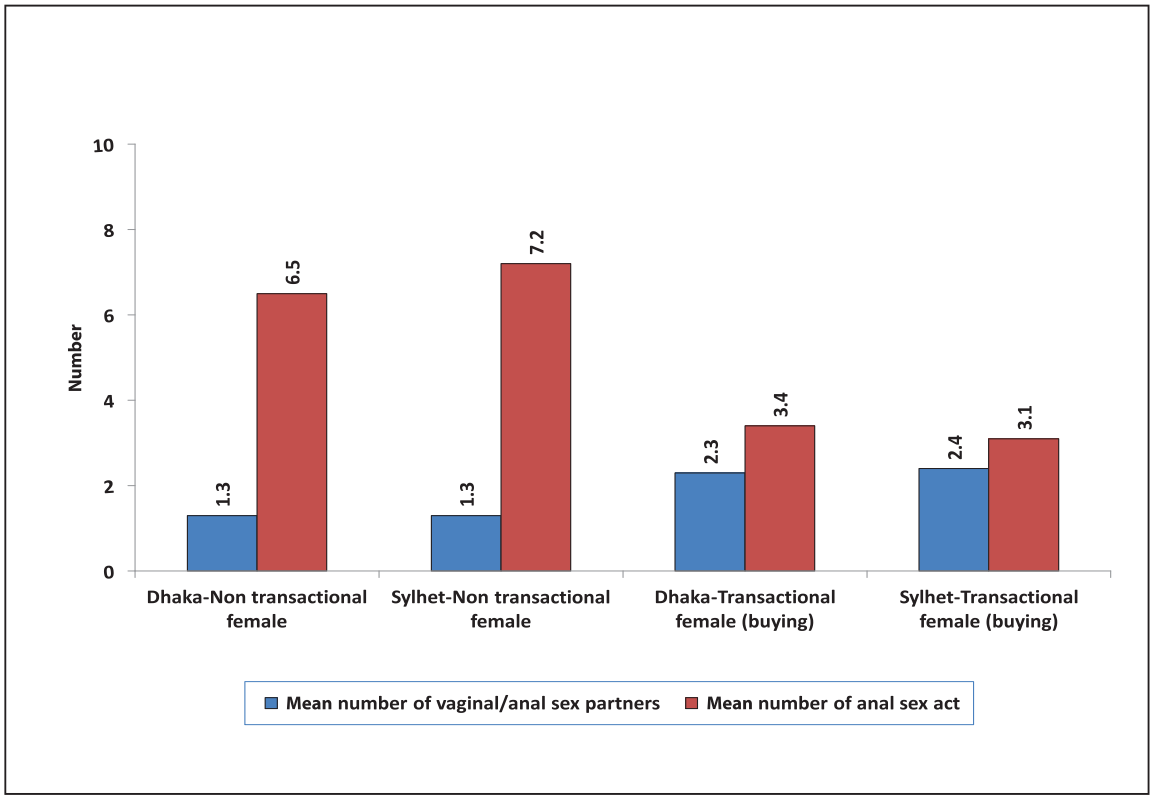
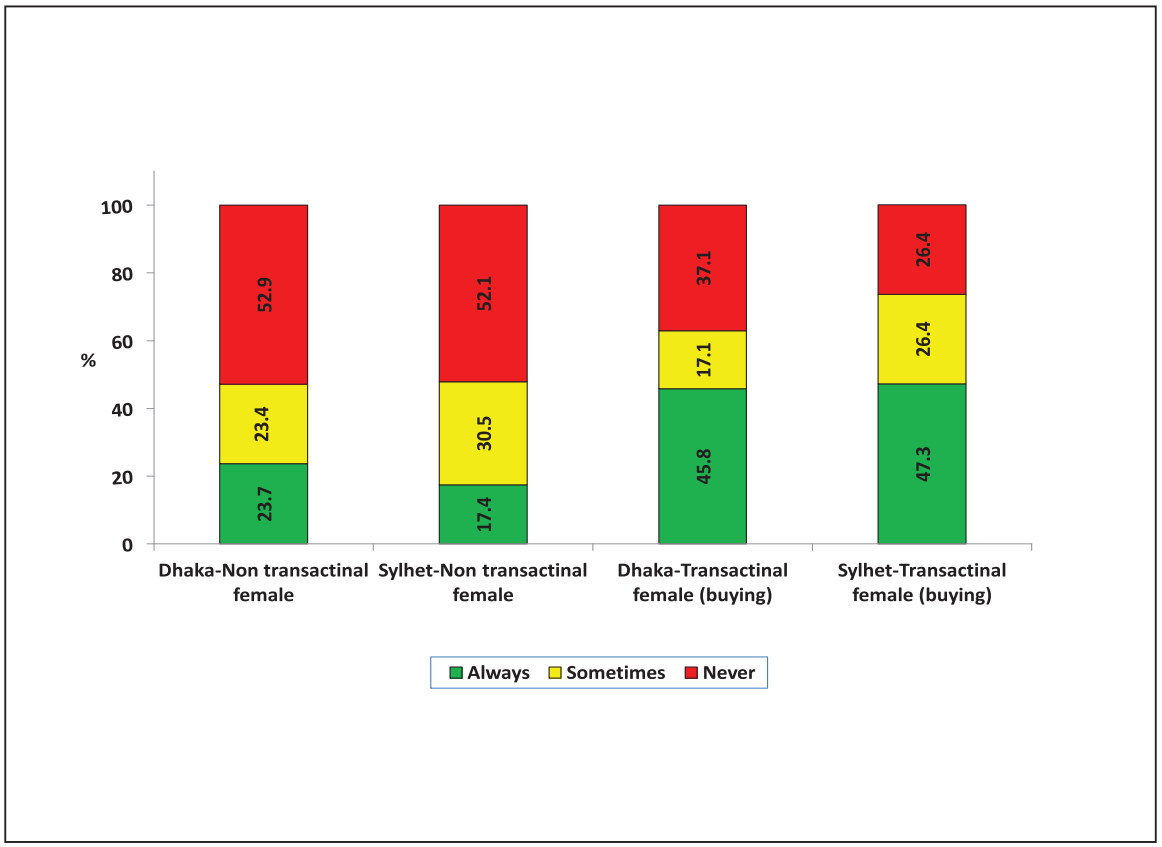


Figure 16 shows frequency of condom use during vaginal/anal intercourse with different female sex partners. In both cities, more than 50% MSM said they never used condom during non-transactional sex with their female partners in the last month. While buying sex from females in the last month, 37.1% (95% CI: 26.7-48.9) and 26.4% (95% CI: 18.1-36.7) MSM from Dhaka and Sylhet respectively reported never using condoms.
In non-transactional sex never using condoms was reported by more MSM when this occurred with females compared to males in both cities ($p<0.05$ for both cities) (see Figures 10 and 16).

Figure 16: Frequency of condom use during vaginal/anal intercourse with females in the last month



4.8 Access to Condoms and Ease of Access (Table 13)

In both cities, among those who knew where condoms were available, the most common source mentioned by more than 80% of MSM was pharmacy. Only 40-53% said that they knew that condoms were available from DIC, depot holder and NGO workers i.e. HIV prevention programmes. Majority of the MSM in both cities obtained condoms from pharmacy in the last month. Among those who used condom in the last month more than 80% in both cities said they had easy access to condoms when they needed them. The most common reasons for not having easy access to condoms were 'not willing to carry' or that they were hesitant to buy for various reasons such as shame and fear.

Table 13: Access to condoms and ease of access

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Knowledge on the sources of condom*			
Don't know	1.0 (0.4-2.9)	0.8 (0.3-2.3)	NS
Shop	45.5 (39.2-52.0)	44.6 (36.7-52.9)	NS
Pharmacy	88.9 (84.0-92.5)	84.3 (79.3-88.3)	NS
Health centre (besides DIC)	8.0 (5.5-11.4)	0.5 (0.1-2.2)	<0.05
Bar/guest house/hotel	3.8 (2.2-6.3)	2.1 (0.8-5.1)	NS
Friends	19.7 (15.5-24.7)	12.3 (8.4-17.7)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Sex partners	39.3 (33.7-45.3)	46.5 (38.5-54.6)	NS
HIV Prevention programmes (DIC/Depot holder /NGO workers)	40.1 (34.4-46.1)	53.3 (43.4-62.9)	NS
Sources of condom in the last month* (Denominator is who had sex in last month and used condom)	N=285	N=252	
Shop	21.2 (16.5-26.8)	19.0 (12.6-27.8)	NS
Pharmacy	63.8 (56.0-71.0)	58.3 (50.0-66.2)	NS
Health centre	2.8 (1.5-5.4)	0	-
Bar/guest house/hotel	1.6 (0.6-4.3)	3.2 (1.2-8.0)	NS
Friends	19.5 (14.3-25.9)	12.3 (8.0-18.4)	NS
Pimps	0.6 (0.2-2.5)	0	-
Sex partner	48.3 (41.5-55.1)	49.2 (40.0-58.5)	NS
HIV prevention programmes (DIC/Depot Holder/NGO workers)	33.2 (26.1-41.1)	57.1 (48.9-65.0)	<0.05
% had easy access to condoms in the last one month	63.1 (57.5-68.3)	67.9 (57.8-76.5)	NS
% had easy access to condoms in the last one month (Denominator is who used condom in the last month)	N= 286	N=252	
Yes	80.1 (74.1-85.0)	81.7 (73.8-87.7)	NS
No	18.4 (13.7-24.2)	16.7 (11.1-24.3)	NS
Condom was not needed	1.3 (0.5-3.4)	1.6 (0.6-3.9)	NS
Reasons for not having easy access to condoms in the last month* (Denominator is who reported not having easy access to condoms in the last month)	N= 52	N=42	
DIC is far away	10.0 (4.0-23.0)	31.0 (15.1-53.0)	NS
Didn't get peer educator when need	18.3 (8.8-34.2)	35.7 (21.3-53.2)	NS
Cost is too high	12.9 (5.6-26.8)	21.4 (9.5-41.6)	NS
Shop/Pharmacy is far away	33.8 (21.3-49.1)	21.4 (7.4-48.2)	NS
Shop/Pharmacy is closed	22.2 (12.2-37.0)	19.0 (8.6-37.1)	NS
Feel ashamed/troublesome/afraid to buy	59.2 (42.6-74.0)	73.8 (57.8-85.3)	NS
Not willing to carry	69.9 (54.9-81.6)	57.1 (37.1-75.1)	NS

*Multiple responses
NS refers to not significant

4.9 Knowledge and Use of Lubricants (Table 14)

In both cities, more than 95% of MSM said they had ever used lubricants while having anal intercourse however approximately half in both cities used substances that were not appropriate for use as lubricants with condoms. Forty eight percent and 55.9% of MSM in Dhaka and Sylhet respectively had heard about lubricants suitable for use with condoms and most of them were able to mention brand names. Using a water based lubricant with condom during last intercourse was reported by 44.3% and 48.2% of MSM in Dhaka and Sylhet respectively. Among MSM who had heard about suitable lubricants and had anal intercourse in the last month more from Sylhet always used special lubricant together with a condom during anal intercourse ($p<0.05$). The main reason cited for always using lubricant with condoms, was to decrease pain/inflammation.

Table 14: Use of Lubricants

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% ever used any kind of lubricant while having anal intercourse	93.7 (90.0-96.1)	95.3 (93.0-96.9)	NS
Types of lubricants used the last time* (Denominator is who had anal intercourse in the last year)	N= 453	N=365	
Saliva	53.2 (47.2-59.0)	38.4 (31.0-46.2)	<0.05
Oil	21.9 (17.4-27.2)	19.7 (13.9-27.2)	NS
Water based condom lubricant	48.8 (43.3-54.4)	54.8 (46.5-62.9)	NS
Antiseptic cream	0.3 (0.1-1.3)	0.5 (0.1-2.2)	NS
Ordinary lotion/Vaseline/Petroleum jelly/Beauty cream	27.2 (22.6-32.3)	16.7 (12.4-22.1)	<0.05
Shampoo/Soap	9.7 (6.5-14.1)	6.0 (3.4-10.4)	NS
Did not use lubricant	0	2.7 (1.2-6.2)	-
% ever heard about lubricant product made especially for use with condoms	47.7 (41.6-53.9)	55.9 (47.3-64.1)	NS
% were able to mention brand name of such product (Denominator who ever heard about lubricant)	N= 222 81.4 (74.7-86.7)	N=214 93.0 (88.5-95.8)	<0.05
Name of the brand of lubricant (Denominator is who mentioned the brand name of lubricant)	N= 181	N=199	
Sathi	98.7 (94.5-99.7)	100.0	NS
Jasocaine jelly	1.3 (0.3-5.5)	0	-
% used condoms with lubricant during last intercourse	N= 445 44.3 (38.3-50.4)	N=355 48.2 (41.1-55.4)	NS
Frequency of using special lubricant together with a condom during anal intercourse in the last month (Denominator is who had heard about lubricants designed for use with condoms and had anal sex in the last month)	N= 200	N=201	
Always	28.2 (21.5-36.0)	42.8 (36.4-49.4)	<0.05
Sometimes	38.3 (31.0-46.2)	44.3 (37.6-51.2)	NS
Never	32.7 (25.3-41.0)	12.9 (8.6-19.1)	<0.05
Can't remember	0.8 (0.2-3.3)	0	-
Reasons for not using special lubricant together with a condom never or sometimes in the last month (Denominator is who never or sometimes used condom and lubricant in the last month)*	N= 139	N=115	
Cost is too high	1.6 (0.5-5.0)	0.9 (0.1-6.3)	NS
Feel ashamed/troublesome/afraid to buy	5.3 (2.7-10.2)	7.8 (3.7-15.8)	NS
Do not know where to buy	11.1 (5.8-20.2)	1.7 (0.4-6.8)	NS
Do not feel it is required	42.3 (31.4-54.0)	47.8 (33.7-62.3)	NS
Use other cream	15.7 (10.7-22.4)	26.1 (15.4-40.7)	NS
Shortage of supply	28.5 (19.5-39.5)	20.9 (12.9-32.0)	NS
Not easy to carry	21.9 (15.0-30.8)	33.0 (25.3-41.8)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Reasons for always using condom and appropriate lubricant in the last month (Denominator is who always used condom and lubricant in the last month)*	N= 59	N=86	
Decrease pain/inflammation	79.9 (65.1-89.4)	79.1 (64.9-88.5)	NS
Enhance pleasure	57.5 (44.0-69.9)	52.3 (41.1-63.3)	NS
Decrease risk of condom breakage	60.0 (45.1-73.2)	38.4 (24.9-53.9)	NS
To avoid HIV/ STIs	30.7 (18.4-46.6)	18.6 (9.7-32.8)	NS

*Multiple responses
NS refers to not significant

4.10 Knowledge of STIs, Self-reported STIs and Care-seeking Behaviour (Table 15)

In both cities, approximately 15% MSM had no knowledge about STI symptoms. The most common symptom reported was genital ulcer/sore. Almost one in every eight MSM complained of at least one STI symptom in the last one year in both cities. Among those who reported at least one symptom in the last one year, significantly more MSM in Sylhet said that NGO was their first choice for STI treatment (41.7%) than MSM of Dhaka (11.9%, $p<0.05$) and most mentioned Bandhu Social Welfare Society.

Table 15: Knowledge of STIs, self-reported STIs and care-seeking behaviour

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Knowledge about STI symptoms*			
No knowledge about STI Symptoms	15.3 (11.3-20.4)	14.1 (9.8-19.9)	NS
Discharge from penis	40.8 (35.1-46.7)	41.5 (35.6-47.6)	NS
Burning pain on urination	51.3 (44.9-57.6)	59.8 (51.2-67.9)	NS
Genital ulcer/sore	57.5 (51.5-63.1)	53.3 (47.0-59.4)	NS
Swellings in groin area	8.9 (6.2-12.5)	4.4 (2.6-7.5)	NS
Anal discharge	7.7 (5.0-11.6)	4.7 (3.0-7.3)	NS
Anal ulcer/sore	21.6 (17.7-26.1)	22.7 (17.3-29.2)	NS
Others	1.7 (0.9-3.4)	1.0 (0.3-3.3)	NS
% reported urethral discharge in the last year	6.6 (4.5-9.6)	6.0 (3.8-9.4)	NS
% reported anal discharge in the last year	0.8 (0.3-2.1)	0.8 (0.3-2.4)	NS
% reported genital ulcer/sore in the last year	7.4 (5.3-10.3)	7.8 (5.7-10.6)	NS
% reported at least one STI symptom (urethral discharge or anal discharge or genital ulcer/sore) in the last year	13.0 (10.0-16.7)	12.5 (9.5-16.4)	NS
The first choice of the last STI treatment in the last year (Denominator is who reported STI symptoms in last year)	N=62	N=48	
Govt. Hospital	8.3 (3.5-18.6)	10.4 (4.0-24.6)	NS
Pharmacy	31.1 (19.3-45.8)	22.9 (11.7-40.1)	NS
Private doctor	10.3 (4.5-21.9)	8.3 (2.5-24.2)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Private clinic	1.2 (0.2-8.6)	0	-
NGO clinic	11.9 (5.0-25.5)	41.7 (28.6-56.0)	<0.05
Canvasser/Traditional healer	9.4 (3.7-21.8)	6.3 (2.0-17.6)	NS
Advice/treatment from friends	3.5 (0.5-22.5)	0	-
Self medication	5.5 (2.0-14.4)	2.1 (0.2-15.7)	NS
Did not seek treatment	18.8 (10.1-32.4)	4.2 (0.9-16.5)	NS
Homeopathy	0	4.2 (0.6-23.9)	-
The first choice of source of treatment for the last STI symptom (Denominator is who reported STIs in last 12 months)	N= 62	N=48	
Qualified practitioner[θ]	31.6 (21.2-44.3)	64.6 (48.1-78.2)	<0.05
Un-qualified practitioner[¶]	49.5 (36.5-62.7)	31.3 (18.1-48.3)	NS
No treatment	18.8 (10.1-32.4)	4.2 (0.9-16.5)	NS
Name of NGO clinic (Denominator is who availed STI services for the last STI symptom from NGO clinic in the last year)	N=7	N=20	
Bandhu Social Welfare Society (BSWS)	80.1 (30.6-97.3)	85.0 (56.3-96.1)	NS
Ashar Alo Society	0	5.0 (0.5-37.2)	-
Ibn Sina	0	5.0 (0.5-37.2)	-
Surma kumarpara	0	5.0 (0.5-34.3)	-
Madhumita (fhi360)	10.0 (0.5-71.4)	0	-
ODPUP	10.0 (0.7-64.3)	0	-
Waiting days for the last STI treatment in the last year (Denominator is who sought STI treatment in last year)	N= 46	N=44	
Mean (95% CI)	7.9 (6.0-9.7)	6.0 (4.0-7.9)	NS
Median (IQR)	5.0 (3.0-15.0)	3.0 (2.0-7.0)	
Expenditure (in Taka) for the last STI treatment in the last year (Denominator is who reported STI symptoms in the last year and sought treatment)	N= 48	N=46	
Mean (95% CI)	654.4 (393.1-915.7)	443.6 (216.1-671.1)	NS
Median (IQR)	300.0 (120.0-1000.0)	200.0 (30.0-500.0)	

[θ]Qualified practitioner refers to hospital, private clinic, private doctor and NGO clinic

[¶] Un-qualified practitioner refers to drug seller, canvasser/traditional healer, advice/treatment from friends and self-medication

[*]Multiple responses

IQR, Inter Quartile Range

NS refers to not significant

4.11 Knowledge of HIV and its Modes of Prevention and Transmission (Table 16)

The vast majority had heard of HIV/AIDS was almost universal. However, misconceptions about the transmission of HIV especially that HIV can be transmitted by mosquito bites and sharing food with an HIV infected person, was not uncommon.

Table 16: Knowledge of and modes of HIV transmission

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% heard about HIV/AIDS	98.7 (96.0-99.6)	99.7 (98.0-100.0)	NS
% mentioned condom use (correctly and consistently in any type of sex) as a mode of prevention	92.8 (88.4-95.7)	95.6 (92.3-97.5)	NS
% mentioned avoiding anal sex as a mode of prevention	43.3 (37.3-49.6)	70.2 (63.6-76.0)	<0.05
% mentioned avoiding multiple sex partners as a mode of prevention	64.2 (57.9-70.0)	76.7 (72.7-80.3)	<0.05
% mentioned HIV can be transmitted by mosquito bites	34.0 (28.1-40.5)	31.9 (26.2-38.3)	NS
% mentioned HIV can be transmitted by sharing food with an HIV infected person	30.8 (25.3-36.9)	33.0 (27.4-39.1)	NS
% mentioned not sharing needles/syringes as a mode of prevention	79.2 (73.6-83.9)	85.9 (82.1-88.9)	NS
% mentioned one can tell by looking at someone whether he/she is infected with HIV	14.3 (10.2-19.5)	14.7 (10.8-19.5)	NS
% had comprehensive knowledge of HIV[§]	26.1 (21.1-31.8)	35.0 (29.2-41.2)	NS

NS refers to not significant

[§]This indicator was computed by correct answers to five questions:

1. Can people reduce their risk of HIV by using a condom correctly and consistently in any type of sex,
2. Can people reduce their risk of HIV by avoiding sex with multiple partners,
3. Can a person get HIV through mosquito bites,
4. Can a person get HIV by sharing a meal with someone who is HIV infected and
5. Can you tell by looking at someone whether s/he is infected with HIV

4.12 Knowledge on Confidential HIV Testing (Table 17)

Approximately 47% of MSM in both cities knew where HIV could be tested confidentially. Among those who knew this, 50.6% and 44.8% from Dhaka and Sylhet respectively said they had been tested sometime in their lives and more than half had been tested for HIV at Bandhu Social Welfare Society in both cities. Compared to Sylhet more MSM in Dhaka tested for HIV on their own accord (P<0.05) whereas in Sylhet significantly more MSM compared to those of Dhaka tested following someone's advice for testing (p<0.05). In the last year, only 16.5% and 15.1% MSM in Dhaka and Sylhet respectively underwent HIV testing and counselling and knew their result.

Table 17: Confidential HIV testing

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% knew where HIV can be tested confidentially	46.5 (40.1-53.0)	47.4 (40.2-54.6)	NS
% ever tested for HIV	23.5 (18.5-29.5)	21.1 (15.5-28.1)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% ever tested for HIV (Denominator is who knew where to test HIV with confidentiality)	N=222 50.6 (41.7-59.4)	N=181 44.8 (34.5-55.5)	NS
Name of places of HIV testing (Denominator is who ever tested for HIV)	N= 116	N=81	
Jagori (icddr,b)	4.8 (2.2-10.4)	0	-
Bandhu Social Welfare Society (BSWS)	68.0 (59.2-75.7)	59.3 (45.7-71.6)	NS
Surokhkha (SMC)	1.1 (0.1-7.9)	24.7 (15.3-37.4)	<0.05
Marie Stopes Clinic Society (MSCS)	0.7 (0.1-4.9)	1.2 (0.2-9.4)	NS
Ashar Alo Society	0	2.5 (0.6-9.5)	-
Madhumita (fhi360)	22.2 (14.6-32.1)	7.4 (2.8-17.9)	NS
Can't remember	3.3 (1.2-8.6)	4.9 (1.6-14.1)	NS
Did you yourself request the test or did somebody advise you to have the test (Denominator is who ever tested for HIV)	N= 116	N=81	
Self	57.4 (47.1-67.0)	33.3 (24.0-44.2)	<0.05
Someone advised	41.1 (31.5-51.5)	64.2 (53.9-73.4)	<0.05
Needed the test	1.5 (0.3-6.3)	2.5 (0.7-8.5)	NS
Who advised to test for HIV (Denominator is who mentioned someone advised to test for HIV)	N=49	N=52	
NGO worker	66.2 (47.0-81.3)	17.3 (7.6-34.7)	<0.05
Friends	29.7 (15.8-48.8)	23.1 (11.4-41.2)	NS
Peer educator	0	57.7 (37.9-75.3)	-
Doctor	2.4 (0.3-17.5)	1.9 (0.2-13.6)	NS
Don't Know	1.6 (0.2-11.7)	0	-
% received HIV testing result (Denominator is who ever tested for HIV)	N= 116 97.6 (93.0-99.2)	N=81 97.5 (90.5-99.4)	NS
Time since the most recent HIV test (Denominator is who ever tested for HIV)	N= 116	N=81	
Within one year	72.8 (62.9-80.8)	72.8 (62.9-81.0)	NS
More than one year	27.2 (19.2-37.1)	27.2 (19.0-37.1)	NS
% underwent HIV testing and counselling in the last year and knew the result[ϕ]	16.5 (12.2-22.0)	15.1 (10.6-21.1)	NS

NS refers to not significant

[ϕ]This indicator was computed by combining responses from two questions:

1. Have you been tested for HIV in the last 12 months?
2. If yes, I don't want to know the results, but did you receive the results of that test?

4.13 Self-perception of Risk of HIV and Reasons for those Perceptions (Table 18)

Approximately 64% MSM in both Dhaka and Sylhet perceived themselves to be at little or no risk of HIV of whom about 41 to 49% mentioned that this was because they always used condoms. However, 11.2% MSM in Dhaka were not able to assess their own risk which is significantly higher than in Sylhet (3.7%) ($p<0.05$). Among those who assessed themselves to be at high risk of HIV, the majority mentioned irregular use of condoms as one of the reasons for such an assessment.

Table 18: Self-perception of risk of HIV and their reasons

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Assessing risk of HIV			
High risk	10.0 (7.1-14.0)	10.4 (7.2-14.9)	NS
Medium risk	15.1 (11.6-19.4)	21.9 (16.3-28.9)	NS
Little risk or no risk	63.7 (58.8-68.3)	64.0 (54.7-72.3)	NS
Not able to assess own risk	11.2 (7.7-16.0)	3.7 (1.8-7.2)	<0.05
Reasons for assessing themselves to be at high or medium risk (Denominator is who thought themselves to be at high or medium risk)*	N=128	N=124	
Risky behaviour	32.4 (23.4-42.8)	36.3 (24.7-49.7)	NS
Frequent anal sex	33.7 (24.0-45.0)	44.4 (30.4-59.2)	NS
Do not use condoms	31.3 (22.6-41.5)	29.8 (20.2-41.6)	NS
Irregular use of condoms	58.0 (46.9-68.3)	62.1 (51.6-71.6)	NS
Don't share needles/syringes	0	1.6 (0.4-6.7)	-
Reasons for assessing themselves to be at little or no risk (Denominator is who perceived themselves to be at little or no risk)*	N=307	N=245	
Always use condom	40.6 (33.6-48.1)	48.6 (39.5-57.7)	NS
Clean sex partners	24.6 (19.5-30.6)	24.1 (17.7-31.8)	NS
Healthy sex partner	3.5 (1.8-6.6)	4.1 (1.8-8.9)	NS
Never share needle/syringe	2.3 (1.0-5.1)	4.1 (2.1-7.7)	NS
Irregular use of condom	21.2 (16.1-27.4)	24.1 (16.6-33.5)	NS
Have sex with trusted sex partners	27.5 (21.5-34.4)	11.8 (8.2-16.9)	<0.05
Be neat and clean	48.8 (41.3-56.3)	33.5 (25.6-42.4)	NS
Do less sex acts	23.3 (17.9-29.8)	24.5 (19.0-30.9)	NS
Wash genital after sex	39.9 (32.2-48.0)	50.6 (43.3-57.9)	NS
Didn't Have sex with FSW	23.3 (17.9-29.8)	0	-
Regular check up	26.1 (3.3-11.0)	0.8 (0.2-3.3)	NS
I am healthy	0.8 (0.2-3.2)	0.4 (0.1-3.0)	NS

*Multiple responses
NS refers to not significant

4.14 Measures taken to avoid STIs and HIV (Table 19)

In both cities, the most common method used for avoiding STIs was washing genitalia; only 29-33% of the MSM said that they always used condoms to avoid STIs. A similar scenario was observed for avoiding HIV.

Table 19: Measures taken to avoid STIs and HIV

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Measures taken to avoid STIs*			
Nothing	14.8 (11.0-19.5)	11.7 (8.2-16.6)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Wash genital organs with water/soap/dettol/urine	45.6 (39.1-52.2)	53.0 (46.1-59.8)	NS
Always use condoms	28.7 (23.9-34.0)	32.6 (26.4-39.5)	NS
Sometimes use condoms	31.0 (26.1-36.3)	37.9 (32.3-43.7)	NS
Sex with trusted partner	18.0 (14.1-22.7)	7.0 (4.7-10.4)	<0.05
Avoid female sex worker	5.4 (3.4-8.3)	2.6 (1.4-4.8)	NS
Sex with clean partner	28.4 (23.2-34.2)	23.8 (18.9-29.4)	Ns
Be neat and clean	1.4 (0.6-3.5)	0.3 (0.0-2.0)	NS
Do less sex	1.2 (0.5-3.2)	0	-
Ejaculation outside the body	0.2 (0.0-1.5)	0	-
Measures taken to avoid HIV* (Denominator is who have heard about HIV)			
Nothing	15.5 (12.0-19.8)	11.5 (7.9-16.5)	NS
Wash genital organs with water/soap/dettol/urine	42.9 (36.5-49.6)	53.1 (46.4-59.8)	NS
Always use condoms	29.0 (24.4-34.2)	33.0 (26.7-40.0)	NS
Sometimes use condoms	30.4 (25.6-35.8)	39.0 (33.3-45.1)	NS
Sex with trusted partner	18.9 (14.9-23.5)	7.1 (5.0-9.9)	<0.05
Sex with clean partner	31.5 (26.5-37.0)	25.9 (21.2-31.3)	NS
Avoid female sex worker	0.7 (0.2-2.2)	0.3 (0.0-1.6)	NS
Be alert	1.8 (0.8-3.9)	0	-
Do less sex	0.6 (0.2-1.9)	0.8 (0.3-2.4)	NS

*Multiple responses
NS refers to not significant

4.15 Violence against MSM (Table 20)

In the last year,18.4% and 10.2% of MSM in Dhaka and Sylhet respectively were either beaten or raped. Men in uniform were most commonly responsible for beating while hoodlums, relatives and local people were the perpetuators of rape. Approximately 5-7% were jailed in the last year and about one third of them mentioned section-54 (this clause allows arrest without warrant for suspicious behaviour) as the reason for being jailed.

Table 20: Violence in the last year

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% reported being beaten in the last year	13.5 (10.4-17.5)	7.8 (5.3-11.5)	NS
Beating was perpetuated by* (Denominator is who reported being beaten in the last year)	N=70	N=30	
Men in uniform	33.7 (21.0-49.3)	40.0 (23.5-59.1)	NS
Mastans (Hoodlums)	19.5 (12.1-30.0)	36.7 (15.7-64.3)	NS
New sex partner	5.3 (1.6-15.8)	0	-
Regular sex partner	15.1 (8.2-26.1)	0	-
Local people	13.6 (7.7-22.9)	26.7 (12.3-48.5)	NS
Relative	25.3 (15.3-38.7)	16.7 (5.6-40.2)	NS
Others	13.8 (6.7-26.1)	10.0 (3.0-28.7)	NS

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% reported being raped in the last year	8.0 (5.5-11.5)	3.7 (2.0-6.7)	NS
% reported being beaten or raped in the last year	18.4 (14.6-22.9)	10.2 (7.0-14.6)	NS
Rape was perpetuated by* (Denominator is who reported been raped in the last year)	N=37	N=14	
Men in uniform	0	7.1 (0.6-47.5)	-
Mastans (Hoodlums)	26.5 (12.8-46.8)	28.6 (10.6-57.4)	NS
New sex partner	12.3 (5.2-26.6)	21.4 (5.9-54.3)	NS
Regular sex partner	11.5 (4.4-26.9)	7.1 (0.6-47.5)	NS
Local people	38.1 (19.6-60.9)	7.1 (0.8-42.8)	NS
Relative	14.5 (5.3-33.9)	35.7 (10.5-72.4)	NS
Others	15.3 (6.3-32.5)	0	-
% reported being jailed in the last year	5.4 (3.6-8.0)	6.8 (4.5-10.0)	NS
Reasons for being jailed in the last year (Denominator is who had been to jail in the last year)	N=26	N=26	
Local problem	0	15.4 (5.0-38.3)	-
Taking drugs	13.6 (4.5-34.5)	30.8 (14.2-54.4)	NS
Section-54§	28.3 (12.0-53.3)	34.6 (17.0-57.8)	NS
While having sex	14.4 (4.0-40.5)	7.7 (1.7-28.4)	NS
Pimp	0	3.8 (0.4-27.0)	-
While attending political rally	0	7.7 (1.8-27.0)	-
Selling drugs	13.2 (4.5-33.0)	0	-
Accident (motor driver)	9.9 (2.8-30.0)	0	-
For a case on violence against women	2.8 (0.3-20.5)	0	-
For fighting	17.8 (6.6-39.7)	0	-

*Multiple responses

§ When police may arrest without any warrant for any suspicious behaviour

NS refers to not significant

4.16 Mobility (Table 21)

Significantly more MSM from Dhaka (57%) compared to Sylhet (38.1%) travelled to another city in the last year ($p<0.05$). However, amongst those who travelled to another city, more MSM from Sylhet compared to those from Dhaka bought sex while in another city ($p<0.05$) while non-transactional sex was more commonly reported by Dhaka MSM during such travel compared to Sylhet MSM ($p<0.05$).

Travelling abroad was not common; 4% and 2.3% from Dhaka and Sylhet respectively travelled abroad in the last year. Of the 28 MSM who travelled abroad last year, 18 went to India. The cities travelled to in India were Kolkata, Delhi, Darjeeling and Shillong. MSM reported having both transactional and non-transactional sex while they were abroad.

Table 21: Mobility

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Travel within country			
% visited another city in the last year	57.0 (51.9-61.9)	38.1 (32.5-44.1)	<0.05
% bought sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=279 20.5 (15.4-26.8)	N=146 43.8 (32.8-55.5)	<0.05
% used condom in the last intercourse while buying sex in another city in the last year (Denominator is who visited another city and bought sex there in the last year)	N=52 54.4 (39.3-68.7)	N=64 71.9 (54.3-84.6)	NS
% had non- transactional sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=279 41.7 (35.5-48.2)	N=146 18.5 (12.8-25.9)	<0.05
% used condom in the last non-transactional sex in another city in the last year (Denominator is who visited another city and had non-transactional sex in the last year)	N=119 40.2 (30.9-50.3)	N=27 33.3 (15.6-57.5)	NS
Travel abroad			
% travelled abroad in the last year	4.0 (2.5-6.4)	2.3 (1.2-4.7)	NS
% had transactional sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=19 34.7 (15.3-61.2)	N=9 66.7 (23.3-92.9)	NS
% used condom in the last transactional sex while abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	N=7 100.0	N=6 66.7 (18.2-94.7)	NS
% had non- transactional sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=19 43.1 (21.7-67.4)	N=9 11.1 (0.8-65.4)	NS
% used condom in the last non- transactional sex while abroad in the last year (Denominator is who travelled abroad and had non- transactional sex in the last year)	N=8 82.2 (35.8-97.5)	0	-

NS refers to not significant

4.17 Exposure to HIV/AIDS Prevention Programmes (Table 22)

Participation in HIV prevention programmes provided by NGOs, self help groups and CBOs some time in their lives was reported by 33.3% and 45.4% of MSM in Dhaka and Sylhet respectively. However, in Sylhet significantly more MSM participated in HIV/AIDS prevention programmes in the last month than that of Dhaka (78.2% and 41.7%, respectively). The vast majority amongst those who participated in HIV/AIDS prevention programmes said they received condoms and lubricants. About 91.7% and 83% in Dhaka and Sylhet respectively mentioned that they had learnt about safe sex and correct use of condoms by attending these programmes.

Table 22: Exposure to HIV/AIDS prevention programme

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% ever participated in HIV/AIDS prevention programmes (NGO/Self help group/CBO)	33.3 (27.5-39.7)	45.4 (37.3-53.9)	NS
Time since the last participation in intervention programme (Denominator is who ever participated in any intervention programme)	N=155	N=174	
Within a month	41.7 (30.5-53.8)	78.2 (69.7-84.8)	<0.05
1-6 months ago	44.8 (34.1-56.1)	17.8 (11.5-26.6)	<0.05
7-12 months ago	6.0 (3.0-11.6)	4.0 (1.8-8.6)	NS
> 12 months ago	7.5 (4.3-12.8)	0	-
Mean (95% CI)	4.1 (2.8-5.4)	1.0 (0.6-1.3)	<0.05
Median (IQR)	2.0 (0.0-5.0)	0	
Duration of involvement with intervention programmes (Denominator is who ever participated in any intervention programme)	N=151	N=174	
Within a month	2.4 (0.6-9.0)	1.7 (0.4-7.3)	NS
1-6 months	9.2 (5.2-15.6)	8.0 (4.0-15.4)	NS
7-12 months	16.3 (11.1-23.3)	25.3 (19.5-32.1)	NS
> 12 months	72.2 (63.2-79.6)	64.9 (56.3-72.7)	NS
Mean (95% CI)	39.5 (32.7-46.3)	31.1 (26.6-35.7)	NS
Median (IQR)	30.0 (12.0-48.0)	24.0 (12.0-36.0)	
% participated in any HIV/AIDS prevention programmes in the last year	30.1 (24.4-36.5)	44.6 (36.6-53.0)	<0.05
Number of times participated in the prevention programmes in last month (Denominator is who had participated in the prevention programmes in the last month)	N=67	N=174	
Mean (95% CI)	3.3 (2.3-4.2)	1.8 (1.3-2.3)	NS
Median (IQR)	2.0 (1.0-4.0)	1.0 (1.0-2.0)	
% reported being involved with different types of prevention programme activities in the last month* (Denominator is who participated in any prevention programmes in the last month)	N=67	N=136	
Needle/Syringe Exchange	0	1.5 (0.3-6.2)	-
Education programme	36.8 (24.0-51.8)	51.5 (40.8-62.0)	NS
Received condom	92.0 (79.2-97.2)	97.1 (93.0-98.8)	NS
Received lubricant	89.7 (71.5-96.8)	82.4 (76.7-86.9)	NS
Treatment received for STIs	12.9 (5.6-27.0)	4.4 (1.7-10.8)	NS
Management of general health problems	22.6 (13.2-35.8)	16.9 (11.1-25.0)	NS
Attended VCT	14.5 (8.5-23.6)	6.6 (2.8-14.8)	NS
Attended DIC	39.9 (24.8-57.2)	33.1 (25.3-41.9)	NS
% reported been involved with the type of prevention programmes in last year* (Denominator			

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
is who participated in any prevention programmes in the last year)	N=140	N=171	
Needle/Syringe Exchange	0.5 (0.1-3.8)	1.2 (0.3-4.8)	NS
Education programme	70.3 (60.6-78.4)	76.6 (66.3-84.5)	NS
Received condom	92.6 (85.3-96.4)	97.1 (93.8-98.7)	NS
Received lubricant	86.9 (79.0-92.1)	90.1 (85.0-93.5)	NS
Treatment received for STIs	22.3 (15.4-31.2)	12.3 (8.1-18.3)	NS
Management of general health problems	36.8 (27.5-47.2)	30.4 (22.2-40.1)	NS
Attended VCT	31.3 (21.1-43.7)	28.1 (19.4-38.8)	NS
Attendant DIC	45.5 (34.5-57.0)	49.1 (37.6-60.7)	NS
% reached with HIV prevention programmes[ϕ]	24.4 (19.1-30.6)	35.2 (28.2-43.0)	NS
% reported benefit from prevention programme in the last year* (Denominator is who participated in any prevention programmes in the last year)*	N=140	N=171	
Helped in changing risk behaviour	41.2 (32.6-50.3)	48.0 (39.6-56.4)	NS
Received useful information but did not change behaviour	22.5 (15.9-30.9)	28.1 (20.8-36.7)	NS
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	91.7 (85.3-95.5)	83.0 (74.0-89.4)	NS
Information was hard to understand	1.2 (0.3-4.8)	2.3 (0.3-15.8)	NS
Information was not relevant to their needs	0.6 (0.1-4.3)	1.2 (0.3-4.8)	NS

[ϕ]This indicator was computed by combining the responses from two questions:

1. Do you know where you can go if you wish to receive an HIV test?
2. In the last twelve months, have you been given condoms? (e.g. through an outreach service, drop-in centre or sexual health clinic)

[*]Multiple responses

IQR, Inter Quartile Range

NS refers to not significant

4.18 Venue for Meeting Friends and Sex Partners (Table 23)

Although in both cities cruising spot was very commonly stated as the venue for meeting friends and sex partners, the most common means of contacting sex partners was the cell phone. Internet was used for these purposes by a few MSM and this was reported more in Dhaka than in Sylhet (9.3% and 1.3% respectively) ($p<0.05$).

Table 23: Venue for meeting friends and sex partners

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
Where do you usually meet your friends*			
Cruising spot	59.5 (52.0-66.6)	63.4 (54.2-71.8)	NS
At home	54.4 (47.5-61.2)	60.3 (52.9-67.3)	NS
Club	3.9 (2.4-6.3)	0.5 (0.1-2.0)	<0.05
Party	6.9 (4.4-10.6)	0.8 (0.3-2.4)	<0.05
Tea stall	25.9 (21.4-31.0)	30.0 (23.4-37.6)	NS
On the street	44.9 (39.3-50.6)	42.6 (36.2-49.1)	NS
Bazar/Market	25.4 (20.4-31.0)	31.3 (23.0-41.1)	NS
Hotel/Boarding	0	10.2 (6.0-16.8)	-
Working place	26.5 (20.7-33.2)	25.8 (19.4-33.6)	NS
School/College/Madrasa	4.7 (3.2-7.1)	0.3 (0.0-2.0)	<0.05
Hills	0	0.3 (0.0-1.9)	-
At DIC	0.3 (0.0-1.8)	0	-
How do you usually contact your male sex partners*			
Cruising spot	50.5 (43.1-57.9)	63.4 (54.3-71.7)	NS
By phone	85.6 (80.5-89.5)	84.3 (78.6-88.7)	NS
Internet	9.3 (6.2-13.7)	1.3 (0.5-3.2)	<0.05
Friends	16.6 (12.5-21.7)	16.4 (11.8-22.5)	NS
Broker (Dalal)	0.8 (0.3-2.0)	2.3 (1.1-5.0)	NS
Club	2.4 (1.3-4.4)	0.3 (0.0-2.0)	NS
Party	4.6 (2.8-7.4)	0.5 (0.1-2.2)	<0.05
Tea stall	12.9 (9.6-17.2)	19.3 (15.3-24.1)	NS
On the street	29.3 (24.6-34.4)	31.9 (26.5-37.7)	NS
Bazar/Market	13.6 (10.3-17.7)	23.2 (16.7-31.3)	NS
Hotel/Boarding	7.5 (5.0-11.1)	13.1 (8.1-20.3)	NS
Working place	16.3 (12.0-21.8)	15.4 (10.5-22.1)	NS
School/College/Madrasa	2.2 (1.3-3.8)	0	-
At home	28.0 (23.0-33.6)	31.6 (25.7-38.1)	NS

*Multiple responses
NS refers to not significant

4.19 Using Illicit Drugs (Table 24)

In Dhaka and Sylhet, 12.5 % and 7% respectively reported that that they took illicit drugs in the last year. In both cities MSM most commonly took the codeine containing cough syrup, Phensidyl followed by methamphetamine known locally as Yaba. More MSM in Dhaka had taken Yaba than those in Sylhet ($p<0.05$). Only four MSM in Dhaka and four in Sylhet said they had injected drugs in the last year.

Table 24: Using illicit drugs

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% took any illicit drugs (except alcohol and cannabis) in the last 12 months	12.5 (9.0-17.2)	7.0 (4.7-10.5)	NS
Type of drugs taken in the last 12 months*			
Codeine containing cough syrup (Phensidyl)	9.4 (6.5-13.6)	4.7 (2.8-7.7)	NS
Heroin	1.2 (0.5-3.4)	1.0 (0.4-2.5)	NS
Buprenorphine/Pethedine	0.8 (0.3-2.3)	1.0 (0.4-2.9)	NS
Methamphetamine (Yaba)	7.2 (4.8-10.7)	2.6 (1.4-4.7)	<0.05
% injected drugs in the last 12 months	0.8 (0.3-2.3)	1.0 (0.4-2.9)	NS

*Multiple responses
NS refers to not significant

4.20 History of Selling Blood

The proportion of MSM reported selling blood in the last year was small in both cities; 0.2% (95% CI: 0.0-1.1) and 0.8% (95% CI: 0.2-3.0) in Dhaka and Sylhet, respectively.

4.21 History of Taking Female Hormones (Table 25)

Taking oestrogen and progesterone containing hormone tablets was not common and reported by only 11.9% MSM in Dhaka and by none in Sylhet. Their purpose for taking these hormones were mostly for the enhancement of breast.

Table 25: History of taking female hormone

Indicators	Dhaka N=487, unless otherwise stated % (95% CI)	Sylhet N=383, unless otherwise stated % (95% CI)	Comparison p-value
% ever took female hormones	11.9 (5.9-22.4)	0	NS
% took female hormones in the last 3 months (Denominator is who ever taken medicine)	N=15 64.3 (34.8-85.9)	-	-
Reasons for taking female hormones* (Denominator is who had taken female hormones in the last three months)	N=9 Number	-	-
Enhance breast size	9		
Improving shape of thigh/hip	1		
Increasing smoothness of skin	1		
Suppressing growth of facial hair	1		

*Multiple responses
NS refers to not significant

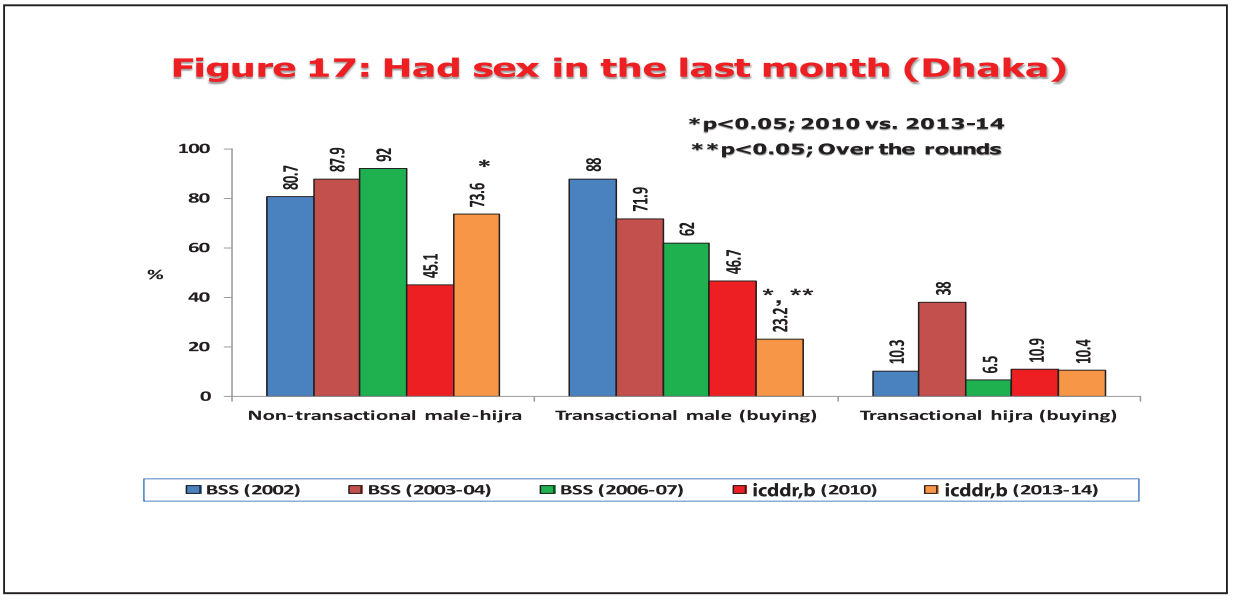
4.22: Changes in Risk Behaviours over the Rounds in MSM

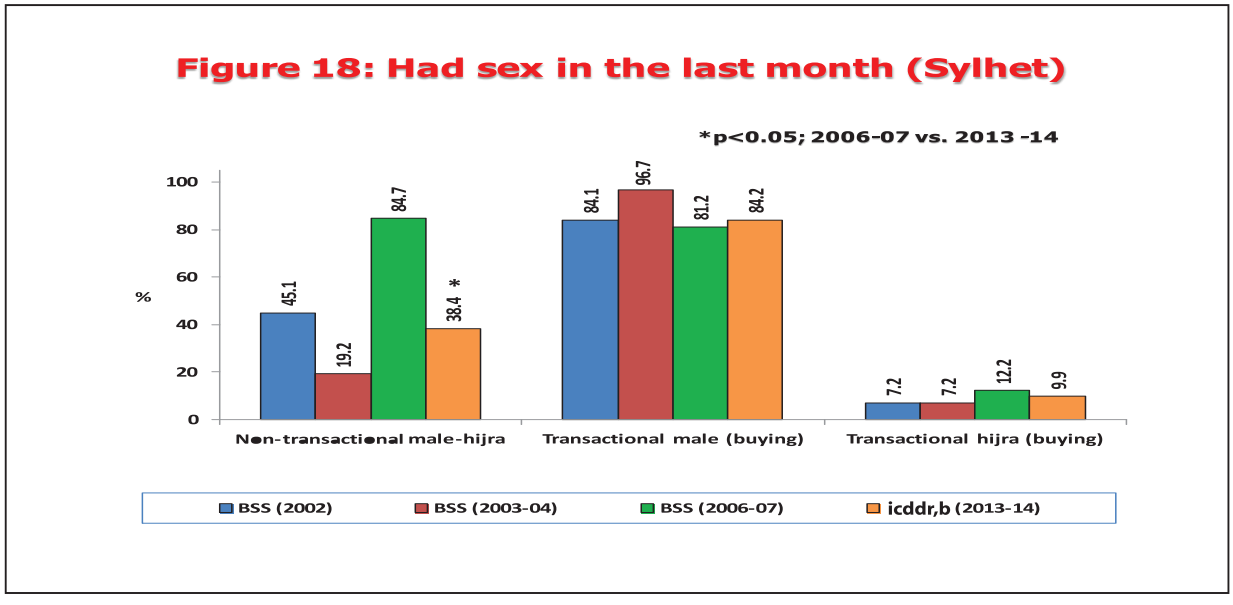
Changes in some selected risk behaviours have been compared over the rounds of BSS from 2002-2013 in MSM in Dhaka and Sylhet.

4.22.1 Male/hijra Sex Partners in the Last Month

Figures 17 and 18 show the proportions of different types of male/hijra sex partners of MSM in Dhaka and Sylhet in the last one month.

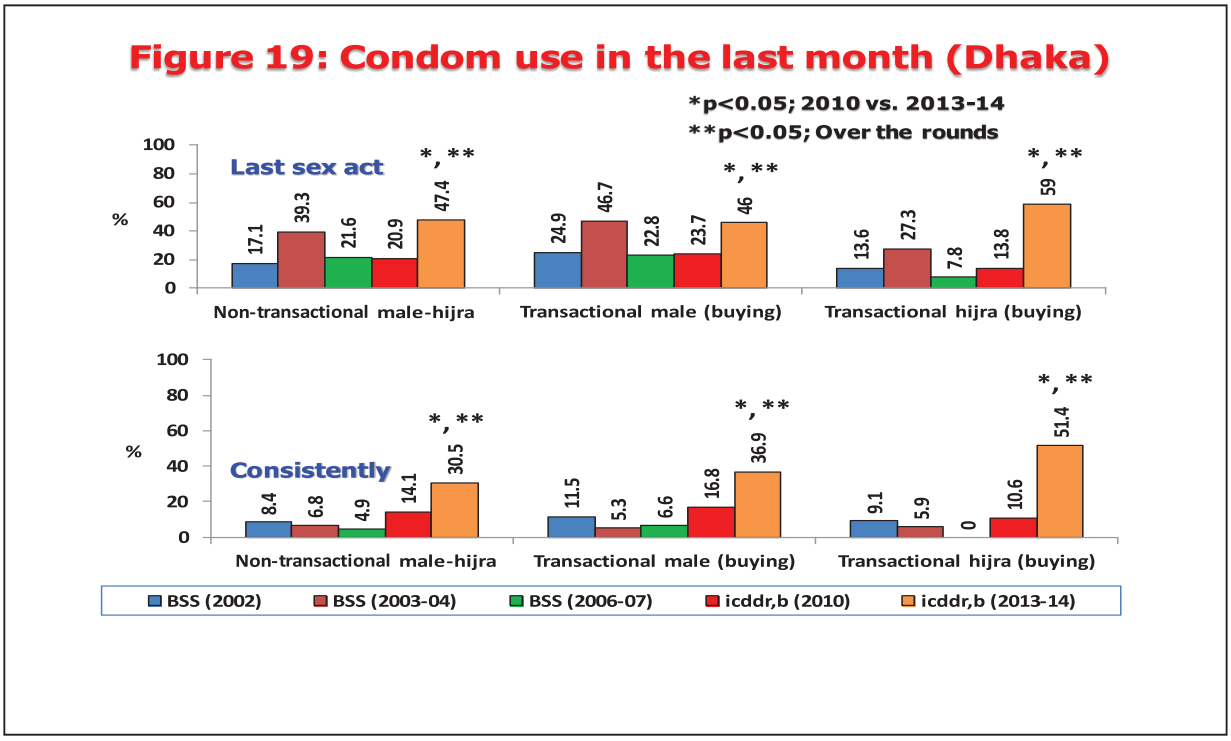
In Dhaka, no changes were observed in the proportions of MSM reporting sex with non-transactional male/hijra over time however, there was a significant increase in 2013/14 compared to 2010. In Dhaka, the proportions of MSM who bought from males declined significantly over time ($p<0.05$) but no changes were observed for those buying sex from hijra (Figure 17). In Sylhet, over the years no significant changes were observed with any of the sex partners but between 2013/14 and 2010 there was a significant decline ($p<0.05$) in the proportion of MSM reporting non-transactional sex with male/hijra partners (Figure 18).

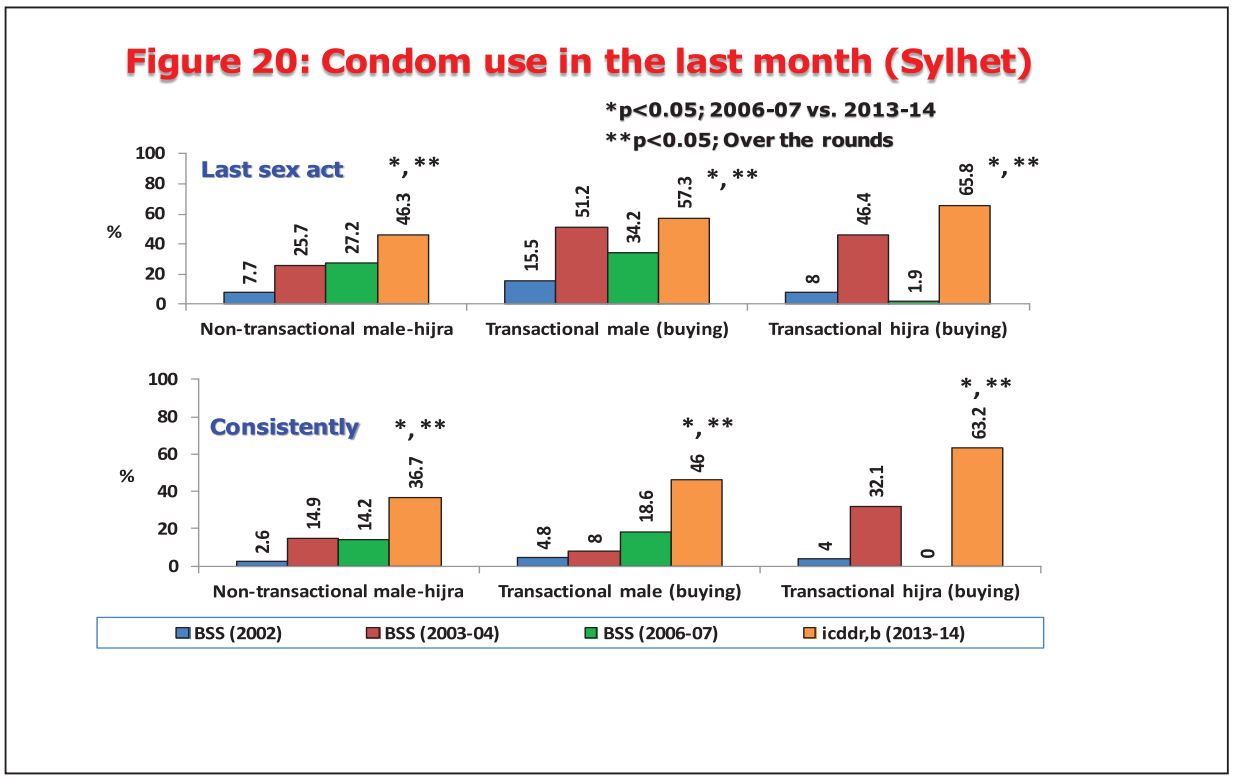




4.22.2 Condom Use in the Last Month

In Dhaka, both condom use in the last intercourse and consistent condom use in the last one month significantly increased over time with all types of sex partners (Figure 19) ($p<0.05$). Similar results were also observed in Sylhet (Figure 20) ($p<0.05$).





4.22.3 Number of Sex Partners in the Last Month

In Dhaka, the mean number of male/hijra sex partners in the last one month declined significantly over time that is denoted by a dash line in Figure 21 ($p<0.05$). No changes were observed in Sylhet (Figure 22).

Figure 21: Mean number of male-hijra sex partners in the last month (Dhaka)

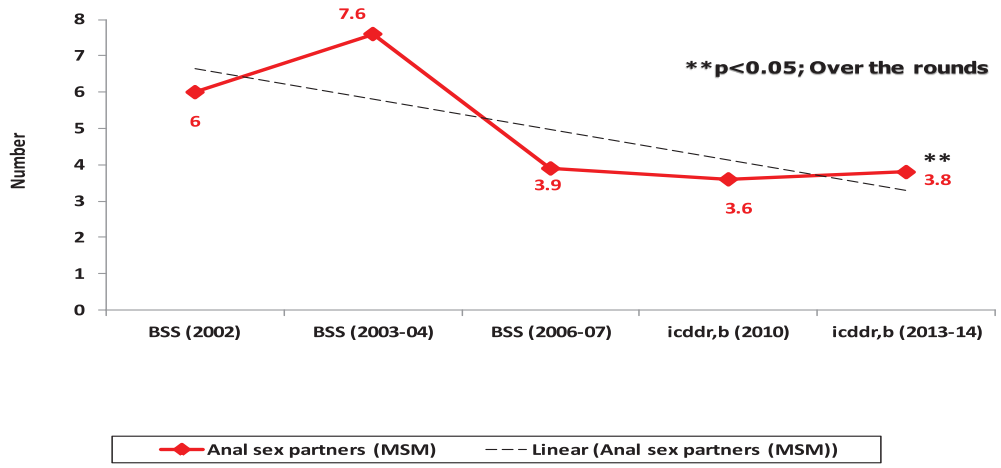
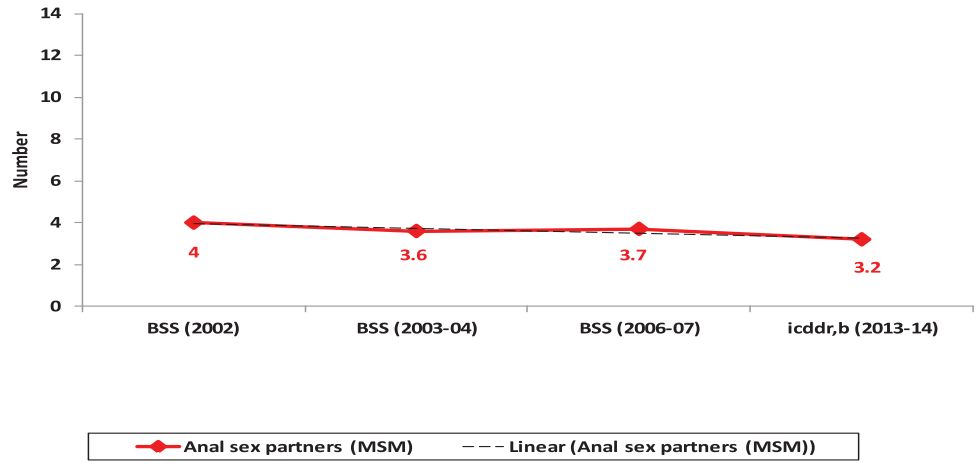


Figure 22: Mean number of male-hijra sex partners in the last month (Sylhet)



4.22.4 Group Sex and Condom Use

The proportion of MSM reporting group sex in the last one month declined significantly over time in both Dhaka and Sylhet (Figures 23 and 24) ($p<0.05$). At the same time, significant increases were observed in condom use in the last group sex between 2013/14 and 2010 in Dhaka and between 2006/07 and 2010 in Sylhet (Figure 24) ($p<0.05$).

Figure 23: Had group sex in the last month

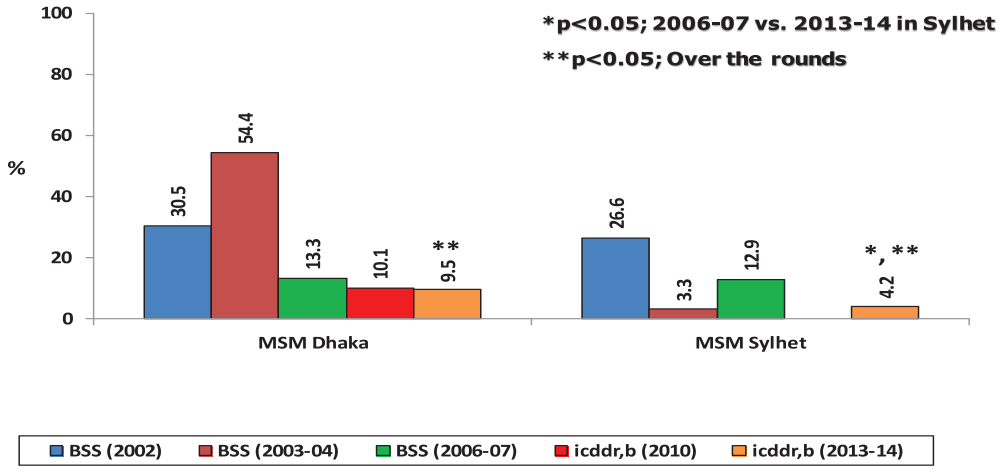
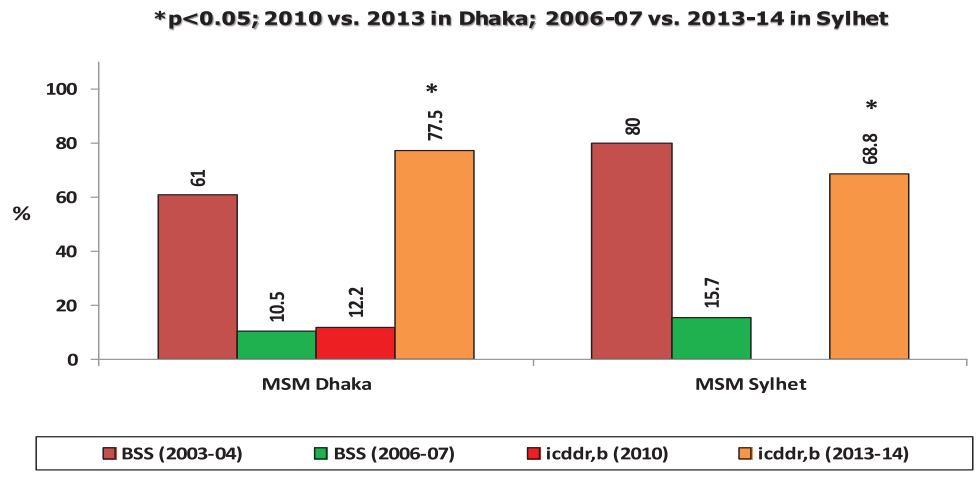


Figure 24: At least one sexual partner used condom during last group sex in the last month



4.22.5 Sex with Females in the Last Month

Over the years buying sex from females declined significantly in Dhaka (p<0.05) but there were no changes in Sylhet (Figures 25 and 26). In Sylhet, proportions having non transactional sex with females increased significantly over time (Figure 26) (p<0.05).

Figure 25: Sex with females in the last month (Dhaka)

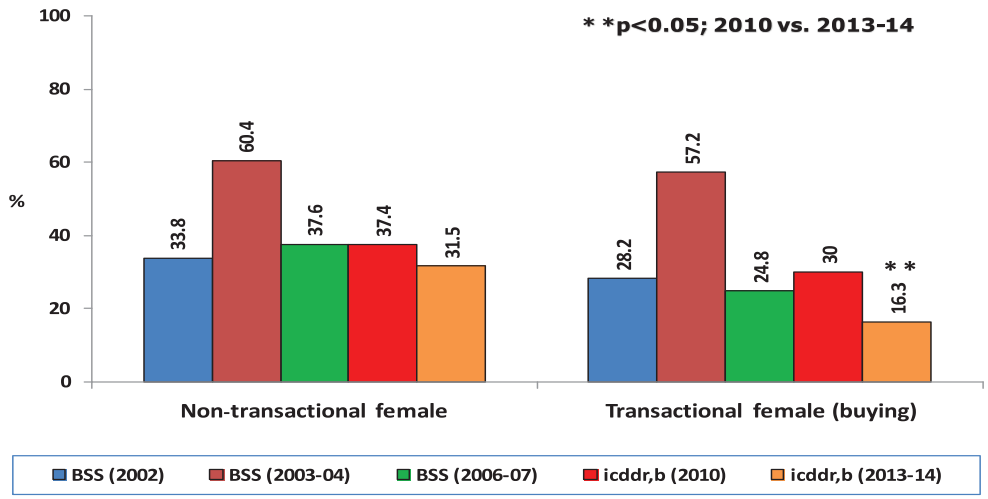
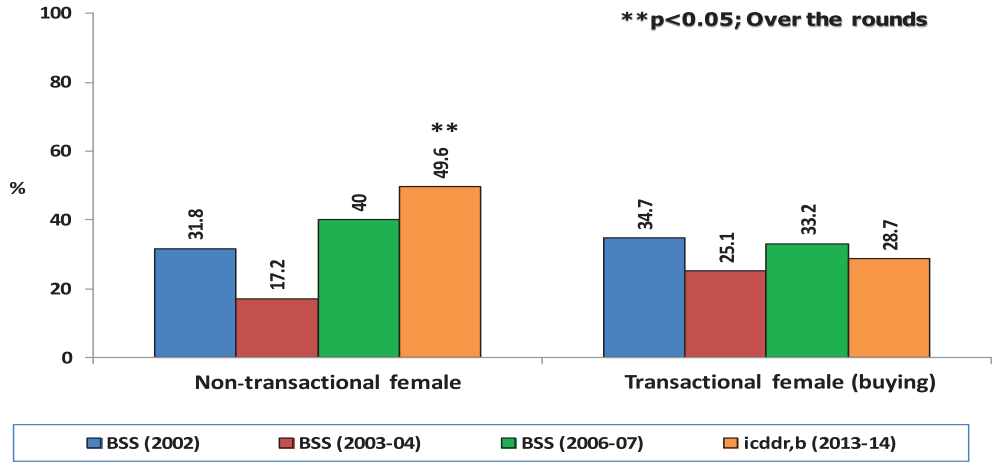


Figure 26: Sex with females in the last month (Sylhet)



4.22.6 Condom Use with Females in the Last Month

In Dhaka (Figure 27), the proportions of MSM reporting last time condom use and consistent condom use during non-transactional sex with females did not change over time although between 2010 and 2013/14 this increased significantly for consistent condom use ($p<0.05$). Condom use by MSM while buying sex from females increased significantly over time ($p<0.05$).

In Sylhet (Figure 28), both last time and consistent condom use increased significantly over time in non-transactional sex with females and also while buying sex from females ($p<0.05$).

Figure 27: Condom use with female sex partners in the last month (Dhaka)

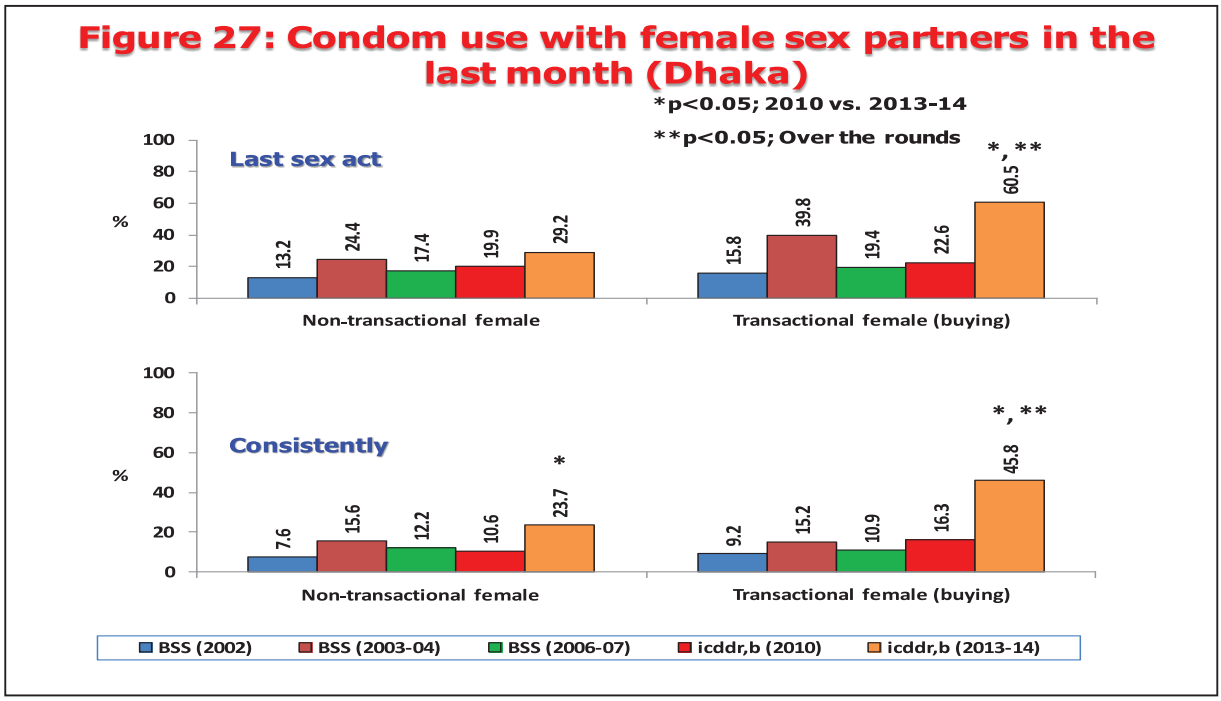
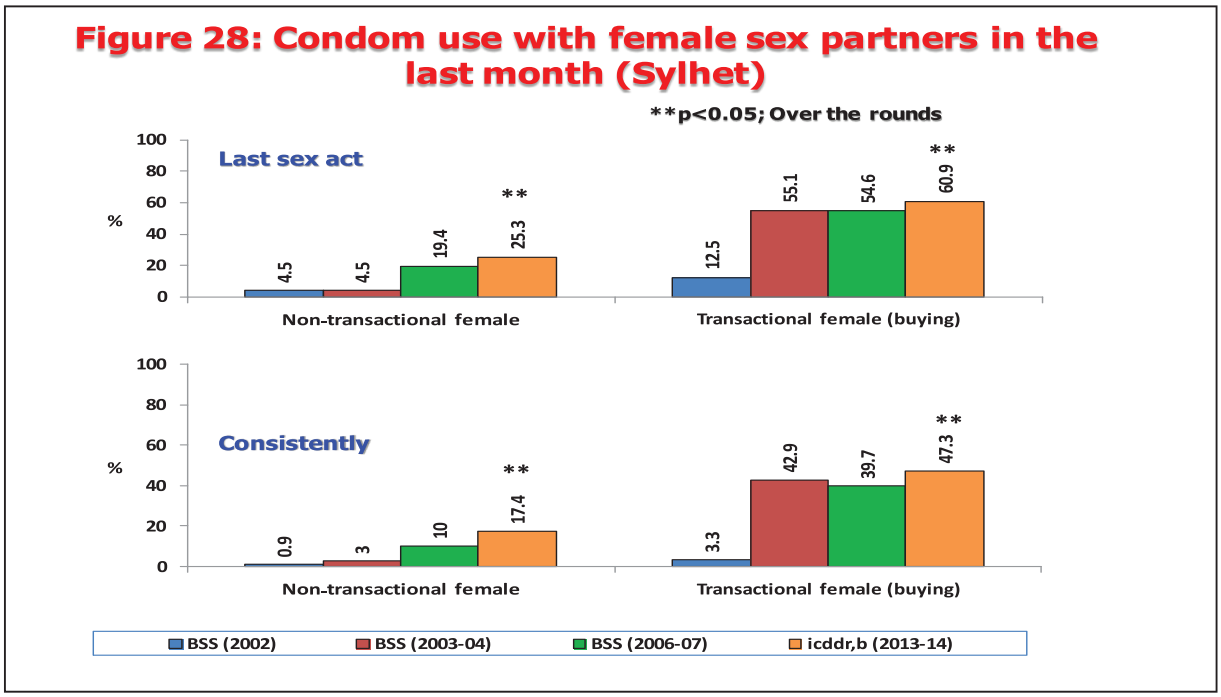
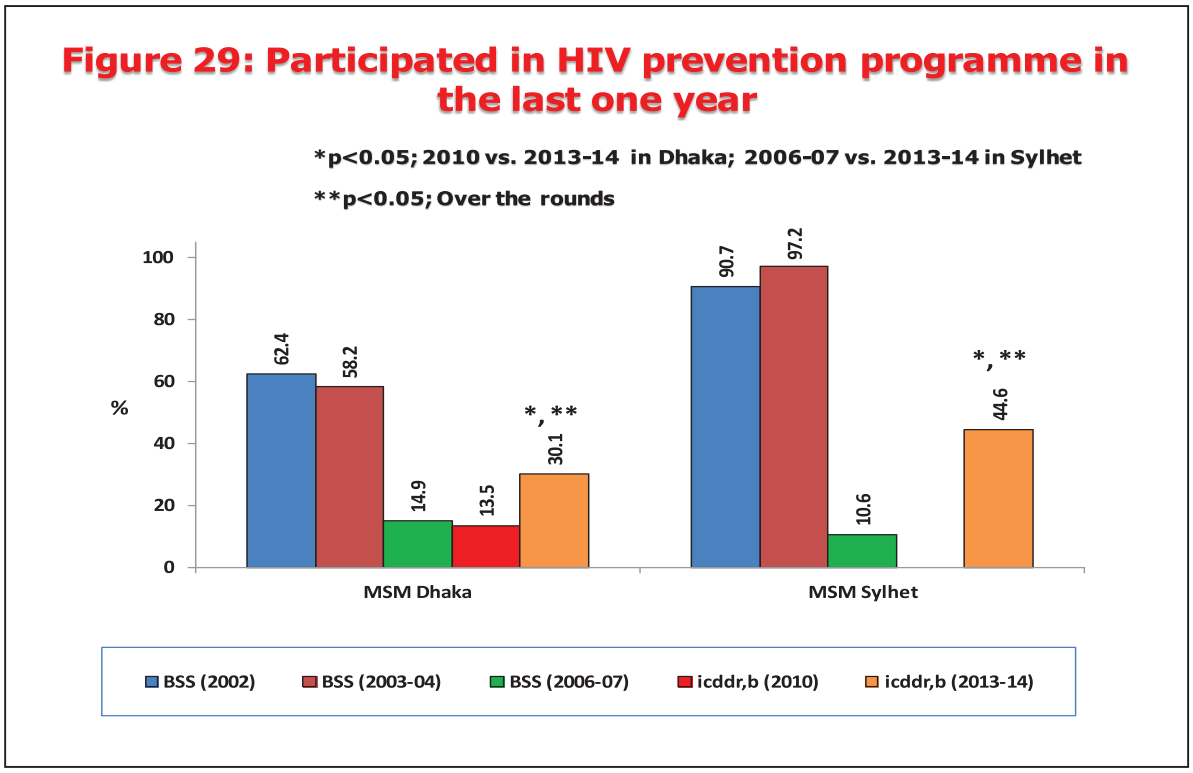


Figure 28: Condom use with female sex partners in the last month (Sylhet)



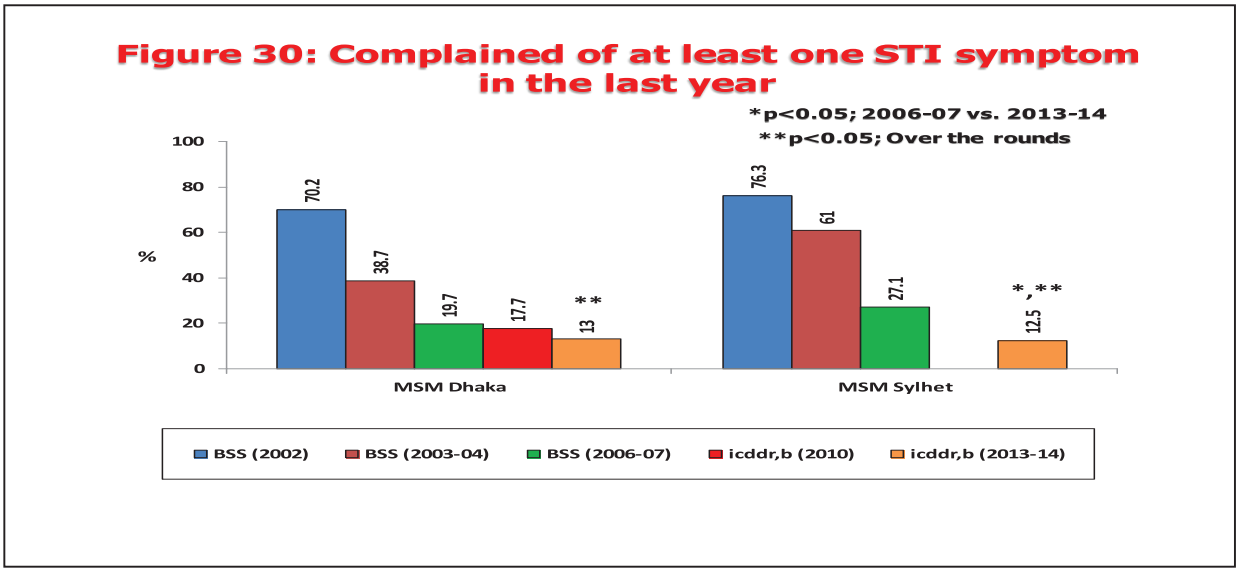
4.22.7 Exposure to HIV Prevention Programmes

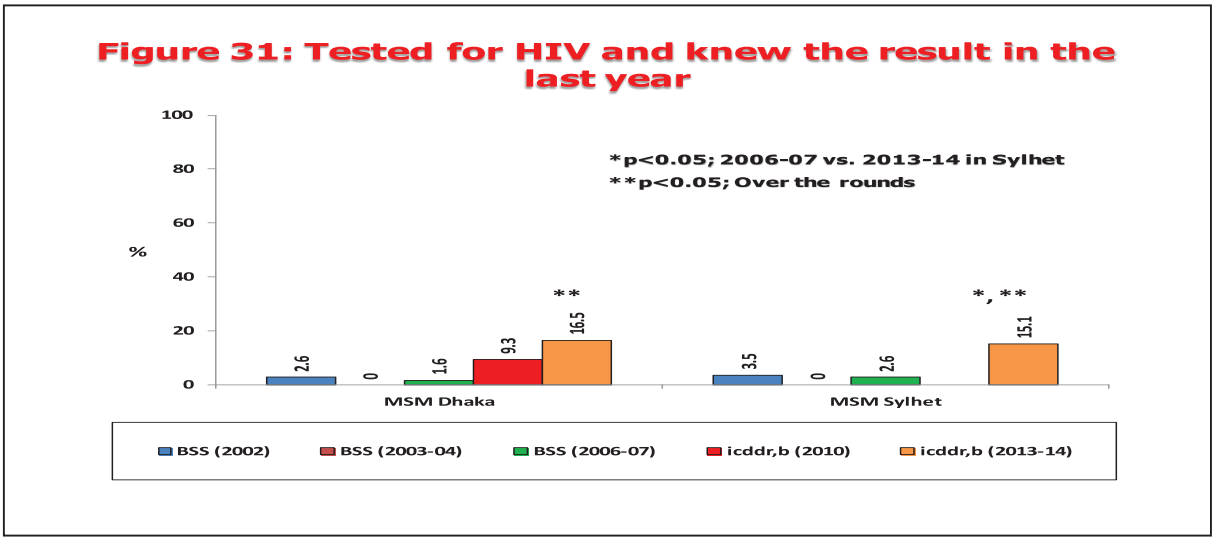
Both in Dhaka and Sylhet, the numbers of MSM who had participated in any activity of HIV prevention programmes in the last year increased significantly both over the years and between 2010 and 2013/14 in Dhaka and 2006/07 and 2013/14 in Sylhet (Figure 29) ($p<0.05$).



4.22.8 Self-reported STIs and HIV Testing

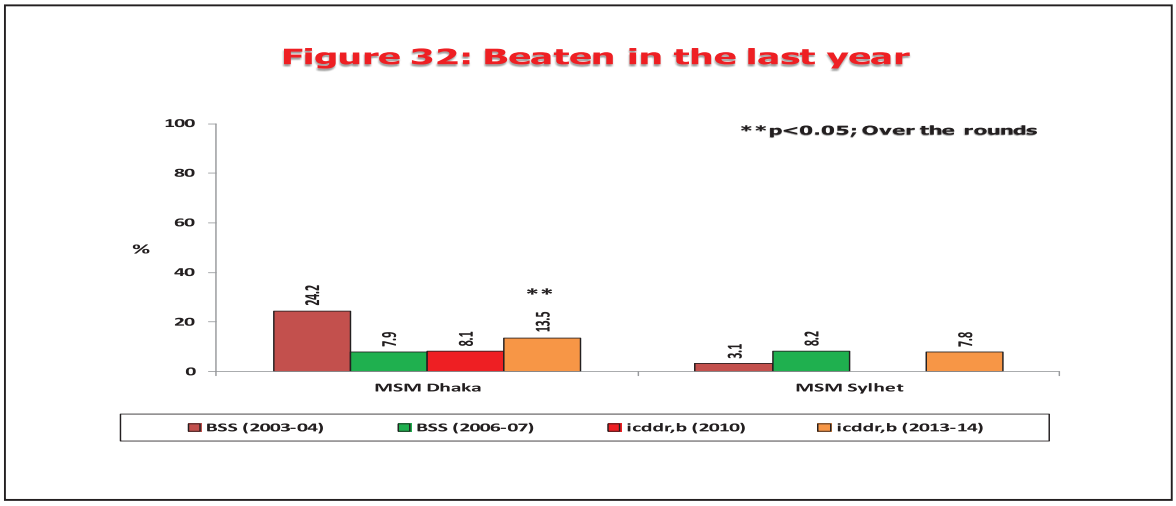
The proportions of MSM reporting symptoms of STIs in the last year declined significantly both in Dhaka and Sylhet over the years (Figure 30) ($p<0.05$). In both cities, over the years significantly more MSM availed HIV testing services and at the same time knew their results (Figure 31) ($p<0.05$).

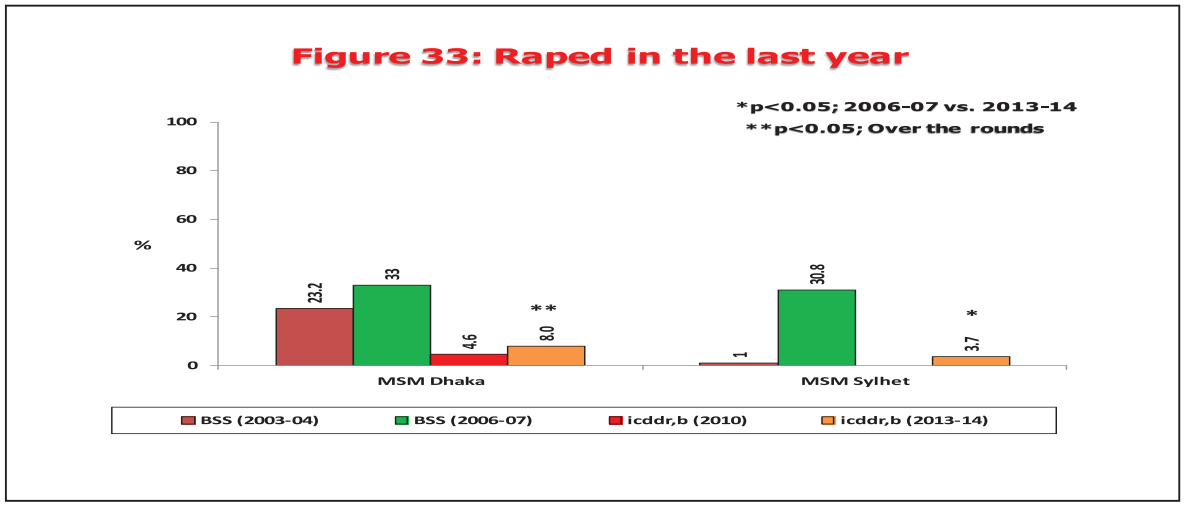




4.22.9 Violence

In Dhaka, the proportions of MSM reporting being beaten or raped in the last year declined significantly over time (Figures 32 and 33) ($p<0.05$). In Sylhet, no changes in the proportions reporting being beaten or raped was observed over the years but for rape a significant decline was observed in 2013/14 compared to 2006/07 (Figures 32 and 33) ($p<0.05$).





Chapter 5: Risk Behaviours of MSW (Dhaka and Chittagong)

5.1 Results

The midline survey among MSW in Dhaka was conducted from October 1st to 10th following seven days of mapping and in Chittagong it was conducted from January 29th to February 3rd 2014 following three days of mapping. During mapping, 673 MSW were directly counted from 234 spots in Dhaka and 430 MSW were directly counted from 86 spots in Chittagong. In both cities, mapping was conducted from 6pm to 11pm. Finally, 498 MSW in Dhaka were interviewed following a two-stage cluster sampling method and in Chittagong, 414 were interviewed adopting a 'take all' approach.

5.2 Socio-demographic Characteristics (Table 26)

The proportion of MSW between 15-24 years age group was 42.7% and 51.9% in Dhaka and Chittagong, respectively. The proportions between 15 to less than 18 years were small in both cities (2.5% and 2.7% in Dhaka and Chittagong respectively). In both cities, mean years of schooling was 7 years and only around 11.5% and 8.7% reported of having no education at all in Dhaka and Chittagong, respectively. No significant differences were found in the overall mean income in the last month between MSW in Dhaka and Chittagong and most reported service as their main source of income. A substantial proportion of MSW reported earning their income through selling sex and it was the second most common source of income in Chittagong.

In both cities, more than three fourths of the respondents identified themselves as 'Kothi'.

Table 26: Socio-demographic Characteristic

Indicators		Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Age (in years)				
	15-24	42.7 (36.7-49.1)	51.9 (45.4-58.4)	NS
	>24	57.3 (50.9-63.3)	48.1 (41.6-54.6)	NS
	Mean (95% CI)	26.5 (25.5-27.5)	25.5 (24.5-26.6)	NS
	Median (IQR)	25.0 (22.0-30.0)	24.0 (21.0-28.0)	
Years of schooling (in years)				
	No education	11.5 (8.3-15.7)	8.7 (6.3-12.1)	NS
	1-5	25.0 (20.8-29.6)	29.9 (25.0-35.2)	NS
	6-10	45.9 (40.2-51.7)	48.5 (42.2-54.9)	NS
	>10	17.7 (13.3-23.2)	12.9 (8.2-19.7)	NS
	Mean (95% CI)	7.1 (6.5-7.8)	7.0 (6.4-7.6)	NS
	Median (IQR)	8.0 (4.0-10.0)	7.0 (5.0-10.0)	
Duration of stay in this city				
	Whole life	40.4 (33.8-47.3)	50.2 (44.1-56.4)	NS
	≤ 10 years	32.1 (26.5-38.4)	30.7 (25.8-36.0)	NS
	>10 years	27.5 (21.5-34.3)	19.1 (15.4-23.5)	NS
Duration of time involved in sex work (95% CI)				
	Mean (95%CI)	9.6 (8.7-10.6)	8.2 (7.2-9.2)	NS
	Median (IQR)	8.0 (5.0-12.0)	7.0 (4.0-10.0)	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Duration of time involved in sex work in the respective city of survey (95% CI)			
Mean (95% CI)	9.0 (8.1-10.0)	7.8 (6.8-8.7)	NS
Median (IQR)	8.0 (5.0-12.0)	6.0 (4.0-10.0)	
Number of days engaged in selling sex in last 7 days			
Mean (95% CI)	3.3 (3.0-3.6)	2.8 (2.5-3.1)	NS
Median (IQR)	3.0 (2.0-5.0)	3.0 (1.0-4.0)	
Income (in taka) in the last month (95% CI)	N=498	N=413	
Mean (95% CI)	10400.7 (9606.1-11195.4)	9418.6 (8701.5-10135.8)	NS
Median (IQR)	9000.0 (6500.0-12000.0)	8000.0 (6400.0-12000.0)	
Main source of income in the last month			
Business	20.3 (16.4-24.9)	9.4 (6.5-13.5)	<0.05
Service	51.4 (46.2-56.5)	69.2 (63.4-74.5)	<0.05
Transport worker (motorised & non-motorised)	1.7 (0.8-3.3)	2.4 (1.1-5.3)	NS
Private tuition/Teacher	0.6 (0.2-1.8)	1.2 (0.4-4.0)	NS
Family	4.1 (2.4-6.7)	3.6 (2.1-6.3)	NS
Sex work	18.8 (15.3-23.0)	13.6 (10.3-17.7)	NS
Others	3.2 (2.0-5.2)	0.5 (0.1-1.9)	<0.05
Income (in taka) from sex work in the last month (Denominator is whose main source of income was sex work in the last month)(95% CI)	N=98	N=56	
Mean (95%CI)	6244.3 (5203.6-7285.1)	6044.6 (4747.0-7342.3)	NS
Median (IQR)	5000.0 (3500.0-8000.0)	5000.0 (3000.0-8500.0)	
Income from the last regular client in the last week (Denominator is who had regular clients in the last week among those who sold sex)	N=336	N=272	
Mean (95%CI)	210.5 (158.9-262.0)	214.1 (182.4 -245.8)	NS
Median (IQR)	150.00 (100.0-200.0)	200.0 (100.0-300.0)	
Income from the last new client in the last week (Denominator is who had new clients in the last week among those who sold sex)	N=310	N=249	
Mean (95% CI)	221.3 (195.5-247.2)	230.5 (201.7-259.3)	NS
Median (IQR)	200.0 (100.0-300.0)	200.0 (100.0-300.0)	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Self identification			
Man/Manly	6.2 (4.3-8.8)	4.1 (2.6-6.3)	NS
Heroin	2.5 (1.3-4.6)	1.2 (0.5-3.0)	NS
Gay	5.7 (3.0-10.5)	3.9 (2.0-7.3)	NS
Kothi	76.4 (69.0-81.2)	85.0 (81.0-88.3)	NS
Do-parata	0.6 (0.1-2.2)	2.7 (1.1-6.2)	NS
Woman/girl	8.7 (5.9-12.6)	3.1 (1.6-5.9)	NS

IQR, Inter Quartile Range
NS refers to not significant

5.3 Marital Status and Sex Partners (Table 27)

Close to one fifth of the respondents were currently married in both cities and of these 69.3% and 63.2% had regular sex partners besides spouse in Dhaka and Chittagong respectively. Among those who were currently unmarried, 69.8% and 63.3% had regular sex partners in Dhaka and Chittagong, respectively. Besides male regular sex partners, few MSW also had female regular sex partners who were not their spouse.

Age at first sex was below 15 years in both cities; 13.5 and 14.3 years in Dhaka and Chittagong respectively. Also, in both cities the overwhelming majority of MSW said their first sex partner was male.

Table 27: Marital Status and Sex partners

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Current marital status			
Married	19.3 (15.4-23.9)	16.4 (12.2-21.8)	NS
Unmarried	76.9 (72.3-81.0)	80.9 (75.4-85.5)	NS
Divorced/widower/separated	3.8 (2.4-5.9)	2.7 (1.4-5.0)	NS
Currently living with spouse (Denominator is those were currently married)	N=96 72.0 (61.6-80.5)	N=68 66.2 (53.9-76.6)	NS
Currently had regular sex partners (Denominator is all MSW)	69.7 (64.3-74.6)	63.3 (56.8-69.3)	NS
Currently unmarried who had regular sex partners (Denominator is who were currently unmarried)	N=402 69.8 (63.6-75.3)	N=346 63.3 (55.4-70.6)	NS
Currently married who had regular sex partners besides spouse (Denominator is who were currently married)	N=96 69.3 (60.9-76.7)	N=68 63.2 (50.7-74.2)	NS
Gender of regular sex partners* (Denominator is all MSW who had regular sex partner)	N=337	N=262	
Male	99.7 (98.0-100.0)	99.6 (97.5-99.9)	NS
Female	3.6 (1.8-7.1)	4.2 (1.6-10.6)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Hijra	0	0	-
Gender of regular sex partners* (Denominator is who were currently unmarried and had regular sex partner)	N=271	N=219	
Male	99.7 (97.5-100.0)	99.5 (96.9-99.9)	NS
Female	1.0 (0.3-3.1)	1.8 (0.6-5.8)	NS
Hijra	0	0	-
Gender of regular sex partners besides spouse* (Denominator is who were currently married and had regular sex partner)	N=66	N=43	
Male	100.0	100.0	NS
Female	14.6 (6.4-30.0)	16.3 (5.2-40.6)	NS
Hijra	0	0	-
Age at first sex (in years)	N=498	N=414	
Mean (95% CI)	13.5 (13.2-13.7)	14.3 (13.9-14.7)	<0.05
Median (IQR)	13.0 (12.0- 15.0)	14.0 (13.0-16.0)	
Gender of first sex partner			
Male	94.9 (92.0-96.8)	97.3 (94.6-98.7)	NS
Female	5.1 (3.2-8.0)	2.4 (1.1-5.1)	NS
Hijra	0	0.2 (0.0-1.8)	-

*Multiple responses
IQR, Inter Quartile Range
NS refers to not significant

5.4 Sexual History with Male Partners including Condom Use (Tables 28, 29 and Figures 34, 35)

Figure 34 and table 28 presents the percentage of MSW who had anal intercourse with different sex partners. In Dhaka, 64.1% (95% CI: 58.5-69.3) and 71% (95% CI: 65.7-75.9) and in Chittagong 60.1% (95% CI: 54.3-65.7) and 66.4% (95% CI: 60.4-72.0) sold sex to new and regular clients respectively in the last week. Also a little more than one third of the MSW had non-transactional sex partners in both cities in the last month. In both cities, 52-68% MSW used condom during their last anal intercourse with both types of clients. In Dhaka, 39% (95% CI: 29.9-48.9) and in Chittagong 40.1% (95% CI: 30.6-50.5) used condom during their last non-transactional anal intercourse in the last month.

Figure 34: History of anal sex in the last week and condom use during last anal intercourse in Dhaka and Chittagong

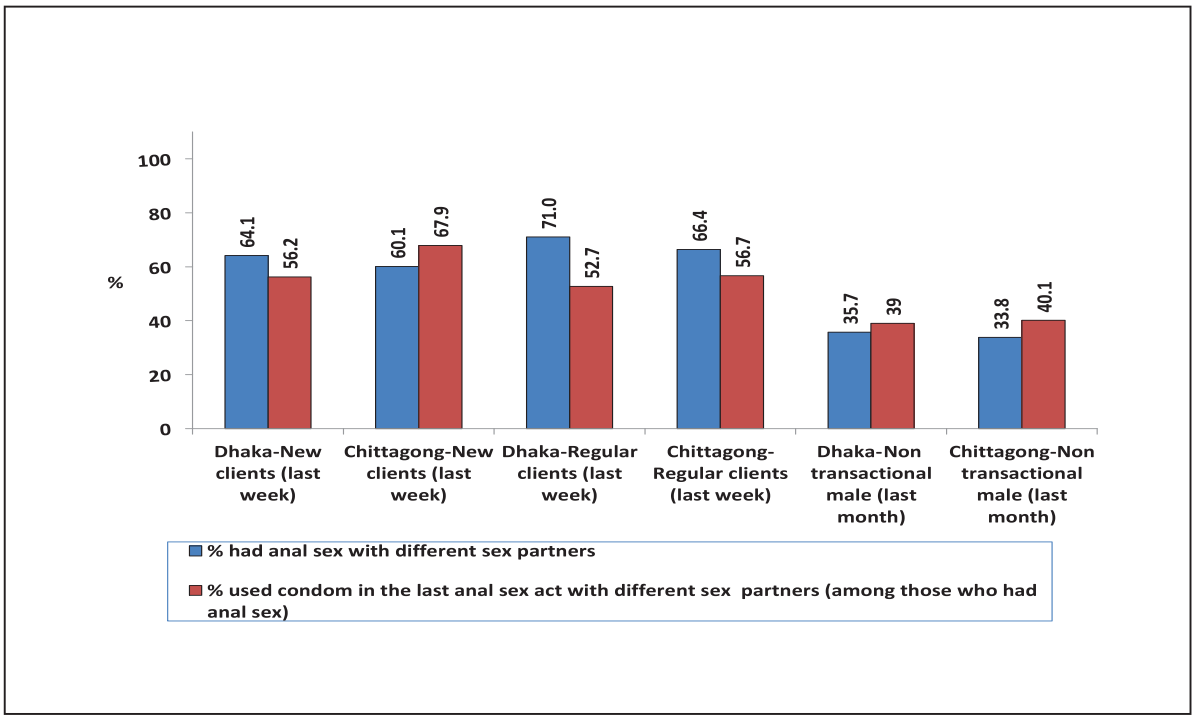


Table 28: Sexual history with new and regular clients combined

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% had anal intercourse with new/regular clients in the last week	88.1 (83.9-91.3)	82.4 (76.8-86.8)	NS
Number of new/regular clients with whom the respondents had anal intercourse in the last week (Denominator is who had anal intercourse with new/regular clients in the last week)	N=433	N=341	
Mean (95%CI)	5.2 (4.6-5.8)	4.1 (3.7-4.5)	<0.05
Median (IQR)	4.0 (2.0-7.0)	3.0 (2.0-5.0)	
% had non-penetrative sex (not anal/oral) with new/regular clients in the last week (Denominator is who had new/regular clients in the last week)	N=434 10.3 (7.5-13.9)	N=342 8.8 (5.8-13.0)	NS

IQR, Inter Quartile Range
NS refers to not significant

More MSW in Chittagong reported ever using condoms during anal intercourse than those in Dhaka ($p<0.05$). No difference was observed in condom use with male clients in the last 12 months in both cities. Condom breakage while having sex in the last month was reported by approximately 14% of MSW.

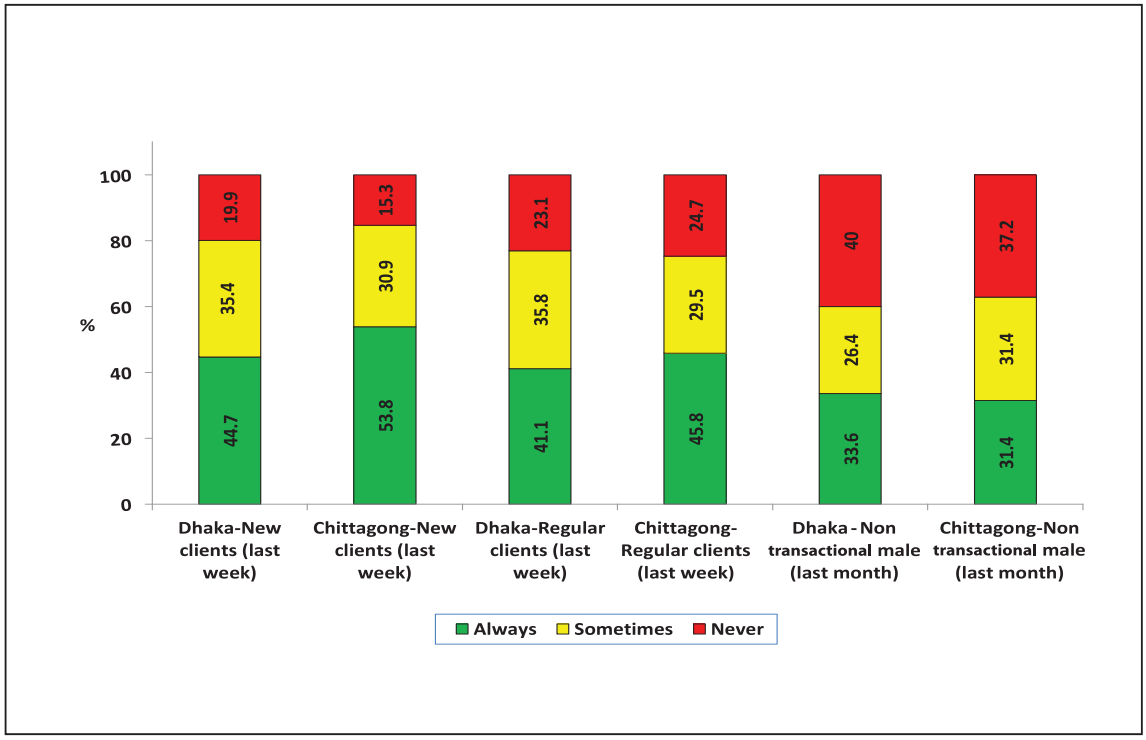
Table 29: Overall use of condoms

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% ever used condom during anal intercourse	93.3 (90.1-95.5)	98.3 (96.4-99.2)	<0.05
% used condom in the last anal intercourse with a male sex partner in last 12 months (Denominator is who ever had anal intercourse with male sex partners in the last 12 months)	N=496 54.7 (48.0-61.2)	N=157 46.5 (37.6-55.7)	NS
% reported a condom break in the last month (Denominator is who had sex and used condom in the last month)	N=411 14.1 (10.5-18.6)	N=357 14.8 (10.9-19.8)	NS

NS refers to not significant

Figure 35 shows frequency of condom use during anal intercourse with different partners. With new clients 19.9 % (95% CI: 14.6-26.6) and 15.3% (95% CI: 10.4-21.9) of MSW never used condom in Dhaka and Chittagong respectively and approximately one-fourth never used condoms with regular clients in both cities. Approximately two in every five never used condom during non-transactional sex in the last month in both cities.

Figure 35: Frequency of condom use during anal intercourse in the last week/month



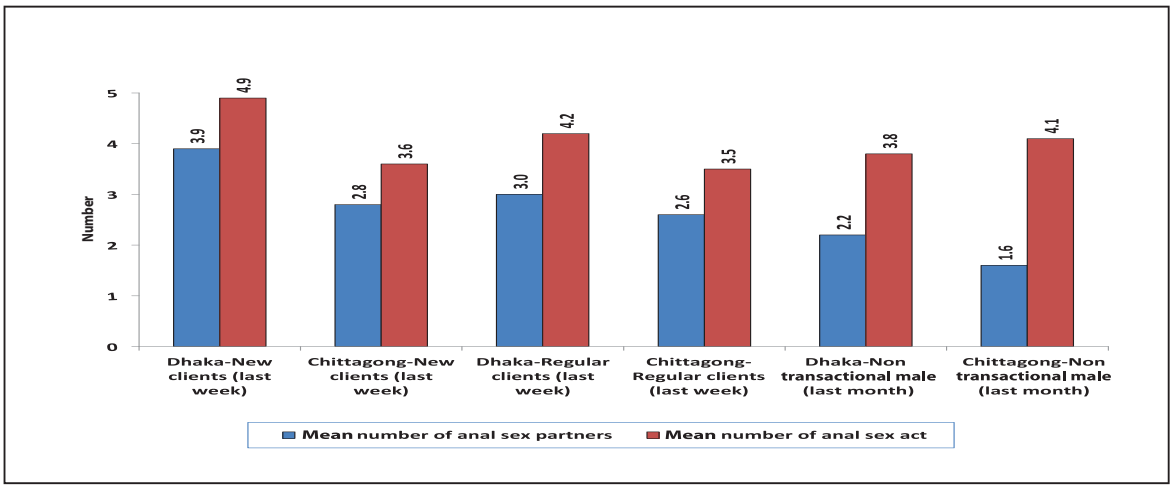
The mean number of anal sex partners and anal sex acts with different partners are presented in figure 36. MSW of Dhaka had significantly more new clients with whom they had anal intercourse in the last week than

those of Chittagong (p<0.05). This was also the case for non-transactional sex partners in the last month with Dhaka MSW reporting significantly higher numbers than Chittagong MSW (p<0.05). The number of anal sex acts with new clients was higher for MSW of Dhaka compared to Chittagong MSW (p<0.05).

Taking both new and regular clients into consideration, 88.1% (95% CI: 83.9-91.3) in Dhaka and 82.4% (95% CI: 76.8-86.8) in Chittagong reported having anal intercourse with new/regular clients in the last week. MSW in Dhaka had anal intercourse with 5.2 clients (95% CI: 4.6-5.8) compared to 4.1 clients in Chittagong (95% CI: 3.7-4.5) which is significantly different (p<0.05).

Calculation of the mean number of anal/vaginal sex acts in all settings with males/hijra/females showed that the mean number of anal/vaginal sex acts in the last one week was 6.6 times (95% CI: 5.9-7.3) in Dhaka and 5 times (95% CI: 4.4-5.5) in Chittagong.

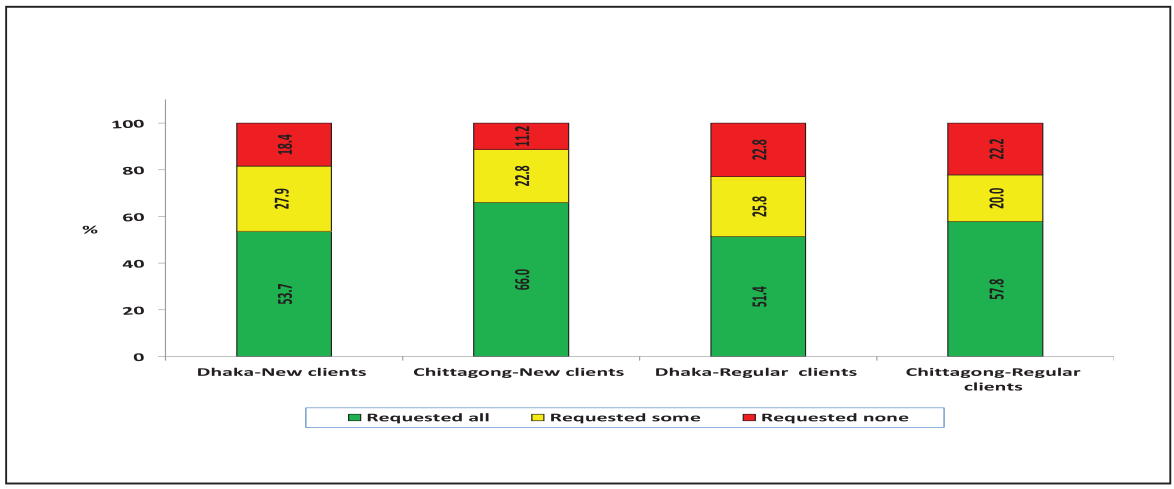
Figure 36: Mean number of sex partners and anal sex acts in the last week/month



5.5 Approaching Clients to Use Condom (Figure 37)

In Dhaka, 53.7% (95% CI: 45.4-61.9) and in Chittagong 66.0% (95% CI: 56.6-74.3) of MSW requested new clients in the last week to use condoms. With regular clients, this was reported by 51.4% (95% CI: 44.1-58.7) of MSW in Dhaka and 57.8% (95% CI: 50.1-65.2) of MSW in Chittagong in the last week. However, in both cities, a considerable percentage of MSW never approached their new/regular clients to use condoms.

Figure 37: Approaching clients to use condom



5.6 History of Oral Sex (Table 30)

In Dhaka and Chittagong, 12.6% and 6.3% MSW respectively had oral sex with new clients and with regular clients this was reported by 10.7% and 5.1% respectively. Approximately, 3% of MSW reported non-transactional oral sex with male/hijra sex partners in the last one month. In most cases, condoms were never used during oral sex.

Table 30: History of oral sex with male/hijra partners

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
New Clients			
% had oral sex with new clients in the last week	N=497 12.6 (9.5-16.7)	N=414 6.3 (4.2-9.4)	<0.05
Number of new clients with whom the respondents had oral sex in the last week (Denominator is who had oral sex with new clients in the last week)	N=59	N=26	
Mean (95% CI)	1.7 (1.3-2.1)	1.9 (1.0-2.8)	NS
Median (IQR)	1.0 (1.0-2.0)	1.0 (1.0-2.0)	
Frequency of condom use in oral sex with new clients in the last week (Denominator is who had oral sex with new clients in the last week)	N=58	N=26	
Always	32.1 (19.3-48.2)	34.6 (20.3-52.4)	NS
Sometimes	12.1 (4.8-27.3)	3.8 (0.5-26.1)	NS
Never	55.8 (40.2-70.4)	61.5 (40.9-78.8)	NS
Regular Clients			
% had oral sex with regular clients in the last week	10.7 (7.5-15.2)	5.1 (3.4-7.6)	NS
Number of regular clients to whom the respondents had oral sex in the last week (Denominator is who had oral sex with regular clients in the last week)	N=56	N=21	
Mean (95% CI)	1.4 (1.2-1.7)	1.6 (1.2-2.1)	NS
Median (IQR)	1.0 (1.0-2.0)	1.0 (1.0-2.0)	
Frequency of condom use in oral sex with regular clients in the last week (Denominator is who had oral sex with regular clients in the last week)	N=56	N=21	
Always	25.2 (14.0-41.1)	47.6 (24.8-71.4)	NS
Sometimes	19.1 (8.4-37.9)	4.8 (0.6-30.4)	NS
Never	55.7 (39.6-70.6)	47.6 (23.5-72.9)	NS
Non- commercial sex partners (male/hijra)			
% had oral sex with non-transactional male/hijra sex partners in the last month	3.6 (2.2-6.0)	2.9 (1.7-5.0)	NS
Number of non-transactional male/hijra sex partners with whom the respondent had oral sex in the last month (Denominator is who had oral sex with non-transactional	N=19	N=12	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
male/hijra sex partners in the last month)			
Mean (95% CI)	1.4 (0.9-2.0)	1.2 (0.9-1.4)	NS
Median (IQR)	1.0 (1.0-1.0)	1.0 (1.0-1.0)	
Frequency of condom use in non-transactional oral sex with male/hijra sex partners in the last month (Denominator is who had oral sex with non-transactional male/hijra sex partners in the last month)	N=19	N=12	
Always	11.9 (2.2-44.3)	8.3 (0.8-51.5)	NS
Sometimes	4.0 (0.4-29.0)	0	-
Never	84.1 (53.8-96.0)	91.7 (48.5-99.2)	NS

IQR, Inter Quartile Range
NS refers to not significant

5.7 Buying Sex from Males (Table 31)

In both cities, very few MSW (2.1% and 4.1% in Dhaka and Chittagong respectively) bought anal sex from males in the last month; buying oral sex was rare. For anal intercourse, while buying sex, more than half said that they used condoms.

Table 31: Buying sex from males: number of partners and condom use

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% bought anal sex from males in the last month	2.1 (1.1-3.9)	4.1 (2.3-7.2)	NS
% bought oral sex from males in the last month	0.2 (0.0-1.6)	0	-
Number of male from whom the respondents bought anal sex in the last month (Denominator is who bought sex from male/hijra in the last month)	N=10	N=17	
Mean (95% CI)	2.5 (1.1-4.0)	2.3 (0.5-4.1)	NS
Median (IQR)	2.0 (1.0-4.0)	1.0 (1.0-2.0)	
% used condom in the last anal intercourse with male/hijra while buying sex in the last month (Denominator is who bought sex from male/hijra in the last month)	N=10 54.2 (23.1-82.4)	N=17 82.4 (48.9-95.8)	NS
Number of anal sex acts with male/hijra while buying sex in the last month (Denominator is who bought anal sex from male/hijra sex partners in the last month)	N=10	N=17	
Mean (95% CI)	2.8 (0.9-4.6)	4.5 (2.1-6.8)	NS

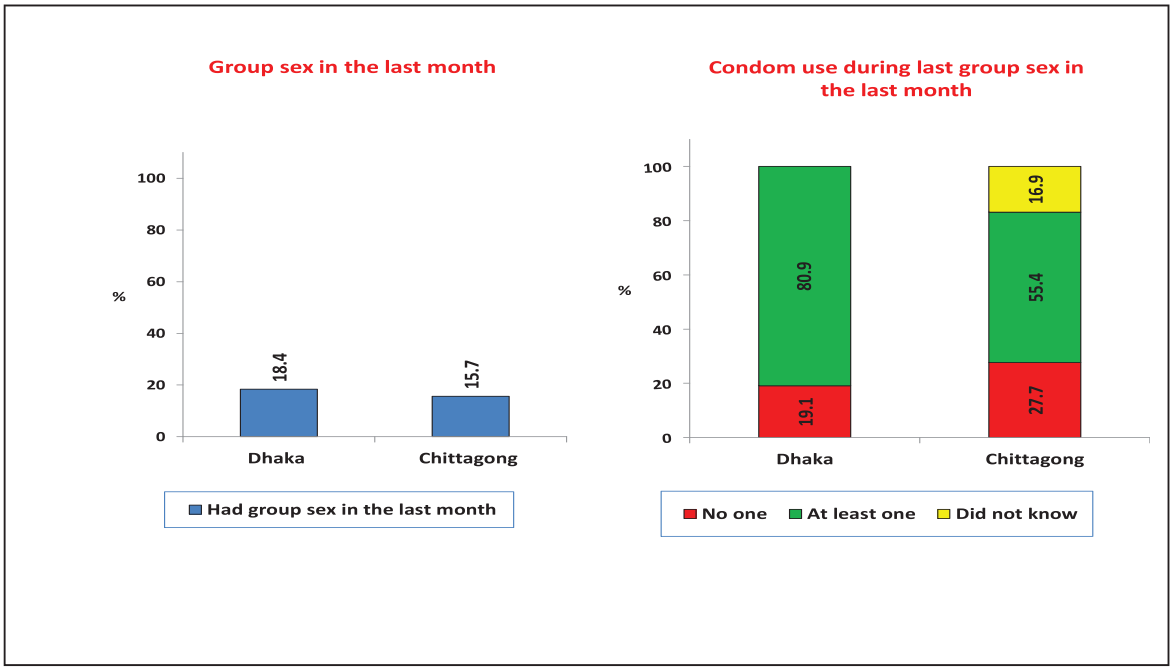
Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Median (IQR)	2.0 (1.0-4.0)	2.0 (2.0-4.0)	
Frequency of condom use while buying anal sex from male/hijra sex partners in the last month (Denominator is who bought anal sex from male/hijra in the last month)	N=10	N=17	
Always	54.2 (23.1-82.4)	70.6 (41.2-89.1)	NS
Sometimes	11.7 (1.4-55.8)	17.6 (5.1-46.0)	NS
Never	34.1 (7.8-75.9)	11.8 (2.1-45.2)	NS

IQR, Inter Quartile Range
NS refers to not significant

5.8 History of Group Sex (Figure 38)

Having group sex in the last month was reported by 18.4% (95% CI: 15.3-21.9) and 15.7% (95% CI: 12.2-19.9) of MSW in Dhaka and Chittagong respectively.The mean number of sex partners in the last group sex was three (excluding the respondent) in both cities. One in every five in Dhaka and one in every four in Chittagong did not use condom during last group sex. On the other hand, in Dhaka 80.9% (95% CI: 71.4-87.7) of MSW said that at least one partner used a condom during last group sex, which is significantly more than in Chittagong where only 55.4% (95% CI: 41.5-68.5) of MSW mentioned the same (p<0.05).

Figure 38: Group sex and condom use



5.9 Sexual History with Females (Table 32)

Having sex with females was reported by some MSW in both Dhaka and Chittagong. Although only a few bought (1.5% and 1.4% in Dhaka and Chittagong respectively) or sold (0.7% and 2.3% in Dhaka and Chittagong respectively) sex to females having regular partners for non-transactional sex was more common (12.5% and 9.9% in Dhaka and Chittagong respectively). Of the MSW who had non-transactional vaginal/anal intercourse with female sex partners in the last month, 21.3% and 29.3% reported using condom in their last sex act in Dhaka and Chittagong, respectively. It was also remarkable that more than 50% of MSW never used condoms during non-transactional sex female sex partners in both the cities.

Table 32: Sexual history with female partner

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Buying sex from female sex worker			
% bought vaginal/anal sex from females in the last month	1.5 (0.7-3.0)	1.4 (0.7-2.9)	NS
Selling Sex to female clients			
% sold sex to females in the last month	0.7 (0.3-1.9)	2.3 (1.0-5.1)	NS
Sex with non-transactional female partners			
% had non-transactional sex with female partners in the last month	12.5 (9.6-16.1)	9.9 (6.7-14.5)	NS
Number of non-transactional vaginal/anal sex acts with female partners in the last month (Denominator is who had non-transactional vaginal/anal sex with female partners in the last month)	N=62	N=41	
Mean (95% CI)	5.6 (4.6-6.5)	6.0 (4.3-7.7)	NS
Median (IQR)	M=5.0 (3.0-7.0)	M=5.0 (2.0-8.0)	
% used condom in the last non-transactional vaginal/anal intercourse with female sex partners in the last month (Denominator is who had non-transactional vaginal/anal sex with female partners in the last month)	N=62 21.3 (10.2-39.1)	N=41 29.3 (16.0-47.4)	NS
Frequency of condom use in non-transactional vaginal/anal intercourse with female sex partners in the last month (Denominator is who had non-transactional vaginal/anal intercourse with female sex partners in the last month)	N=62	N=41	
Always	19.6 (8.9-37.8)	24.4 (12.4-42.5)	NS
Sometimes	22.6 (11.9-38.6)	12.2 (4.5-28.9)	NS
Never	57.8 (39.2-74.4)	63.4 (47.2-77.1)	NS

IQR, Inter Quartile Range
NS refers to not significant

5.10 Access to Condoms and Ease of Access (Table 33)

The knowledge on male condoms was universal in this population. In both cities, those who knew where condoms were available mostly mentioned two sources-NGOs (DIC/DH/NGO workers) and pharmacy. It was notable that more MSW in Dhaka had bought condoms from shops in the last month compared to those in Chittagong ($p<0.05$). Among those who had sex in the last month and used condoms, 72.3% and 76.8% in Dhaka and Chittagong, respectively reported having easy access to condoms when they needed one. The most common reasons reported for not having easy access to condoms were did not find the "peer educator when needed" followed by "DIC was far away".

Among those who had sex in the last month and used condom, 14.1% and 14.8% reported breakage of condoms in Dhaka and Chittagong, respectively.

Table 33: Access to condoms and ease of access

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Knowledge on the sources of condoms*			
Did not know	0.4 (0.1-1.6)	0	-
Shop	35.3 (30.1-41.0)	32.6 (26.8-39.0)	NS
Pharmacy	80.2 (75.4-84.2)	74.9 (69.3-79.7)	NS
Health centre (besides DIC)	1.1 (0.5-2.5)	0.7 (0.2-2.2)	NS
Bar/guest house/hotel	0.2 (0.0-1.2)	0.5 (0.1-3.6)	NS
Friends	23.0 (18.1-28.9)	21.3 (16.6-26.8)	NS
Sex partner	35.6 (30.1-41.4)	34.8 (29.1-41.0)	NS
HIV Prevention programmes (DIC/Depot holder/NGO workers)	80.4 (74.4-85.2)	83.3 (76.9-88.2)	NS
Sources of condom in the last month* (Denominator who had sex in last month and used condom)	N=411	N=357	
Shop	20.3 (15.6-26.0)	10.1 (6.5-15.4)	<0.05
Pharmacy	47.9 (41.7-54.3)	35.3 (28.8-42.4)	NS
Health centre (besides DIC)	0.4 (0.1-1.6)	0	-
Bar/guest house/hotel	0.5 (0.1-2.1)	0.6 (0.1-4.2)	NS
Friends	24.2 (18.8-30.7)	20.4 (15.4-26.6)	NS
Sex partner	0	28.9 (22.5-36.2)	-
Broker	48.8 (42.0-55.5)	0	-
HIV Prevention programmes (DIC/Depot holder/NGO workers)	73.6 (66.4-79.8)	82.9 (76.3-87.9)	NS
% had easy access to condoms in the last month	61.8 (54.4-68.8)	70.5 (64.5-75.9)	NS
% had easy access to condoms in the last month (Denominator is who used condom in last month)	N=411	N=357	
Yes	72.3 (65.4-78.3)	76.8 (70.6-82.0)	NS
No	26.5 (20.6-33.4)	21.6 (17.0-27.0)	NS
Condom was not needed	1.2 (0.5-3.0)	1.4 (0.5-4.1)	NS
Reasons for not having easy access to condoms in the last month*	N=101	N=77	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
(Denominator is who reported not having easy access to condoms in the last month)			
DIC is far away	52.6 (40.8-64.1)	55.8 (43.5-67.5)	NS
DIC closed	4.1 (1.4-11.0)	2.6 (0.3-17.9)	NS
Didn't get peer educator when need	61.0 (46.4-73.8)	53.2 (38.3-67.7)	NS
Cost is too high	10.1 (4.0-23.4)	6.5 (2.3-16.8)	NS
Shop/Pharmacy is far away	17.7 (7.9-35.1)	31.2 (19.4-46.0)	NS
Shop/Pharmacy is closed	16.1 (9.0-27.1)	20.8 (11.6-34.4)	NS
Feel ashamed	49.8 (36.3-63.4)	39.0 (28.4-50.7)	NS
Do not know where to buy	1.1 (0.2-7.1)	0	-
Not willing to carry	24.7 (16.1-36.0)	37.7 (25.2-52.0)	NS

*Multiple responses
NS refers to not significant

5.11 Knowledge and Use of Lubricants (Table 34)

More than 75% of MSW in both cities reported having ever heard of special lubricants for use with condoms and more than 90% were able to mention brand names. In both cities, more than 95% ever used lubricants while having anal intercourse and most used water based lubricants followed by saliva. Among those who mentioned never or sometimes using lubricants during anal intercourse, significantly more MSW in Chittagong than those in Dhaka mentioned that it was not easy to carry as a reason for not using ($p<0.05$). The common reasons for always using lubricants together with condoms, were to increase feeling and decrease pain/inflammation.

Table 34: Use and knowledge of lubricants

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% ever heard about lubricant product made especially for use with condoms	75.2 (69.6-80.1)	79.2 (73.1-84.3)	NS
% were able to mention brand name of such product (Denominator is who ever heard about lubricant)	N=368 95.0 (91.9-96.9)	N=328 95.4 (91.3-97.6)	NS
Name of the brand of lubricant (Denominator is who mentioned the brand name)	N=348	N=313	
Sathi	99.2 (97.3-99.8)	100.0	NS
Jasocaine jelly	0.8 (0.2-2.7)	0	-
% ever used lubricants while having anal intercourse	97.2 (95.1-98.5)	98.1 (96.5-98.9)	NS
Types of lubricants used in the last receptive anal intercourse in the last year* (Denominator is who had receptive anal	N=480	N=406	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
intercourse in the last year)			
Saliva	39.6 (33.9-45.6)	35.7 (30.4-41.4)	NS
Oil	14.6 (10.5-20.0)	17.7 (13.5-23.0)	NS
Water based condom lubricant	64.4 (57.7-70.5)	69.0 (61.2-75.8)	NS
Antiseptic cream	1.3 (0.5-3.6)	1.0 (0.3-2.7)	NS
Ordinary lotion/Vaseline/Petroleum jelly/Beauty cream	24.5 (19.3-30.5)	24.1 (18.5-30.9)	NS
Shampoo/Soap	2.2 (1.0-5.0)	5.7 (3.6-8.9)	NS
Others	0.8 (0.3-2.2)	0	-
% used lubricant with condom during the last anal intercourse in the last 12 months (Denominator is who used lubricant in last 12 months)	N=482 51.2 (44.7-57.7)	N=396 58.1 (50.5-65.3)	NS
Frequency of using special lubricant together with a condom during anal intercourse in the last month (Denominator is who had heard about special lubricant product for use with condoms and had anal intercourse in the last month)	N=365	N=324	
Always	38.2 (31.5-45.3)	41.4 (35.3-47.6)	NS
Sometimes	47.7 (41.5-54.1)	47.2 (41.6-52.9)	NS
Never	14.1 (9.5-20.4)	11.4 (7.5-17.1)	NS
Reasons for either never or sometimes using special lubricant together with a condom in the last month (Denominator is who never or sometimes used condom and lubricant in the last month)*	N=222	N=190	
Cost is too high	5.0 (2.6-9.3)	2.1 (0.9-5.0)	NS
Feel ashamed/troublesome/afraid to buy	12.8 (7.9-20.3)	5.3 (3.1-8.9)	NS
Do not know where to buy	5.7 (2.5-12.9)	0	-
Do not feel it is required	27.8 (20.8-36.2)	32.6 (24.1-42.5)	NS
Use other cream	24.7 (18.5-32.1)	40.5 (31.6-50.1)	NS
Shortage of supply	36.3 (29.0-44.3)	38.4 (30.7-46.8)	NS
Not easy to carry	16.0 (11.4-22.0)	37.4 (29.3-46.2)	<0.05
Client did not want to use	16.3 (11.6-22.3)	14.7 (9.3-22.6)	NS
Did not get time	1.1 (0.2-5.1)	0	-
Bad smell of lubricants	0	0.5 (0.1-3.8)	-
Reasons for always using condom and special lubricant in the last month (Denominator is who always used condom and lubricant in the last month)*	N=143	N=134	
Decrease pain/inflammation	60.5 (47.6-72.1)	59.7 (49.6-69.0)	NS
Increase feeling	81.2 (73.6-87.0)	70.9 (61.4-78.8)	NS
Decrease risk of condom breakage	58.5 (48.1-68.3)	57.5 (40.5-72.8)	NS
To avoid HIV/ STIs	27.9 (19.4-38.5)	28.4 (20.2-38.2)	NS

NS refers to not significant

*Multiple responses

5.12 Knowledge of STIs, Self-reported STIs and Care-seeking Behaviour (Table 35)

In Dhaka, approximately 69% of the MSW mentioned genital ulcer/sore as an STI symptom, which was significantly higher than MSW in Chittagong (54.6%) ($p<0.05$). Almost one in every seven MSW in Dhaka and one in every nine in Chittagong complained of at least one STI symptom in the last one year. Almost seventy percent of the MSW availed a qualified doctor for the last STI treatment in the last year in Dhaka whereas this was true for approximately 60% of MSW in Chittagong. The mean expenditure for the last STI treatment within one year for MSW in Dhaka was more than double than that for the MSW in Chittagong ($p<0.05$).

Table 35: Knowledge of STIs, self reported STIs and care seeking behaviour

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Knowledge about STI symptoms*			
No knowledge on STI symptoms	9.0 (6.3-12.8)	11.6 (7.6-17.3)	NS
Discharge from penis	46.7 (40.6-52.9)	39.4 (33.7-45.3)	NS
Burning pain on urination	40.6 (34.7-46.8)	51.4 (45.0-57.8)	NS
Genital ulcer/sore	69.1 (63.5-74.3)	54.6 (48.9-60.1)	<0.05
Swellings in groin area	11.4 (8.0-15.9)	8.0 (5.2-12.1)	NS
Anal discharge	14.9 (10.8-20.2)	15.5 (10.6-22.0)	NS
Anal ulcer/sore	41.7 (34.6-49.1)	53.6 (46.8-60.3)	NS
Itching	2.9 (1.5-5.4)	0.5 (0.1-1.8)	NS
Others	0.3 (0.1-1.2)	0.2 (0.0-1.8)	NS
% reported having urethral discharge in the last year	6.7 (3.7-11.9)	2.4 (1.4-4.1)	NS
% reported anal discharge in the last year	8.9 (6.4-12.2)	4.8 (3.2-7.2)	NS
% reported genital ulcer/sore in the last year	6.3 (4.1-9.4)	6.3 (4.4-9.0)	NS
% reported at least one STI symptom (urethral discharge or anal discharge or genital ulcer/sore in the last year)	15.3 (11.2-20.7)	11.6 (9.2-14.6)	NS
The first choice for seeking care for the last STI symptom in the last year (Denominator is who reported STI symptoms in last year)	N=74	N=48	
Hospital	10.0 (4.0-23.0)	4.2 (1.0-16.3)	NS
Drug seller	19.3 (11.9-29.9)	20.8 (10.5-37.0)	NS
Private doctor	9.7 (4.8-18.6)	4.2 (1.0-15.9)	NS
Private clinic	5.7 (2.0-15.2)	4.2 (0.9-16.8)	NS
NGO clinic	44.4 (30.1-59.7)	45.8 (30.3-62.2)	NS
Canvasser/Traditional healer	1.3 (0.2-9.1)	0	-
Advice/treatment from friends	1.2 (0.2-8.6)	2.1 (0.3-14.5)	NS
Self medication	1.5 (0.2-10.9)	12.5 (5.6-25.5)	NS
Did not seek treatment	6.9 (3.0-15.0)	4.2 (1.1-15.0)	NS
Homeopathy	0	2.1 (0.3-15.1)	-
The first choice for seeking care for the last STI symptom in the last year (Denominator is who reported STI symptoms in last year)	N=74	N=48	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Qualified practitioner[θ]	69.8 (55.0-81.3)	60.4 (44.5-74.4)	NS
Un-qualified practitioner[¶]	23.3 (14.4-35.4)	35.4 (21.8-51.9)	NS
No treatment	6.9 (3.0-15.0)	4.2 (1.1-15.0)	NS
Name of NGO clinic (Denominator is who availed STI services for the last STI symptom from NGO clinic in the last year)	N=32	N=22	
Bandhu Social Welfare Society (BSWS)	86.0 (58.8-96.4)	95.5 (73.8-99.4)	NS
Madhumita (fhi 360)	14.0 (3.6-41.2)	4.5 (0.6-26.2)	NS
Waiting days for the last STI treatment in the last year (Denominator is who sought STI treatment in last year)	N=69	N=46	
Mean (95% CI)	21.3 (5.2-37.4)	7.3 (4.9-9.6)	NS
Median (IQR)	5.0 (2.0-10.0)	5.0 (3.0-8.0)	
Expenditure (in taka) for the last STI treatment in the last year (Denominator is who reported STI symptoms in the last year and sought treatment)	N=68	N=46	
Mean (95% CI)	514.1 (321.2-706.9)	220.8 (83.5-358.1)	NS
Median (IQR)	200.0 (0.0-700.0)	27.5 (0.0-200.0)	

[θ]Qualified practitioner refers to hospital, private clinic, private doctor and NGO clinic
[¶]Un-qualified practitioner refers to drug seller, canvasser/traditional healer, advice/treatment from friends and self medication
*Multiple responses
IQR, Inter Quartile Range
NS refers to not significant

5.13 Knowledge of HIV and its Modes of Prevention and Transmission (Table 36)

Almost all MSW had heard about HIV/AIDS. However, misconceptions about the transmission of HIV especially that HIV can be transmitted by mosquito bites and sharing food with an HIV infected person, was not uncommon.

Table 36: Knowledge of HIV and its modes of HIV prevention and transmission

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% who heard about HIV/AIDS	98.8 (96.8-99.6)	99.5 (98.0-99.9)	NS
% mentioned condom use (correctly and consistently in any type of sex) as a mode of prevention	94.4 (91.7-96.3)	95.7 (92.3-97.6)	NS
% mentioned avoiding anal sex as a mode of prevention	68.9 (63.6-73.8)	71.7 (66.3-76.6)	NS
% mentioned avoiding multiple sex	75.4 (70.3-79.9)	74.9 (68.1-80.6)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
partners as a mode of prevention			
% mentioned HIV can be transmitted by mosquito bites	25.9 (20.7-31.9)	29.0 (23.1-35.7)	NS
% mentioned HIV can be transmitted by sharing food with an HIV infected person	23.4 (18.3-29.3)	27.1 (21.4-33.6)	NS
% mentioned not sharing needles/syringes as a mode of prevention	85.7 (82.1-88.7)	85.3 (81.0-88.7)	NS
% mentioned one can tell by looking at someone whether he/she is infected with HIV	14.7 (11.3-18.9)	15.7 (11.1-21.7)	NS
% had comprehensive knowledge of HIV[§]	41.7 (34.9-48.8)	37.2 (30.0-45.0)	NS

NS refers to not significant

[§]This indicator was computed by correct answers to five questions:

1. Can people reduce their risk of HIV by using a condom correctly and consistently in any type of sex,
2. Can people reduce their risk of HIV by avoiding sex with multiple partners,
3. Can a person get HIV through mosquito bites,
4. Can a person get HIV by sharing a meal with someone who is HIV infected and
5. Can you tell by looking at someone whether s/he is infected with HIV

5.14 Knowledge on Confidential HIV Testing (Table 37)

Similar proportions of MSW in Dhaka and Chittagong (71.5% and 76.3% respectively) knew where HIV could be tested confidentially. Among those who knew where to go for confidential HIV testing, 67.4 and 78.8% reported having ever been tested in Dhaka and Chittagong respectively. In the last one year, 35.2% and 44.4% of MSW in Dhaka and Chittagong respectively had been tested for HIV and knew their result.

Table 37: Confidential HIV testing

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% who knew where HIV can be tested confidentially	71.8 (65.9-77.1)	76.7 (69.8-82.4)	NS
% ever tested for HIV	48.5 (43.0-54.2)	60.1 (53.0-66.9)	NS
% ever tested for HIV (Denominator is who knew where HIV can be tested confidentially)	N=350 67.9 (61.5-73.7)	N=316 78.8 (73.8-83.0)	<0.05
Name of HIV testing facility (Denominator is who ever tested for HIV)	N=238	N=249	
Bhandhu Social Welfare Society (BSWS)	73.1 (64.2-80.5)	96.0 (90.6-98.3)	<0.05
Modhumita (fhi 360)	20.4 (14.3-28.3)	2.4 (0.8-6.9)	<0.05
Jagori (icddr,b)	3.7 (1.8-7.7)	0	-

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
CAP Bonani	0.8 (0.2-2.8)	0	-
Surokkha (SMC)	0.3 (0.0-2.2)	0	-
Marie Stopes Clinic (MSCS)	0.4 (0.1-2.9)	0	-
CARE	0.6 (0.1-4.2)	0	-
Ashar Alo Society	0.4 (0.1-2.7)	1.6 (0.4-6.2)	NS
Can't remember	0.3 (0.0-2.2)	0	-
Did you yourself do the test or did somebody advise you to have the test (Denominator is who ever tested for HIV)	N=238	N=249	
Self	60.8 (53.5-67.7)	42.2 (35.2-49.4)	<0.05
Someone advised	39.2 (32.3-46.5)	57.8 (50.6-64.8)	<0.05
% received HIV testing result (Denominator is who ever tested for HIV)	N=238 93.9 (89.3-96.6)	N=249 92.0 (88.3-94.6)	NS
Time since the most recent HIV test (Denominator is who ever tested for HIV)	N=238	N=249	
Within one year	74.4 (67.5-80.3)	81.5 (74.3-87.1)	NS
More than one year	25.6 (19.7-32.5)	18.5 (12.9-25.7)	NS
% underwent HIV testing and counselling in the last year and knew the result[ϕ]	35.2 (29.7-41.3)	44.4 (38.4-50.6)	NS

[ϕ]This indicator was computed by combining responses from two questions:

3. Have you been tested for HIV in the last 12 months?
4. If yes, I don't want to know the results, but did you receive the results of that test?

NS refers to not significant

5.15 Self-perception of Risk of HIV and Reasons for those Perceptions (Table 38)

More than half of the MSW in both Dhaka and Chittagong perceived themselves to be at little or no risk of HIV of whom the majority stated that this was because they always used condoms. However, In Chittagong, 4.6 % were not able to assess their own risk whereas in Dhaka this was true for 7.1%. Among those MSW who perceived themselves to be at high or medium risk of HIV, the most frequently mentioned reason was irregular use of condom (61.3% in Dhaka, 68.7% in Chittagong).

Table 38: Self-perception of risk of HIV and their reasons

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Assessing own risk of HIV			
High risk	9.9 (7.0-13.8)	10.4 (6.8-15.6)	NS
Medium risk	27.1 (22.9-31.8)	25.8 (21.0-31.3)	NS
Little or no risk	55.9 (50.4-61.4)	59.2 (51.4-66.5)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Not able to assess own risk	7.1 (5.1-9.8)	4.6 (2.5-8.3)	NS
Reasons for assessing themselves to be at high or medium risk (Denominator is who assessed themselves to be at high or medium risk)*	N=17	N=150	
Risky profession	41.5 (33.7-49.8)	40.7 (31.1-50.9)	NS
Frequent anal sex	35.7 (26.8-45.8)	62.0 (52.1-71.0)	<0.05
Do not use condom	10.4 (6.4-16.6)	9.3 (5.5-15.4)	NS
Irregular use of condoms	61.3 (51.9-70.0)	68.7 (60.3-76.0)	NS
Share needles/syringes	0.4 (0.1-2.8)	0	-
Know from blood testing	0	0.7 (0.1-5.0)	-
Reasons for assessing themselves to be at little or no risk (Denominator is who assessed themselves to be at little or no risk)*	N=283	N=245	
Always use condom	66.1 (57.7-73.5)	63.3 (55.0-70.8)	NS
Clean /healthy sex partners	29.5 (22.5 -37.5)	40.8 (34.6-47.3)	NS
Never share needles/syringes	0.6 (0.1-2.4)	9.0 (4.7-16.5)	<0.05
Sometimes share needles/ syringes	1.3 (0.5-3.5)	0	-
Irregular use of condom	14.6 (10.2-20.4)	18.4 (12.5-26.2)	NS
Sex with trusted partner	7.1 (4.1-12.0)	8.2 (4.4-14.6)	NS
Be neat and clean	39.3 (32.7-46.3)	47.3 (39.0-55.8)	NS
Do less sex acts	30.6 (23.8-38.3)	35.9 (28.4-44.2)	NS
Wash genitals after sex	3.3 (1.6-6.7)	4.1 (1.5-10.5)	NS
Always be alert	3.8 (1.7-8.3)	0	-
No sex with drug user	0.3 (0.0-2.4)	0	-

*Multiple responses
NS refers to not significant

5.16 Measures Taken to Avoid STIs and HIV (Table 39)

In both cities, majority of the MSW mentioned that they used condoms to avoid HIV and STIs. Washing genitalia was another frequent practice which was more commonly reported by MSW of Chittagong than those of Dhaka ($p<0.05$).

Table 39: Measures taken to avoid STIs and HIV

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Measures taken to avoid STIs*			
Nothing	12.9 (9.2-17.8)	8.7 (5.9-12.7)	NS
Wash genital organs with water/soap/dettol/urine	26.1 (20.3-32.8)	44.0 (37.6-50.5)	<0.05
Always use condoms	35.7 (29.3-42.5)	42.5 (35.7-49.6)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Sometimes use condoms	37.8 (33.1-42.7)	36.7 (31.2-42.6)	NS
Sex with trusted partner	8.0 (5.7-11.2)	9.9 (6.8-14.2)	NS
Sex with clean partner	26.0 (21.4-31.2)	33.1 (27.0-39.9)	NS
Do less sex/non-penetrative sex	0.5 (0.1-2.0)	0.5 (0.1-2.0)	NS
Visit Doctor	0.1 (0.0- 1.1)	0	-
Measures taken to avoid HIV* (Denominator is who have heard about HIV)	N=489	N=410	
Do nothing	12.5 (8.8-17.5)	9.0 (6.2-13.0)	NS
Wash genital organs with water/soap/dettol/urine	23.4 (17.6-30.5)	43.7 (36.9-50.7)	<0.05
Always use condom	41.9 (35.4-48.7)	42.4 (35.5-49.7)	NS
Sometimes use condom	37.8 (33.1-42.8)	39.0 (33.5-44.9)	NS
Be alert	35.8 (30.7-41.3)	42.9 (37.4-48.7)	NS
Others	0.4 (0.1-1.4)	1.0 (0.4-2.5)	NS

*Multiple responses
NS refers to not significant

5.17 Violence against MSW (Table 40)

Being raped, beaten or both were reported by several MSW in both cities (27.2% and 19.3% in Dhaka and Chittagong respectively).Hoodlums and local people were the main perpetuators of such violence in both cities. Besides, it was observed that in Chittagong one in every five MSW were raped by their regular partners (Parikhs). A small number were jailed in the last year for different reasons.

Table 40: Violence against MSW

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% reported being beaten in the last year	12.9 (9.8-16.9)	9.4 (6.9-12.7)	NS
Beating was perpetuated by* (Denominator who reported being beaten in the last year)	N=63	N=39	
Men in uniform	18.5 (10.3-31.0)	20.5 (9.9-37.7)	NS
Mastans (Hoodlums)	42.4 (30.0-55.7)	51.3 (35.6-66.8)	NS
New clients	5.0 (1.5-15.9)	7.7 (2.7-20.2)	NS
Regular clients	12.0 (5.6-23.8)	12.8 (5.3-27.9)	NS
Local people	26.4 (15.4-41.5)	23.1 (12.0-39.7)	NS
Relatives	22.9 (13.0-37.3)	10.3 (3.6-25.9)	NS
Landlord	0	2.6 (0.3-18.2)	-
Others	5.2 (1.6-15.7)	0	-
% reported being raped in the last year	21.3 (17.1-26.1)	15.5 (11.7-20.1)	NS
% reported to have been beaten or raped in the last year	27.2 (22.6-32.5)	19.3 (15.4-24.0)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Rape was perpetuated by* (Denominator who reported been raped in the last year)	N=102	N=64	
Men in uniform	13.6 (7.3-23.9)	7.8 (3.2-17.7)	NS
Mastans (Hoodlums)	38.2 (27.8-49.8)	37.5 (25.9-50.7)	NS
New clients	5.3 (2.3-11.5)	12.5 (6.1-23.7)	NS
Regular clients	20.2 (12.6-30.7)	20.3 (12.4-31.4)	NS
Local people	28.7 (19.7-39.8)	20.3 (12.0-32.2)	NS
Relatives/friends	11.2 (6.2-19.2)	6.3 (1.9-18.9)	NS
Parikh	0.7 (0.1-5.0)	9.4 (3.8-21.2)	NS
Others	4.8 (1.6-13.3)	0	-
% reported being jailed in the last year	2.1 (1.2-3.8)	1.2 (0.5-3.0)	NS
Reasons for being jailed in the last year (Denominator is who had been to jail in the last year)	N=12	N=5	
For stealing	6.8 (0.6-44.9)	20.0 (0.8-88.9)	NS
I was in the spot/park	27.0 (7.9-61.4)	40.0 (3.8-91.9)	NS
Taking drugs	51.2 (19.9- 81.6)	40.0 (3.8-91.9)	NS
No sex without money	8.2 (0.8-50.3)	0	-
For carrying condom	6.8 (0.6-44.9)	0	-

*Multiple responses
NS refers to not significant

5.18 Mobility (Table 41)

Almost half of the MSW in Dhaka and about one third in Chittagong reported travelling to another city within the country in the last year. Of these, more than half sold sex while being in another city and among those travelling and selling sex, 53.3% from Dhaka and 59.3% from Chittagong reported using condom in the last intercourse.

A few MSW (30 from Dhaka and 15 from Chittagong) travelled abroad in the last year and of these the vast majority visited India. Approximately half who travelled abroad sold sex while abroad. Buying sex and having non-transactional sex while abroad was less common and condom use during these sex acts was even less common.

Table 41: Mobility

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Within Country			
% visited another city in the last year	47.1 (42.0-52.3)	35.0 (28.6-42.1)	NS
% sold sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=227 56.5 (49.5-63.2)	N=145 59.3 (51.7-66.5)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% used condom in the last sex act while selling sex in another city in the last year (Denominator is who visited another city and sold sex in the last year)	N=129 53.3 (42.7-63.6)	N=86 59.3 (47.4-70.2)	NS
% bought sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=227 2.1 (0.9-4.9)	N=145 2.1 (0.6-6.6)	NS
% used condom in the last sex act while buying sex in another city in the last year (Denominator is who visited another city and bought sex in the last year)	N=6 100.0	N=3 66.7 (0.3-99.9)	NS
% had sex non-transactional sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=227 31.6 (25.6-38.3)	N=145 18.6 (12.8-26.3)	NS
% used condom in the last non-transactional sex act while visiting another city in the last year (Denominator is who visited another city and had non-transactional sex in the last year)	N=68 37.1 (26.1-49.6)	N=27 40.7 (19.2-66.5)	NS
Outside Country			
% travelled abroad in the last year	6.4 (4.5-9.0)	3.6 (2.3-5.7)	NS
Name of the countries travelled in the last year	N=30 **Number**	N=15 **Number**	-
India	25	11	
Nepal	1	0	
UAE	1	1	
Singapore	1	0	
Japan	1	0	
Thailand	1	0	
Saudi Arabia	0	1	
Oman	0	2	
% sold sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=30 54.9 (37.1-71.9)	N=15 60.0 (27.9-85.4)	NS
% used condom in the last sex act while selling sex abroad in the last year (Denominator is who travelled abroad and sold sex in the last year)	N=16 73.4 (43.9-90.6)	N=9 44.4 (11.3-83.4)	NS
% bought sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=30 16.3 (5.6-38.9)	N=15 13.3 (2.6-47.1)	NS
% used condom in the last intercourse while buying sex abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	N=4 76.9 (4.1-99.6)	N=2 50.0 (0.0-100.0)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% had non-transactional sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=30 24.4 (11.5-44.7)	N=15 13.3 (2.9-43.8)	NS
% used condom in the last non-transactional sex while abroad in the last year (Denominator is who travelled abroad and had non-transactional sex in the last year)	N=7 72.9 (22.5-96.1)	N=0 -	-

NS refers to not significant

5.19 Exposure to HIV/AIDS Prevention Programmes (Table 42)

Both in Dhaka and Chittagong, more than three fourths of the MSW said that they had ever participated in any HIV/AIDS prevention programme and in the last month, the numbers participating in programmes were significantly higher in Chittagong compared to those in Dhaka. Among those who ever participated in prevention programmes in Dhaka, in the last year, more than 90% mentioned receiving condoms and lubricants followed by participating in educational programmes and attending DICs. A similar trend was observed in Chittagong. About 82% and 83% in Dhaka and Chittagong respectively mentioned that they had learnt about safe sex by attending these programmes.

Table 42: Exposure to HIV/AIDS prevention programmes

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% ever participated in HIV/AIDS prevention programmes (NGO/Self help group/CBO)	77.9 (72.9-82.2)	79.5 (72.0-85.3)	NS
Time since last participation in HIV/AIDS prevention programmes (Denominator is who ever participated in any HIV/AIDS intervention programmes)	N=385	N=329	
Within last month	63.2 (54.8-70.9)	80.9 (74.5-85.9)	<0.05
1-6 months ago	25.6 (19.9-32.4)	15.5 (11.1-21.2)	NS
7-12 months ago	6.5 (4.2-10.0)	2.1 (1.0-4.3)	NS
> 12 months ago	4.4 (2.3-8.4)	1.2 (0.4-3.4)	NS
Cannot remember	0.3 (0.0-1.8)	0.3 (0.0-2.0)	NS
	N=384	N=328	
Mean months (95% CI)	2.8 (1.8-3.9)	1.1 (0.6-1.6)	<0.05
Median (IQR)	0.0 (0.0-2.0)	0	
Duration of involvement with HIV/AIDS prevention programmes (Denominator is who ever participated in any HIV/AIDS prevention programme)	N=385	N=329	
Less than month	2.6 (1.2-5.4)	4.3 (2.4-7.5)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
1-6 months	2.6 (1.4-5.0)	7.9 (5.1-12.1)	<0.05
7-12 months	8.2 (5.9-11.3)	15.8 (11.6-21.1)	<0.05
> 12 months	86.1 (81.7-89.6)	72.0 (65.6-77.7)	<0.05
Cannot remember	0.5 (0.1-1.8)	0	-
	N=383		
Mean month (95% CI)	44.8 (40.8-48.8)	37.2 (30.9-43.5)	NS
Median (IQR)	36.0 (24.0-60.0)	26.0 (12.0-48.0)	
% participated in any HIV/AIDS prevention programmes in the last year	71.8 (65.4-77.5)	78.0 (70.3-84.2)	NS
Number of times participated in the prevention programmes in the last month (Denominator is who had participated in the HIV/AIDS prevention programmes in the last month)	N=253	N=329	
Mean (95% CI)	2.8 (2.4-3.1)	2.3 (1.9-2.7)	NS
Median (IQR)	2.0 (1.0-4.0)	2.0 (1.0-3.0)	
% reported being involved with different types of prevention programmes in the last month* (Denominator is who participated in any prevention programmes in the last month)	N=253	N=284	
Needles/ Syringes programme	0.3 (0.0-0.2)	0	-
Educational programme	39.1 (31.6-47.1)	34.9 (27.2-43.4)	NS
Received condom	98.2 (95.9-99.3)	92.3 (88.3-94.9)	<0.05
Received lubricant	91.7 (86.9-94.9)	85.6 (80.0-89.8)	NS
Treatment received for STIs	5.2 (2.7-9.7)	8.1 (4.8-13.3)	NS
Management of general health problems	14.7 (9.3-22.4)	22.9 (17.3-29.7)	NS
Attended DIC	36.2 (28.6-44.5)	35.2 (28.4-43.8)	NS
Attended VCT	4.4 (2.1-8.9)	13.0 (9.5-17.7)	<0.05
% reported been involved with the prevention programme in the last year (Denominator is who participated in any prevention programmes in the last year)	N=357	N=323	
Needles/ Syringes programme	0.2 (0.0-1.5)	5.6 (3.2-9.4)	<0.05
Education programme	79.0 (73.2-83.9)	74.6 (68.3-80.1)	NS
Received condom	96.5 (92.6-98.4)	95.4 (92.6-97.1)	NS
Received lubricant	90.4 (85.4-93.9)	90.1 (85.2-93.5)	NS
Treatment received for STIs	21.5 (16.3-27.9)	22.3 (16.7-29.2)	NS
Management of general health problems	30.8 (24.5-38.0)	39.3 (31.5-47.8)	NS
Attended DIC	55.1 (47.8-62.2)	54.2 (47.5-60.7)	NS
Attended VCT	26.7 (21.3-32.8)	39.3 (33.0-46.1)	<0.05
% reached with HIV prevention programmes in the last year$^{\Phi}$	62.2(55.0-69.0)	70.3 (63.3-76.4)	NS
% reported of had been benefited from prevention programme in the last year (Denominator is who participated in			

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
HIV/AIDS prevention programmes in the last year)	N=385	N=329	
Helped in changing risk behaviour	46.0 (39.9-52.2)	51.7 (44.4-58.9)	NS
Received useful information but did not change behaviour	30.2 (24.2-36.9)	28.0 (21.6-35.3)	NS
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	81.9 (75.3-87.1)	83.3 (78.4-87.2)	NS
Information was hard to understand	3.3 (2.0-5.4)	0.6 (0.1-2.5)	NS
Information was not relevant to their needs	2.0 (0.8-5.0)	0.3 (0.0-2.0)	NS
Free treatment	0.4 (0.1-1.5)	0.3 (0.0-2.3)	NS

$^{\Phi}$This indicator was computed by combining the responses from two questions :

3. Do you know where you can go if you wish to receive an HIV test?
4. In the last twelve months, have you been given condoms? (e.g. through an outreach service DIC or sexual health clinic)

*Multiple responses

IQR, Inter quartile range

NS refers to not significant

5.20 Venue for Meeting Friends, Sex Partners and for Sex Act (Table 43)

More than 80% MSW in both Dhaka and Chittagong reported cruising spot as a place for meeting friends. In Dhaka and Chittagong, home was the most common venue for sex with both new and regular clients. Cell-phone was the most common means of contacting with male sex partners for sex in both cities. Using the internet for this purpose was reported by some; 8.6% and 4.3% in Dhaka and Chittagong respectively.

Table 43: Venue for meeting friends, sex partners and for sex act

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Place of sex act with new clients in the last week (Denominator is who had new clients in the last week)*	N=312	N=250	
Park	45.0 (36.8-53.5)	18.0 (12.0-26.1)	<0.05
Hotel	21.7 (15.8-29.0)	44.0 (36.4-51.9)	<0.05
Home	77.4 (70.5-83.1)	76.8 (70.3-82.3)	NS
Car/train compartment/Steamer	2.3 (1.0-5.6)	4.8 (2.3 -9.9)	NS
Roof top	18.0 (13.3-24.0)	9.2 (6.3-13.3)	NS
Cinema Hall	3.9 (2.0-7.7)	2.8 (1.2-6.3)	NS
Road side/around bridge/Inside pipe/front of parliament	33.3 (26.7-40.7)	16.4 (11.5-22.8)	<0.05
Bus stand	14.2 (9.1-21.3)	7.2 (4.0-12.5)	NS
Working place	10.9 (7.5- 15.4)	8.4 (5.1-13.4)	NS
Market	6.8 (4.1-11.0)	7.6 (4.7- 12.1)	NS

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
School/college	1.1 (0.3-4.6)	0	-
Field/ by the side of lake	3.4 (1.2-9.2)	0.8 (0.1-5.8)	NS
Place of sex act with regular clients in the last week (Denominator is who had regular clients in the last week)*	N=355	N=275	
Park	26.1 (19.6-33.8)	14.9 (9.8-22.0)	NS
Hotel	20.2 (14.1-28.0)	30.9 (25.0-37.5)	NS
Home	84.3 (78.9-88.5)	86.5 (80.4-91.0)	NS
Car/train compartment/steamer	7.2 (3.7-13.5)	2.5 (1.2-5.3)	NS
Roof top	16.0 (11.5-21.8)	7.6 (4.6-12.4)	NS
Cinema Hall	2.1 (0.9-4.8)	1.1 (0.4-3.2)	NS
Road side/surrounding bridge	24.4 (18.8-31.0)	13.1 (9.5-17.7)	<0.05
School/College/Madrasa	0.6 (0.2-1.9)	0.4 (0.0-2.7)	NS
Working Place	12.1 (8.6-16.8)	11.6 (7.2-18.3)	NS
Bus Stand/river bank(boat stand)	9.7 (6.4-14.4)	3.3 (1.6-6.5)	NS
Market/shop	4.9 (2.9-8.1)	7.6 (4.7-12.2)	NS
Field/Hills	0	1.5 (0.4-5.0)	-
Usual meeting place with friends*			
Cruising spot	83.5 (78.3-87.7)	85.5 (79.0-90.3)	NS
At home	67.1 (60.3-73.3)	76.1 (68.3-82.5)	NS
Club	6.4 (4.0-10.0)	3.4 (2.0-5.8)	NS
Party	15.7 (10.7-22.4)	2.9 (1.4-6.0)	<0.05
Tea stall	27.0 (22.5-32.1)	24.9 (20.1-30.3)	NS
On the street	57.3 (51.7-62.8)	50.2 (43.7-56.7)	NS
Bazar/market	34.4 (27.9-41.4)	30.0 (24.7-35.8)	NS
Hotel/boarding	5.9 (3.7-9.2)	5.3 (2.6-10.7)	NS
Working Place	18.1 (13.7-23.4)	27.5 (21.7-34.3)	NS
School/College/Madrasa	1.3 (0.6-2.8)	1.0 (0.4-2.4)	NS
Others	2.9 (1.0-8.7)	0.7 (0.3-2.0)	NS
Usual means of contact with male sex partners*			
Cruising spot	78.6 (72.6-83.5)	75.8 (69.7-81.1)	NS
By cell phone	94.7 (91.4-96.8)	93.2 (90.0-95.5)	NS
Internet	8.6 (5.5-13.2)	4.3 (2.4-7.6)	NS
Friends	35.2 (30.4-40.3)	35.7 (29.9-42.0)	NS
Broker (Dalal)	1.4 (0.6-3.2)	2.7 (1.5-4.8)	NS
Club	3.3 (1.9-5.6)	1.2 (0.5-2.7)	NS
Party	11.0 (7.2-16.6)	3.4 (1.9-5.9)	<0.05
Tea stall	19.1 (15.4-23.5)	17.6 (13.1-23.3)	NS
On the street	42.4 (37.0-47.9)	39.6 (32.6-47.1)	NS
Bazar/Market	19.7 (15.3-25.0)	23.9 (19.2-29.3)	NS
Hotel/boarding	3.8 (2.1-6.8)	9.4 (6.6-13.3)	NS
Working place	12.5 (8.9-17.1)	19.8 (14.0-27.2)	NS
School/College/Madrasa	1.0 (0.4-2.4)	0.2 (0.0-1.8)	NS
At home	24.0 (18.8-30.1)	29.0 (23.0-35.8)	NS
Steamer	0.4 (0.1-2.7)	0	-
Hills/Sea beach	0	0.7 (0.2-3.2)	-

*Multiple responses
NS refers to not significant

5.21 Using Illicit Drugs (Table 44)

More MSW in Dhaka reported taking illicit drugs (except alcohol/cannabis) in the last year than in Chittagong (8.6% and 2.9% respectively). Methamphetamine (Yaba) was the most common drug taken in both cities followed by the codeine containing cough syrup, Phensidyl. Only two MSW said they had injected drugs in the last year and both were from Dhaka and one shared needles/syringes during the last injection. Approximately one in every five of the MSW reported that their new/regular clients injected drugs in Dhaka while in Chittagong this was reported by one in every ten.

Table 44: Using illicit drugs

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% took illicit drugs (except alcohol and cannabis) in the last year	8.6 (5.6-13.0)	2.9 (1.5-5.6)	NS
Type of drugs taken in the last year*			
Codeine containing cough syrup (Phensidyl)	2.8 (1.3-5.6)	1.4 (0.6-3.2)	NS
Heroin	1.5 (0.6-3.4)	0.2 (0-1.8)	NS
Buprenorphine/Pethedine	0.3 (0.1-1.2)	0	-
Methamphetamine (Yaba)	4.8 (2.7-8.3)	1.4 (0.6-3.7)	NS
% injected drugs in the last year	0.3 (0.1-1.2)	0	-
% had new/regular clients who injected drugs	19.3 (14.8-24.9)	10.5 (6.7-16.0)	NS

*Multiple responses
NS refers to not significant

5.22 History of Selling Blood

Selling blood in the last year was not common and reported by only 0.6% (95% CI: 0.1-2.7) and 0.2% (95% CI: 0.0-1.8) of MSW in Dhaka and Chittagong, respectively.

5.23 History of taking Female Hormones (Table 45)

A not insignificant proportion of MSW had taken oestrogen and progesterone containing hormone tablets and/or injections some time in their lives in both cities and among those who did almost 35% and 42% in Dhaka and Chittagong respectively did so in the last three months. Their main reason for taking these hormones were for the enhancement of breasts followed by increasing smoothness of the skin.

Table 45: History of taking female hormones

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
% ever took female hormones	20.5 (16.5-25.2)	14.4 (10.1-20.1)	NS
% took female hormones in the last 3 months (Denominator is who ever took female hormones)	N=102 34.7 (25.7-45.1)	N=57 42.1 (31.6-53.3)	NS
Reasons for taking female hormones* (Denominator is who had taken female hormones in the last three months)	N=36	N=24	
Enhancing breast size	96.8 (78.2-99.6)	100.0	NS
Improving shape of thigh/hip	5.7 (1.3-22.2)	8.3 (1.8-31.7)	NS
Increasing smoothness of skin	38.0 (22.7-56.0)	41.7 (22.7-63.4)	NS
Suppressing growth of facial hair	8.1 (2.4-24.0)	16.7 (4.7-44.8)	NS

*Multiple responses
NS refers to not significant

5.24 Profile of Clients as Identified by MSW (Table 46)

The majority of the clients of MSW were service holders and businessmen in both cities.

Table 46: Profile of clients as identified by MSW

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
Commonly reported occupation of clients (both new and regular clients)			
Student	18.8 (14.8-23.6)	12.3 (9.0-16.6)	NS
Rickshaw puller	7.1 (5.0-10.0)	4.3 (2.4-7.8)	NS
Men in uniform	1.9 (1.0-3.8)	1.7 (0.9-3.3)	NS
Service holder	33.9 (28.4-40.0)	35.0 (29.6-40.8)	NS
Motor driver	11.7 (8.6-15.7)	15.9 (12.0-20.8)	NS
Business	20.9 (16.6-26.0)	23.9 (18.8-30.0)	NS
Day labour	5.1 (3.0-8.6)	6.0 (3.4-10.6)	NS
Unemployed	0.4 (0.1-1.5)	0.2 (0.0-1.8)	NS
Bus helper	0.1 (0.0-1.1)	0	-
Politician	0	0.5 (0.1-2.0)	-
Characterisation of the last new/regular client in the last week (Denominator is who had new or regular clients in the last week)	N=434	N=342	

Indicators	Dhaka N= 498, unless otherwise stated % (95% CI)	Chittagong N= 414, unless otherwise stated % (95% CI)	Comparison p-value
General person	62.6 (56.9-68.0)	37.7 (31.2-44.8)	<0.05
Also client of female sex workers	4.0 (2.2-7.4)	3.5 (1.6-7.5)	NS
MSM	32.7 (27.7-38.2)	56.7 (49.1-64.0)	<0.05
Person who inject drugs	0	0.6 (0.1-2.3)	-
Do not know	0.7 (0.2-2.2)	1.5 (0.5-4.1)	NS

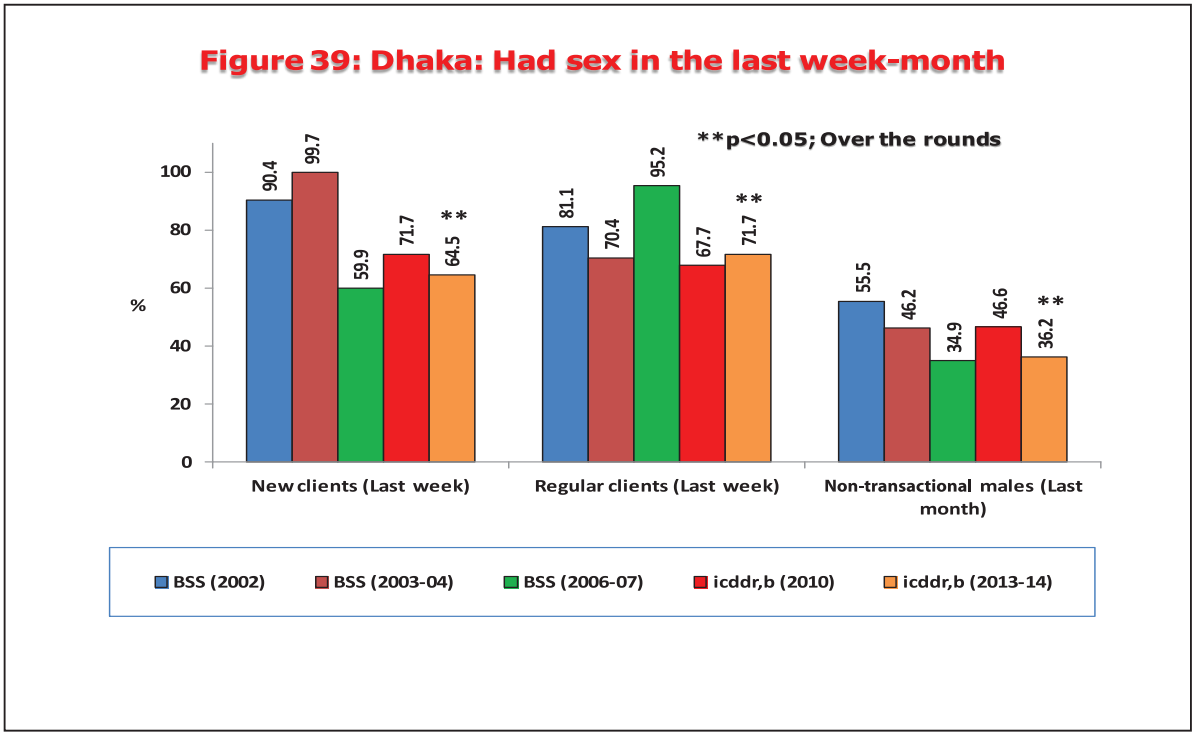
*Multiple responses
NS refers to not significant

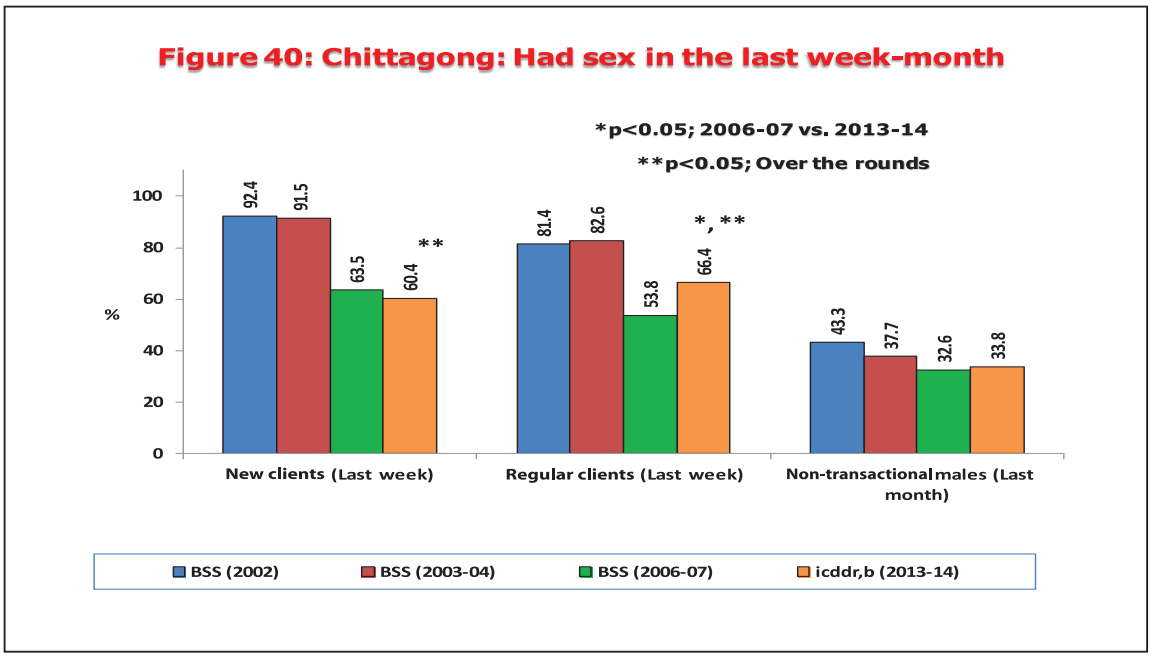
5.25: Changes in Risk Behaviours over the Rounds in MSW

Changes in some selected risk behaviours have been compared over the years of BSS from 2002-2013/14 in MSW in Dhaka and Chittagong.

5.25.1 Male Sex Partners in the Last Week and Month

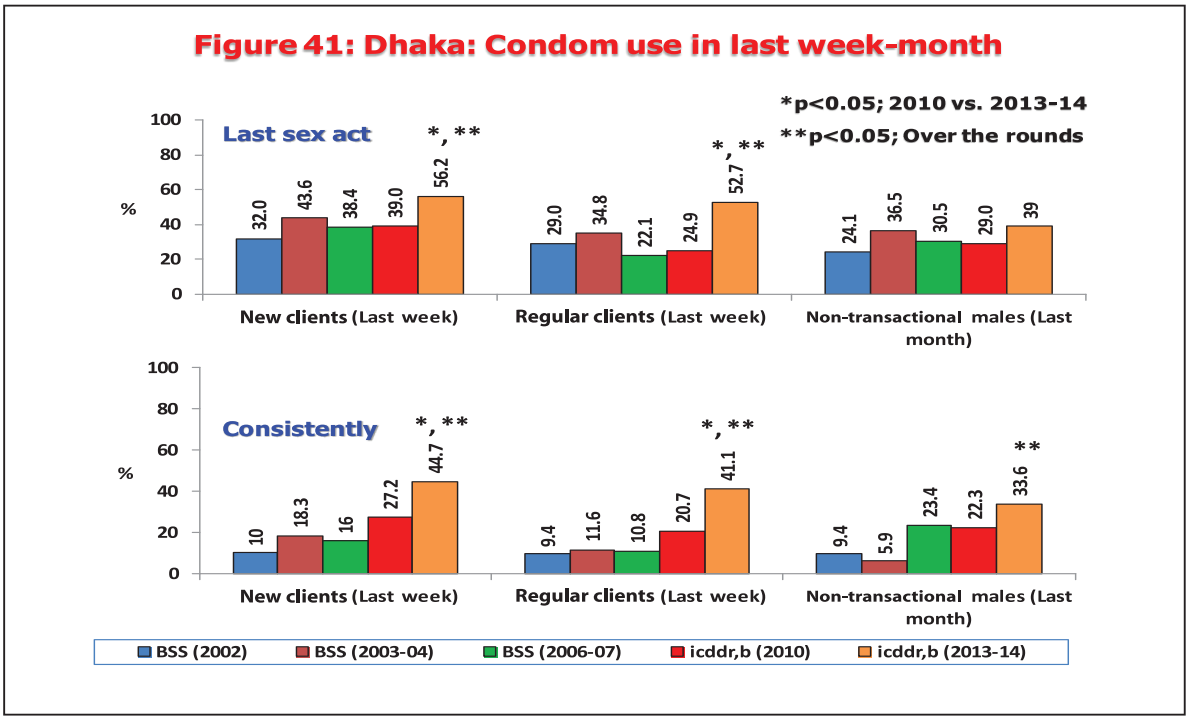
Figures 39 and 40 shows the proportions of MSW reporting sex with different types of male sex partners in Dhaka and Chittagong. Both in Dhaka and Chittagong, proportions of MSW reporting sex with new and regular clients declined significantly over the years (p<0.05). In non-transactional sex in the last month, a similar decline over the years was observed in Dhaka (p<0.05) but there was no change in Chittagong.

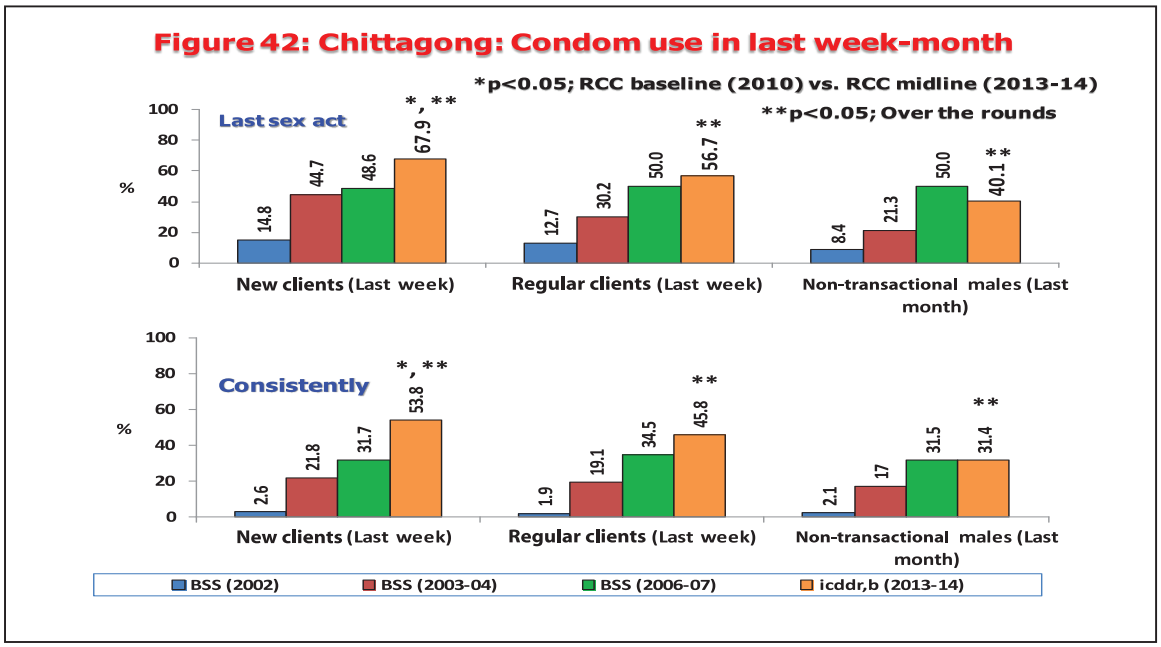




5.25.2 Condom Use in the Last Week and Month

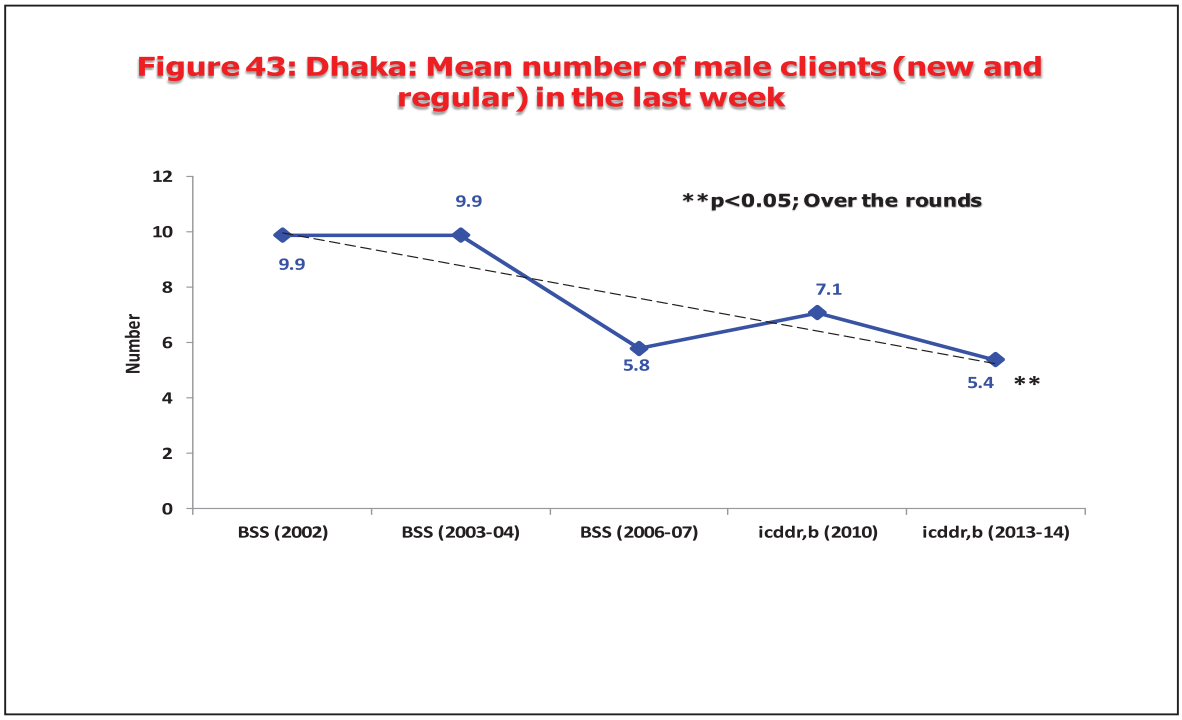
Figures 41 and 42 show the information on the use of condoms in the last week and month with different types of male sex partners in Dhaka and Chittagong. Both last time and consistent condom use with new and regular clients in the last week increased significantly over the years in both cities ($p<0.05$). During non-transactional sex, both last time and consistent condom use increased significantly over the years in Chittagong ($p<0.05$) but there was no change in Dhaka.

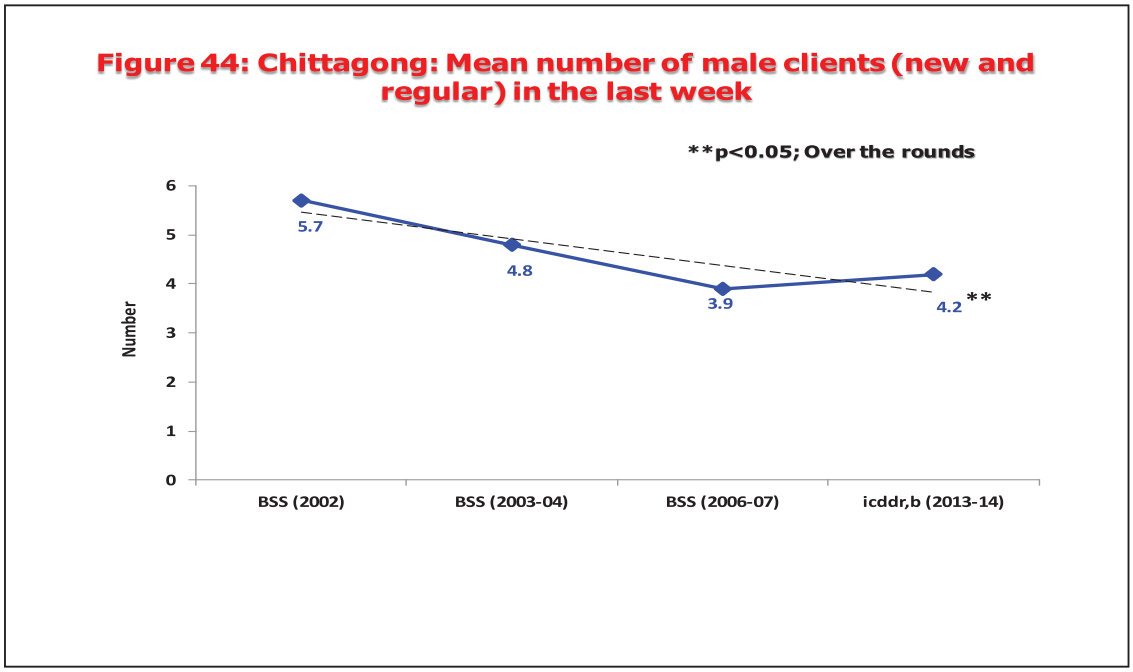




5.25.3 Number of Clients in the Last Week

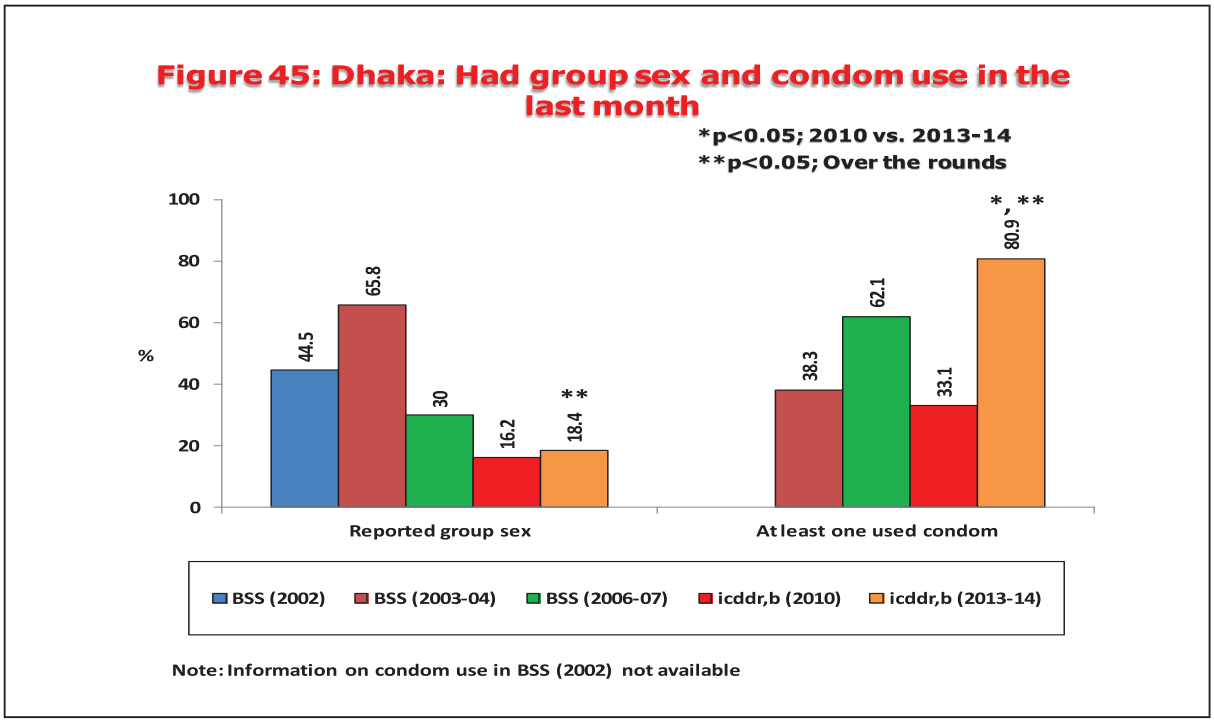
In both areas, the mean number of new and regular clients declined significantly over the years denoted by dash lines (Figures 43 and 44) ($p<0.05$). However, no changes were observed between 2013/14 and the previous year in Dhaka and Chittagong.

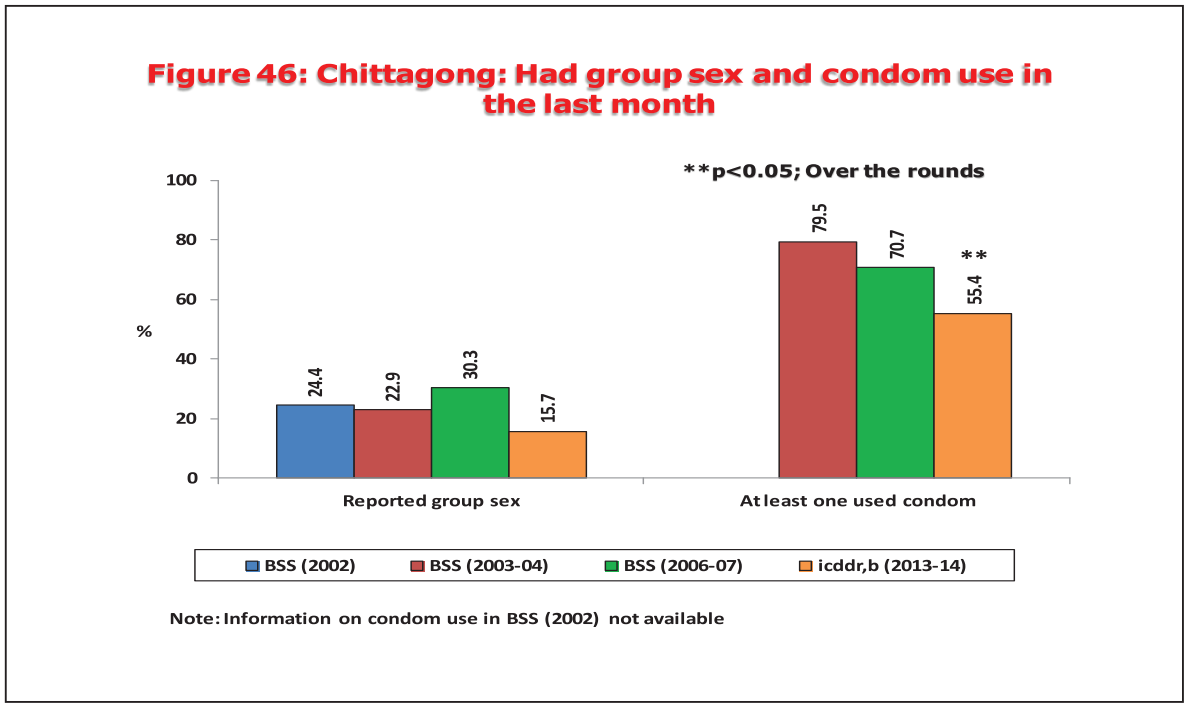




5.25.4 Group Sex and Condom Use

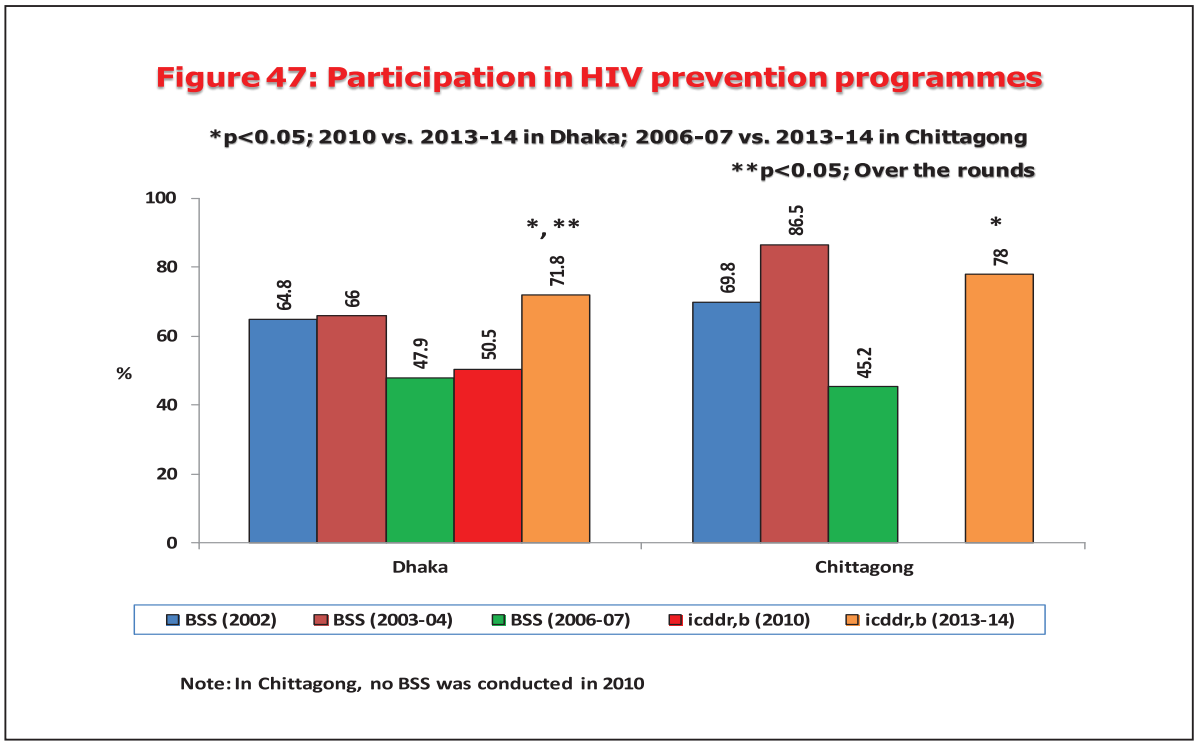
In Dhaka over the years, significantly fewer MSW reported group sex and condom use during last group sex increased significantly (Figure 45) ($p<0.05$). However, over the years in Chittagong (Figure 46), no changes were observed in proportions of MSW reporting group sex and proportions reporting that at least one partner using a condom in the last group sex declined significantly ($p<0.05$).





5.25.5 Exposure to HIV Prevention Programmes

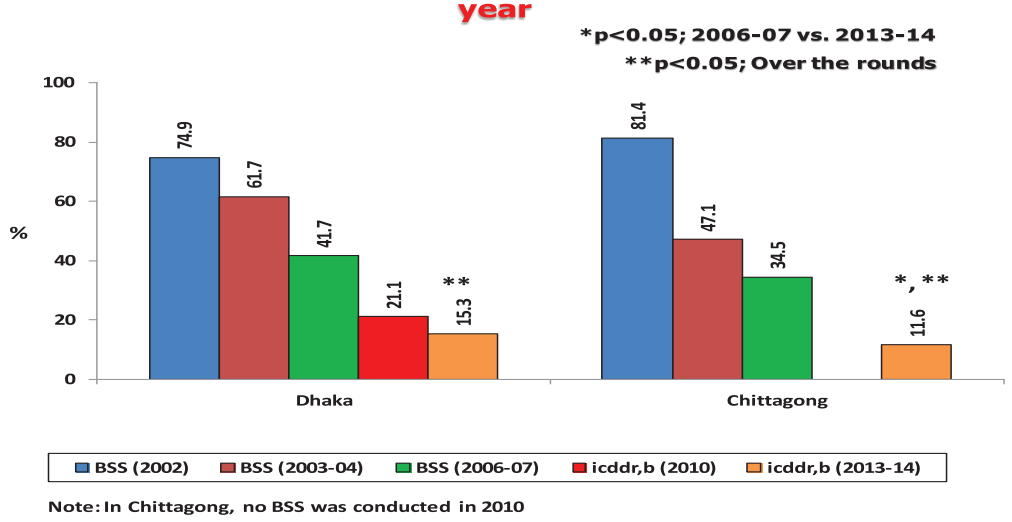
Figure 47 shows the involvement of the respondents with HIV prevention programmes in Dhaka and Chittagong. In Dhaka, exposure to HIV prevention programmes in the last year increased significantly both over the years and between 2010 and 2013/14 ($p<0.05$). In Chittagong, no changes were observed over the years but significantly more MSW reported accessing services from prevention programmes in 2013/14 compared to 2006/07 ($p<0.05$).



5.25.6 Self-reported STIs and HIV Testing

Over time significantly fewer MSW reported symptoms of STIs (Figure 48) both in Dhaka and Chittagong ($p<0.05$).

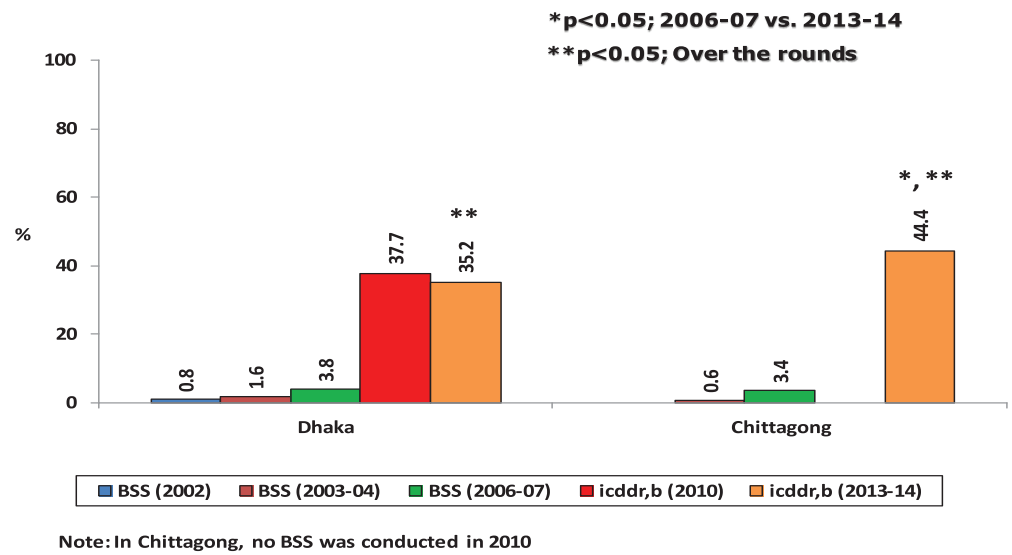
Figure 48: Complained at least one STI symptoms in the last year



Note: In Chittagong, no BSS was conducted in 2010

In both cities over the years significantly more MSW availed HIV testing sand at the same time knew their results (Figure 49) ($p<0.05$).

Figure 49: Tested for HIV and knew the result in the last year



Note: In Chittagong, no BSS was conducted in 2010

5.25.7 Violence

The proportion of MSW reporting being either beaten or raped in the last year declined significantly over time in Dhaka and Chittagong (Figures 50 and 51) (p<0.05).

Figure 50: Beaten in the last year

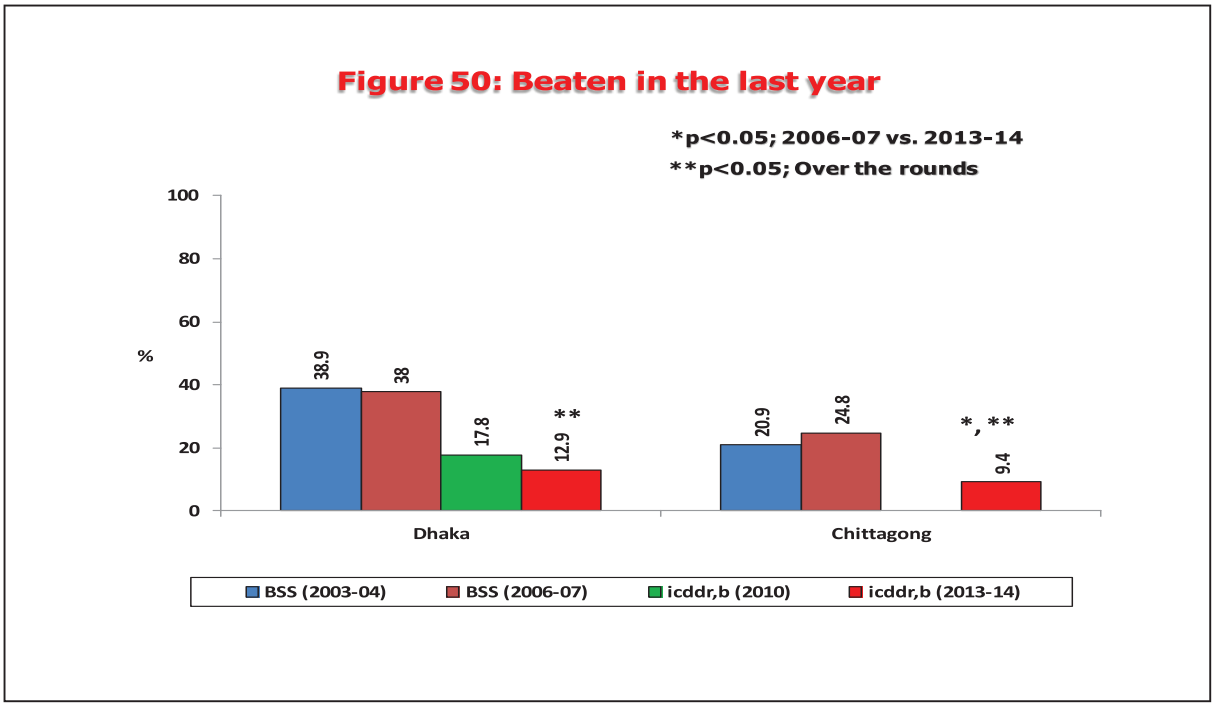
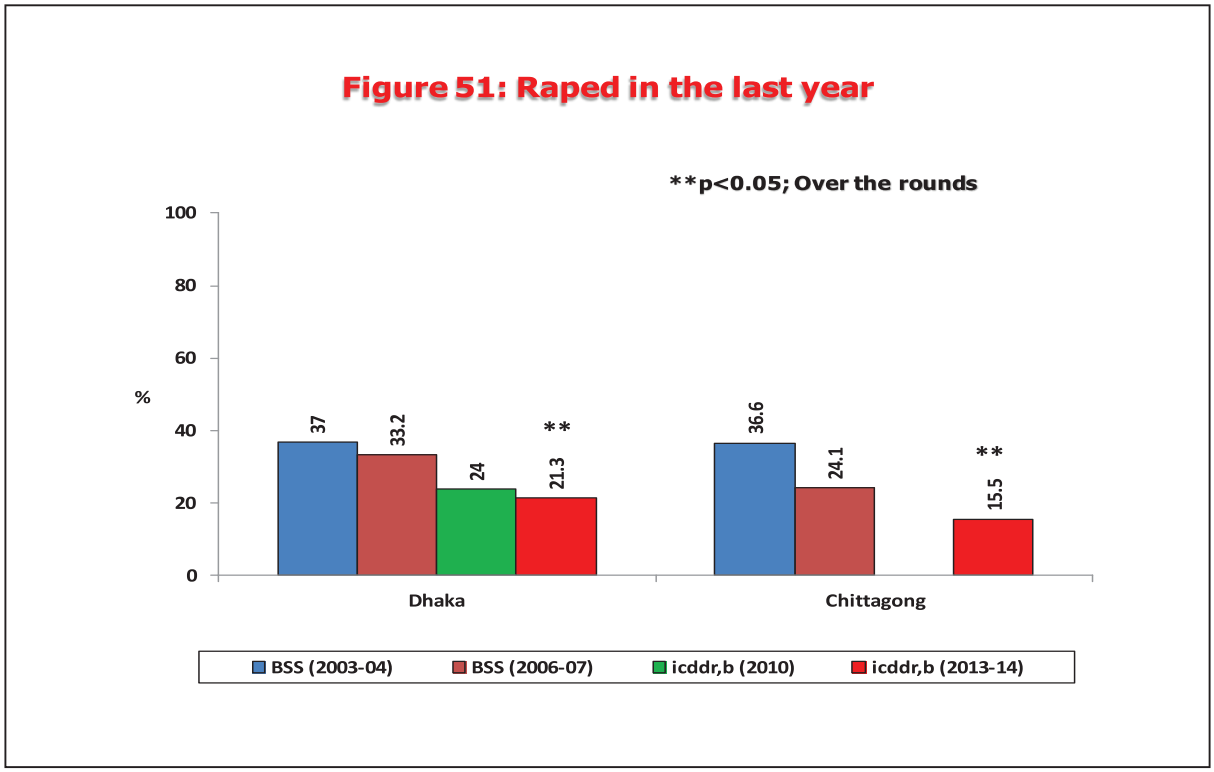


Figure 51: Raped in the last year



Chapter 6: Risk Behaviours of hijra (Dhaka)

6.1 Results

The midline survey of hijra was conducted in 17 days starting from October 31 to November 19, 2013 following an extensive mapping which was conducted in 15 days. A modified nomination method referred to as 'birit-based method' was adopted to count Gurus and Chelas under each Guru who worked in the Dhaka metropolitan city. The preliminary list of Gurus was collected from national situation analysis conducted in 2010 (ref) and was updated during mapping. In total, 1069 hijra (Chelas) were counted from the birits of 55 Gurus. Of 1069, 533 were sampled proportionately according to the number of Chelas in each birit. Approximately 26.6% (95% CI: 23.0-30.6) Badhai hijra (non-sex worker) and 73.4% (95% CI: 69.4-77.0) sex worker hijra were enrolled in this survey.

6.2 Socio-demographic Characteristics (Table 47)

Mean age of the hijra was 27.5 years and approximately one-third were between 15-24 years of age. There were very few hijra between 15 to less than 18 years; 2.8% (95% CI: 1.1-7.3) Badhai hijra, 2.3% (95% CI: 2-4) sex worker hijra and 2.4% (95% CI: 1.4- 4.2) over all. Mean years of schooling were 4.2 years for both groups of hijra although sex-workers had significantly more years of schooling than the Badhai ($p<0.05$). More than 70% hijra were living in Dhaka for 10 years or more. Sex worker hijra earned significantly more than Badhai hijra ($p<0.05$) and half that income came from sex work. For Badhai hijra, 93.7% said their earning was from Badhai work. Close to half (47.1%) of sex worker hijra said they had been selling sex for 6-10 years and the vast majority had worked in Dhaka for more than 5 years.

Table 47: Socio-demographic characteristics

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Age (in years)				
15-24	26.8 (20.1-34.7)	36.1 (31.4-41.0)	NS	33.6 (29.7-37.7)
>24	73.2 (65.3-79.9)	63.9 (59.0-68.6)	NS	66.4 (62.3-70.3)
Mean (95% CI)	28.3 (27.3-29.4)	27.1 (26.5-27.7)	NS	27.5 (26.9-28.0)
Median (IQR)	28.0 (24.0-32.0)	26.0 (23.0-31.0)		27.0 (23.0-31.0)
Years of schooling				
No education	35.9 (28.4-44.1)	15.3 (12.1-19.3)	<0.05	20.8 (17.6-24.5)
1-5	40.1 (32.4-48.4)	53.5 (48.5-58.4)	<0.05	49.9 (45.7-54.2)
6-10	23.2 (17.0-30.9)	28.9 (24.6-33.6)	NS	27.4 (23.8-31.3)
>10	0.7 (0.1-4.9)	2.3 (1.2-4.4)	NS	1.9 (1.0-3.5)
Mean (95% CI)	3.3 (2.8-3.9)	4.5 (4.2-4.8)	<0.05	4.2 (3.9-4.5)
Median (IQR)	3.0 (0.0-5.0)	5.0 (2.0-7.0)		4.0 (2.0-6.0)
Duration of stay in this city				
Whole life	43.0 (35.0-51.2)	33.0 (28.5-37.8)	NS	35.6 (31.7-39.8)
≤10 years	26.8 (20.1-34.7)	40.4 (35.6-45.4)	<0.05	36.8 (32.8-41.0)
>10 years	30.3 (23.3-38.3)	26.6 (22.4-31.2)	NS	27.6 (23.9-31.5)

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Income (in taka) in the last month				
Mean (95% CI)	12352.1 (11634.4-13069.8)	15499.7 (14919.1-16080.4)	<0.05	14661.2 (14179.5-15142.9)
Median (IQR)	12000.0 (10000.0-15000.0)	15000.0 (11000.0-20000.0)		15000.0 (10000.0-18000.0)
Main sources of income in the last month				
Business	0	1.3 (0.5-3.0)	-	0.9 (0.4-2.2)
Service	0.7 (0.1-4.9)	1.5 (0.7-3.4)	NS	1.3 (0.6-2.7)
Sex work	0	49.9 (44.9-54.8)	-	36.6 (32.6-40.8)
Cook	5.6 (2.8-10.9)	7.9 (5.6-11.1)	NS	7.3 (5.4-9.9)
Badhai	93.7 (88.2-96.7)	39.4 (34.6-44.3)	<0.05	53.8 (49.6-58.1)
Mean Income (in taka) from sex work in the last month (Denominator is whose main source of income was sex work in the last month)				
Mean (95% CI)	-	8224.3 (7561.2-8887.4)	-	-
Median (IQR)		7000.0 (4000.0-10000.0)		
Income from last new male/hijra clients in the last week (Denominator is who had new clients in the last month)		N=318		
Mean (95% CI)	-	268.3 (224.7-311.8)	-	-
Median (IQR)		150.0 (100.0-300.0)		
Income from last regular clients in the last week (Denominator is who had regular clients in the last month)		N=357		
Mean (95% CI)	-	163.8 (145.7-181.9)	-	-
Median (IQR)		100.0 (60.0-200.0)		
Duration of sex work				
≤5 years	-	27.1 (22.9-31.8)	-	-
6 - 10 years		47.1 (42.1-52.0)		
>10 years		25.8 (21.7-30.4)		

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
Mean (95% CI)		8.7 (8.3-9.2)		
Median (IQR)		8.0 (5.0-11.0)		
Duration of sex work in Dhaka city				
≤5 years	-	34.8 (30.2-39.7)	-	-
6-10 years		42.2 (37.4-47.2)		
>10 years		23.0 (19.1-27.5)		
Mean (95% CI)		8.2 (7.8-8.7)		
Median (IQR)		7.0 (5.0-10.0)		
Mean number of days hijra took clients (new/regular) in last 7 days				
Mean (95% CI)	-	4.4 (4.2-4.5)	-	-
Median (IQR)		4.0 (3.0-6.0)		

IQR, Inter Quartile Range
NS refers to not significant

6.3 Marital Status and Sex Partners (Table 48)

Only about 4% hijra reported that they were married. Generally, more sex worker hijra had regular sex partners than Badhai hijra ($p<0.05$). Among currently unmarried hijra, significantly more sex workers reported that they had regular sex partners/Parikh compared to Badhai hijra ($p<0.05$). Their age at first sex was around 13 years and all said that their first sex partner was a male.

Table 48: Marital status and sex partners

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
Current marital status				
Married	5.6 (2.8-10.9)	3.1 (1.7-5.3)	NS	3.8 (2.4-5.8)
Unmarried	93.7 (88.2-96.7)	95.4 (92.8-97.1)	NS	94.9 (92.7-96.5)
Divorced/widower/separated	0.7 (0.1-4.9)	1.5 (0.7-3.4)	NS	1.3 (0.6-2.7)
Currently married hijra living with spouse (Denominator is who were currently married)	N=8 75.0 (34.2-94.5)	N=12 83.3 (48.7-96.3)	NS	N=20 80.0 (54.6-93.0)
Hijra who had regular sex partners/Parikh besides spouse (Denominator is all hijra)	17.6 (12.2-24.8)	90.3 (86.9-92.9)	<0.05	70.9 (66.9-74.6)
Currently married hijra who had				

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
regular sex partners/Parikh besides spouse (Denominator is who were currently married)	N=8 37.5 (11.1-74.2)	N=12 91.7 (53.9-99.0)	NS	N=20 70.0 (45.0-86.9)
Currently unmarried hijra who had regular sex partners/Parikh (Denominator is who were not currently married)	N=133 15.8 (10.5-23.0)	N=373 90.1 (86.6-92.7)	<0.05	N=506 70.6 (66.4-74.4)
Age at first sex (in years) (Denominator is who had sex and could recall)	N=141	N=383		N=524
Mean (95% CI)	12.6 (12.2-13.0)	13.1 (12.8-13.3)	NS	12.9 (12.7-13.1)
Median (IQR)	13.0 (11.0-14.0)	13.0 (11.0-15.0)		13.0 (11.0-15.0)
Gender of first sex partner				
Male	100.0	100.0	NS	100.0
Female	0	0	-	0
Hijra	0	0	-	0

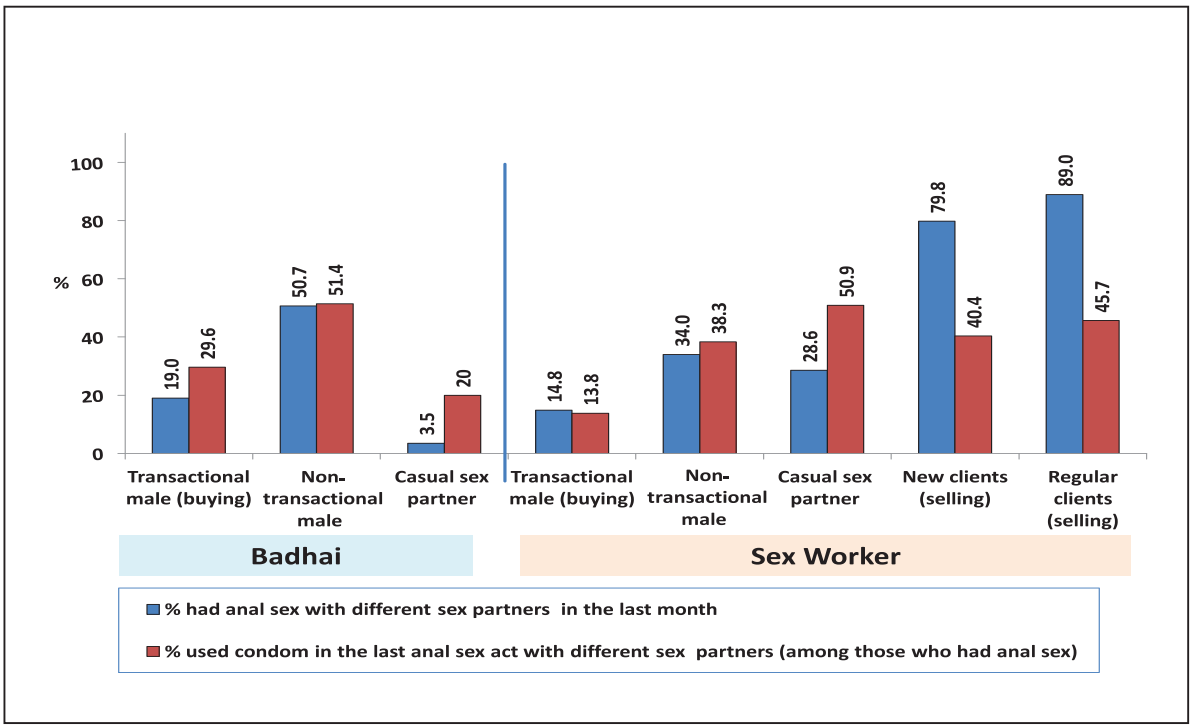
IQR, Inter Quartile Range
NS refers to not significant

6.4 Sexual History with Male Partners including Condom Use (Table 49 and Figures 52-54)

Figure 52 shows the proportion of hijra reporting anal sex and condom use with different sex partners. Significantly more Badhai hijra had non-transactional male partners than sex worker hijra ($p<0.05$). Although 80-90% sex worker hijra sold sex (anal) to both new and regular clients in the last week but selling sex to regular clients was more common compared to new clients ($p<0.05$).

Significantly more sex worker hijra had anal intercourse with casual male partners in the last month than Badhai hijra ($p<0.05$). More than 50% sex worker hijra used condom during their last anal intercourse with casual partners and there was no significant difference when compared to Badhai hijra. Less than half of the sex worker hijra used condom during their last anal intercourse with their clients (either new or regular). Significantly more sex workers hijra were using condom while selling sex to males than buying anal sex from males ($p<0.05$ with either new or regular clients).

Figure 52: Hijra reporting anal sex in the last week/month and condom use during last anal intercourse



More sex worker than Badhai hijra reported ever using condom during anal intercourse ($p<0.05$). Condom use in last sex with a male sex partner in the last year was not significantly different between the two groups of hijra. Condom breakage while having sex with a condom in the last month was reported by 17.7% of hijra.

Table 49: Overall use of condom

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% ever used condom during anal sex	79.6 (72.1-85.4)	92.6 (89.5-94.8)	<0.05	89.1 (86.2-91.5)
% used condom in the last anal sex act with a male sex partner in last 12 months (Denominator is who ever had anal sex with male sex partner in the last 12 months)	N=130 53.1 (44.5-61.5)	N=391 42.7 (37.9-47.7)	NS	N=521 45.3 (41.1-49.6)
% reported a condom break in the last month (Denominator is who had sex and used condom in the last month)	N=68 11.8 (6.0-21.9)	N=334 18.9 (15.0-23.4)	NS	N=402 17.7 (14.2-21.7)

NS refers to not significant

Frequency of condom use during anal intercourse with different sex partners in the last week (for clients) or month (for non-transactional sex partners or while buying sex) are presented in Figure 53. In general, the frequency of condom use in the last week was higher among sex worker hijra while selling sex. While buying sex from males, high proportions of both Badhai and sex worker hijra said they never used condoms. With casual sex partners, significantly more Badhai hijra (80%; 95% CI: 30.2-97.4) never used condom compared to sex worker hijra (14.3%; 95% CI: 8.9-22.2, p<0.05).

Figure 53: Frequency of condom use during anal intercourse among hijra in the last week/month

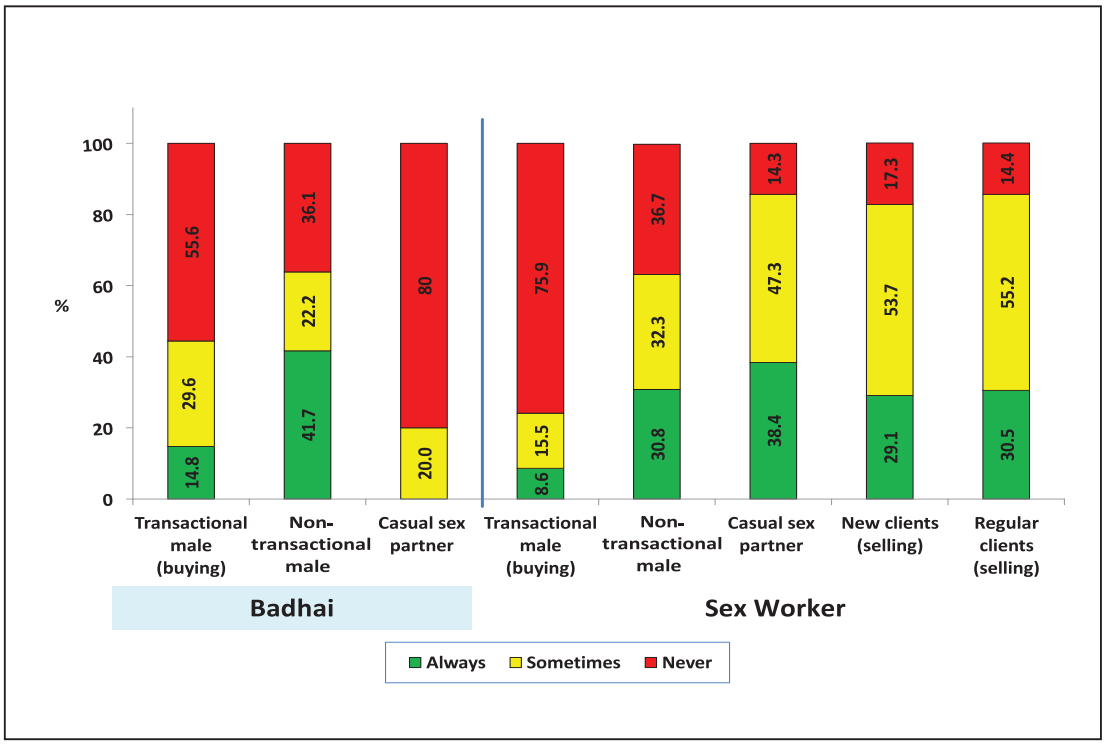
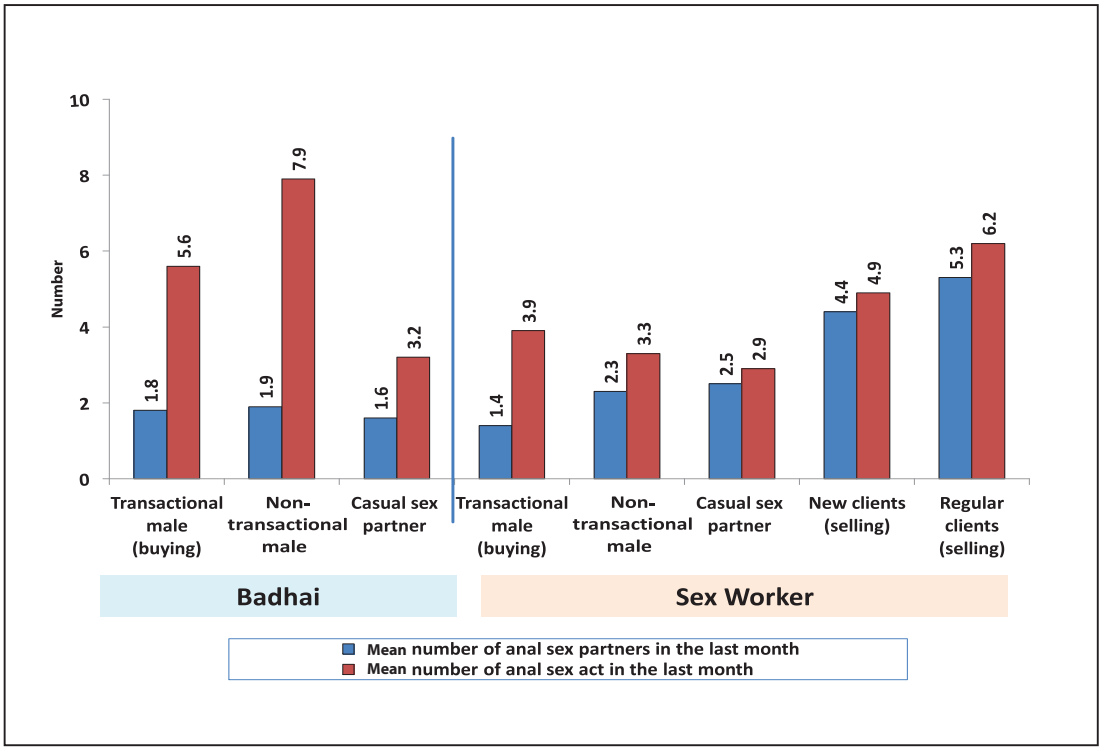


Figure 54 presents the mean number of anal sex partners and anal sex acts in hijra with clients (last week) and while buying sex or having non-transactional sex (last month). Irrespective of partner type, the average number of sex partners for Badhai hijra was less than two in the last month. Sex worker hijra had higher number of casual male sex partners than Badhai hijra (p<0.05) and their numbers of clients ranged from 4.4 (95% CI: 4.0-4.8) to 5.3 (95% CI: 4.7-5.9) in the last month. Multiple sex acts were reported by both Badhai and sex worker hijra with each partner type. For non-transactional sex, Badhai hijra reported a greater number of sex acts than sex worker hijra (p<0.05). Significantly more sex worker hijra had regular than new clients and frequency of sex was higher with regular clients than with new clients (p<0.05 for both).
Taking both new and regular clients into consideration, 98% (95% CI: 96.0-99.0%) sex worker hijra said they had taken clients last week. Among those who had clients, the average number in the last week was 15.3 (95% CI: 14.0-16.6). Non-penetrative sex with these clients was reported by 61.9% (95% CI: 56.9-66.6) of sex worker hijra.

The mean number of anal sex acts in the last week with males whether transactional or non-transactional was 7.6 times (95% CI: 7.1-8.2).

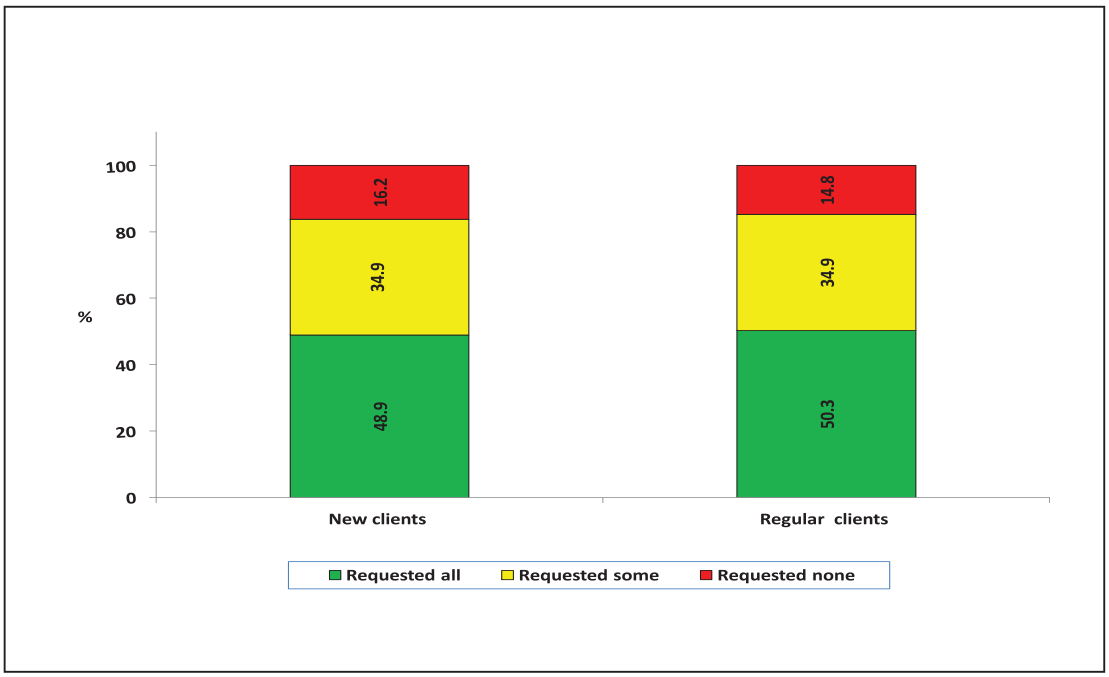
Figure 54: Mean numbers of sex partners (anal) and anal sex acts in the last week/month



6.5 Sex Worker hijra Approaching Clients to Use Condom (Figure 55)

Close to half of the sex worker hijra said they had asked their new or regular clients to use condoms in the last week. However, 15-16% reported never doing so.

Figure 55: Approaching clients to use condom



6.6 History of Oral Sex (Table 50)

Approximately one-third of sex worker hijra reported having oral sex with new or regular clients in the last week with an average of two male sex partners. With other partner types, oral sex was not common. More than 60% reported never using condoms during oral sex.

Table 50: History of oral sex with male sex partners

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
New clients				
% had oral sex with new clients in the last week	-	38.4 (33.7-43.3)	-	-
Number of new clients in the last week with whom hijra had oral sex (Denominator is who had oral sex with new clients in the last week)		N=150		
Mean (95% CI)	-	2.0 (1.8-2.3)	-	-
Median (IQR)		2.0 (1.0-3.0)		
Frequency of condom use in oral sex with new clients in the last week (Denominator is who had oral sex with new clients in the last week)		N=150		
Always	-	17.3 (12.0-24.3)	-	-
Sometimes		16.0 (10.9-22.9)		
Never		66.7 (58.7-73.8)		
Regular clients				
% had oral sex with regular clients in the last week	-	33.8 (29.2-38.6)	-	-
Number of regular clients with whom hijra had oral sex in the last week (Denominator is who had oral sex with regular clients in the last week)		N=132		
Mean (95% CI)	-	2.2 (1.9-2.4)	-	-
Median (IQR)		2.0 (1.0-3.0)		
Frequency of condom use in oral sex with regular clients in the last week (Denominator is who had oral sex with regular clients in the last week)		N=132		
Always	-	15.2 (9.9-22.4)	-	-
Sometimes		22.7 (16.3-30.8)		
Never		62.1 (53.5-70.1)		
Buying sex from males				
% had oral sex while buying sex from males in the last month	0	5.4 (3.5-8.1)	-	3.9 (2.6-6.0)
Number of male sex partners with whom hijra had oral sex in the last				

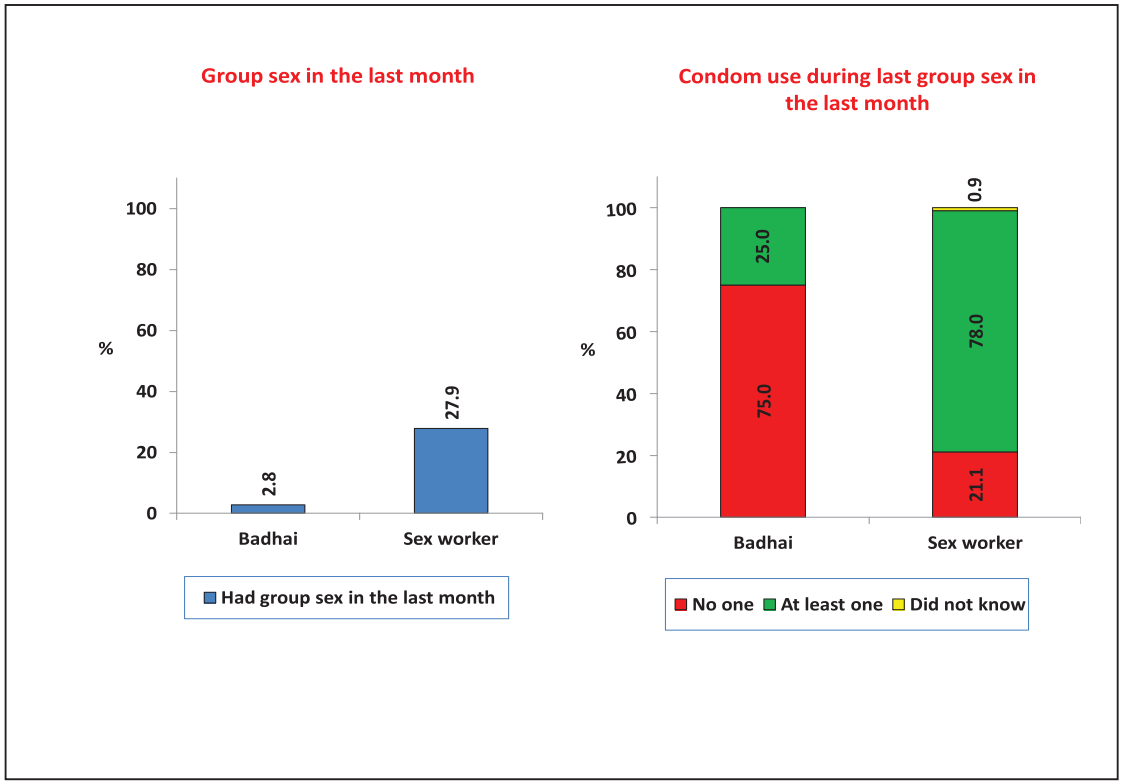
Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
month (Denominator is who bought sex from male sex partners in the last month and had oral sex)		N=21		
Mean (95% CI)	-	1.1 (1.0-1.3)	-	-
Median (IQR)		1.0 (1.0-1.0)		
Sex with non-transactional males				
% had oral sex with non-transactional male sex partners in the last month	2.1 (0.7-6.4)	1.3 (0.5-3.0)	NS	1.5 (0.8-3.0)
% had oral sex with casual male sex partners in the last month	0	5.9 (3.9-8.7)	-	-
Number of casual male partners with whom hijra had oral sex in the last month (Denominator is who had oral sex with casual male sex partners in the last month)		N=22		
Mean (95% CI)	-	2.0 (1.2-2.7)	-	-
Median (IQR)		1.0 (1.0-2.0)		
Frequency of condom use in oral sex with casual male sex partners in the last month (Denominator is who had anal sex with casual male in the last month)		N=22		
Always	-	13.6 (4.0-37.2)	-	-
Sometimes		4.5 (0.5-29.6)		
Never		81.8 (58.1-93.6)		

IQR, Inter Quartile Range

6.7 History of Group Sex (Figure 56)

Group sex was reported more than nine times by sex worker compared to Badhai hijra ($p<0.05$). In both groups of hijra, mean number of sex partners in the last group sex was 3.2 (95% CI: 3.0-3.4), including the respondent. Condom use by at least one sex partner of the group was reported by more sex worker hijra than Badhai hijra in the last month (78%; 95% CI: 69.1-84.9 and 25%; 95% CI: 3.2-76.8, respectively).

Figure 56: Group sex and condom use



6.8 Access to Condoms and Ease of Access

Almost all hijra knew where condoms are available. Significantly more sex worker hijra (94.1%) mentioned DIC/NGO/Depot holder/Guru, i.e. HIV prevention programmes as a source of condoms than Badhai hijra (85.2%) ($p<0.05$). And this was the main source of condoms for all hijra who had sex and used condom in the last month. The main reason for not having easy access to condoms in the last month was because the DIC was far away or peer educator was not available.

Table 51: Access to condoms and ease of access

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Knowledge on the sources of condom*				
Did not know	1.4 (0.4-5.5)	0	-	0.4 (0.1-1.5)
Shop	26.8 (20.1-34.7)	23.3 (19.3-27.7)	NS	24.2 (20.7-28.0)
Pharmacy	54.2 (46.0-62.3)	60.1 (55.1-64.9)	NS	58.5 (54.3-62.7)
Health centre (besides DIC)	0.7 (0.1-4.9)	1.5 (0.7-3.4)	NS	1.3 (0.6-2.7)
Bar/guest house/hotel	0	1.0 (0.4-2.7)	-	0.8 (0.3-2.0)
Friends	17.6 (12.2-24.8)	30.7 (26.3-35.5)	<0.05	27.2 (23.6-31.2)
Sex partner	0	1.0 (0.4-2.7)	-	0.8 (0.3-2.0)

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
HIV Prevention programmes (DIC/Depot holder/NGO workers)	85.2 (78.4-90.2)	94.1 (91.3-96.1)	<0.05	91.7 (89.1-93.8)
Sources of condom* (Denominator is who had sex and used condom in the last month)	N=68	N=334		N=402
Shop	7.4 (3.1-16.5)	9.3 (6.6-12.9)	NS	9.0 (6.5-12.2)
Pharmacy	16.2 (9.2-27.0)	23.1 (18.8-27.9)	NS	21.9 (18.1-26.2)
Bar/Guest house/Hotel	0	0.6 (0.1-2.4)	-	0.5 (0.1-2.0)
Friends	29.4 (19.8-41.3)	23.1 (18.8-27.9)	NS	24.1 (20.2-28.6)
NGO workers	60.3 (48.2-71.2)	72.2 (67.1-76.7)	NS	70.1 (65.5-74.4)
Sex partner	13.2 (7.0-23.6)	30.8 (26.1-36.0)	<0.05	27.9 (23.7-32.5)
HIV Prevention programmes (DIC/Depot holder/NGO workers)	77.9 (66.5-86.3)	86.8 (82.7-90.1)	NS	85.3 (81.5-88.5)
% had easy access to condoms in the last one month	51.4 (43.2-59.5)	59.3 (54.4-64.1)	NS	57.2 (53.0-61.4)
% had easy access to condoms in the last one month (Denominator is who used condom in last month)	N=68	N=334		N=402
Yes	79.4 (68.1-87.4)	68.3 (63.1-73.1)	NS	70.1 (65.5-74.4)
No	20.6 (12.6-31.9)	31.7 (26.9-36.9)	NS	29.9 (25.6-34.5)
Reasons for not having easy access to condoms in the last month* (Denominator is who reported not having easy access to condoms in the last month)	N=14	N=106		N=120
DIC is far away	85.7 (56.8-96.5)	65.1 (55.4-73.7)	NS	67.5 (58.5-75.4)
Peer educator not available	57.1 (31.3-79.6)	68.9 (59.3-77.0)	NS	67.5 (58.5-75.4)
Cost is too high	7.1 (1.0-37.7)	9.4 (5.1-16.8)	NS	9.2 (5.1-15.9)
Shop/Pharmacy is far away	28.6 (11.0-56.5)	13.2 (7.9-21.2)	NS	15.0 (9.6-22.7)
Shop/Pharmacy is closed	0	0	-	0
Feel ashamed/troublesome/afraid to buy	14.3 (3.5-43.2)	7.5 (3.8-14.5)	NS	8.3 (4.5-14.9)
Do not know where to buy	0	0	-	0
Not willing to carry	7.1 (1.0-37.7)	2.8 (0.9-8.5)	NS	3.3 (1.2-8.7)
Others	0	2.8 (0.9-8.5)	-	2.5 (0.8-7.6)

*Multiple responses
NS refers to not significant

6.9 Knowledge and Use of Lubricants (Table 52)

Approximately 92% of hijra had ever heard about lubricants and most knew about the lubricant brand 'Sathi'. Approximately 95% hijra ever used lubricant while having anal intercourse, which was more common among sex worker than Badhai hijra ($p<0.05$). However, more Badhai hijra reported using water based condom

lubricant than sex worker hijra (p<0.05). More Badhai than sex worker hijra said they used lubricant always (p<0.05). The most common reason for always using lubricants together with condoms was to increase feeling.

Table 52: Knowledge and use of lubricants

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
% ever heard about lubricant product made especially for use with condoms	90.1 (84.0-94.1)	92.8 (89.8-95.0)	NS	92.1 (89.5-94.1)
% were able to mention brand name of such product (Denominator who ever heard about lubricant)	N=128 98.4 (93.9-99.6)	N=363 98.6 (96.7-99.4)	NS	N=491 98.6 (97.0-99.3)
Name of brand (Denominator is who mentioned the brand name)	N=126	N=358		N=484
Sathi	100.0	100.0	NS	100.0
% ever used lubricant while having anal intercourse	88.7 (82.4-93.0)	96.9 (94.7-98.3)	<0.05	94.7 (92.5-96.4)
Type of lubricant used in the last 12 months* (Denominator is who used lubricant in last 12 months)	N=126	N=379		N=505
Saliva	45.2 (36.7-54.0)	42.5 (37.6-47.5)	NS	43.2 (38.9-47.5)
Oil	7.1 (3.7-13.2)	16.1 (12.7-20.2)	NS	13.9 (11.1-17.2)
Water based condom lubricant	84.9 (77.5-90.2)	70.7 (65.9-75.1)	<0.05	74.3 (70.2-77.9)
Antiseptic cream	0	1.8 (0.9-3.8)	-	1.4 (0.7-2.9)
Ordinary lotion/Vaseline/Petroleum jelly/Beauty cream	5.6 (2.7-11.2)	19.3 (15.6-23.6)	<0.05	15.8 (12.9-19.3)
Shampoo/Soap	0	1.8 (0.9-3.8)	-	1.4 (0.7-2.9)
Egg yolk	0	0.3 (0.0-1.9)	-	0.2 (0.0-1.4)
% used lubricant with condom during the last anal intercourse in the last 12 months (Denominator is who used lubricant in last 12 months)	N=126 61.9 (53.1-70.0)	N=379 49.1 (44.1-54.1)	NS	N=505 52.3 (47.9-56.6)
Frequency of using special lubricant together with a condom during anal intercourse in the last month (Denominator is who had heard about special lubricant product for use with condoms and had anal intercourse in the last month)	N=105	N=362		N=467
Always	50.5 (41.0-59.9)	29.6 (25.1-34.5)	<0.05	34.3 (30.1-38.7)
Sometimes	20.0 (13.4-28.8)	50.3 (45.1-55.4)	<0.05	43.5 (39.0-48.0)
Never	29.5 (21.6-39.0)	20.2 (16.3-24.6)	NS	22.3 (18.7-26.3)
Reasons for not using special lubricant together with a condom never or sometimes in the last month (Denominator is who never or sometimes used condom and lubricant	N=52	N=255		N=307

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
in the last month)*				
Cost is too high	1.9 (0.3-12.5)	0	-	0.3 (0.0-2.3)
Feel ashamed/troublesome/afraid to buy	5.8 (1.9-16.5)	1.2 (0.4-3.6)	NS	2.0 (0.9-4.3)
Do not know where to buy	0	1.2 (0.4-3.6)	-	1.0 (0.3-3.0)
Do not feel it is required/ No feelings during sex	48.1 (34.9-61.5)	42.4 (36.4-48.5)	NS	43.3 (37.9-49.0)
Use other cream	5.8 (1.9-16.5)	11.0 (7.7-15.5)	NS	10.1 (7.2-14.0)
Shortage of supply	42.3 (29.7-56.0)	43.1 (37.2-49.3)	NS	43.0 (37.5-48.6)
Not easy to carry	1.9 (0.3-12.5)	2.4 (1.1-5.2)	NS	2.3 (1.1-4.7)
Sex partner/client did not want to use	3.8 (1.0-14.2)	2.7 (1.3-5.7)	NS	2.9 (1.5-5.6)
Do thigh sex/oral sex	0	1.2 (0.4-3.6)	-	1.0 (0.3-3.0)
Near DIC closed	0	0.8 (0.2-3.1)	-	0.7 (0.2-2.6)
Reasons for always using special condom and lubricant in the last month (Denominator is who always used condom and lubricant in the last month)*	N=53	N=107		N=160
Decrease pain/inflammation	39.6 (27.3-53.4)	42.1 (33.0-51.7)	NS	41.3 (33.8-49.1)
Increase feeling	62.3 (48.5-74.3)	70.1 (60.7-78.1)	NS	67.5 (59.8-74.4)
Decrease risk of condom breakage	47.2 (34.1-60.6)	58.9 (49.2-67.9)	NS	55.0 (47.1-62.6)
To avoid HIV/AIDS/STD infection	22.6 (13.3-35.9)	23.4 (16.2-32.4)	NS	23.1 (17.2-30.4)
Easy penetration	3.8 (0.9-14.1)	0.9 (0.1-6.5)	NS	1.9 (0.6-5.7)

*Multiple responses
NS refers to not significant

6.10 Knowledge of STIs, Self reported STIs and Care-seeking Behaviour (Table 53)

The most common STI symptom that hijra knew about was genital ulcer/sore. Suffering from at least one STI symptom in the last year was reported by more sex worker than Badhai hijra ($p<0.05$).

Overall 63.7% hijra reported NGO clinics as their first choice for seeking treatment for STI. The proportions not seeking treatment or only depending on advice from friends and relatives were small. Only sex workers mentioned visiting private doctors as first choice for STI treatment. More than 80% of hijra availed treatment from qualified practitioners which included from NGOs. Almost 28% visited STI clinics run by NGOs and in more than half those were run by fhi360.

Table 53: Knowledge of STIs, self-reported STIs and care-seeking behaviour

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Knowledge about STIs symptoms*				
Discharge from penis	46.5 (38.4-54.7)	48.3 (43.4-53.3)	NS	47.8 (43.6-52.1)
Burning pain on urination	51.4 (43.2-59.5)	42.5 (37.6-47.4)	NS	44.8 (40.7-49.1)
Genital ulcer/sore	57.7 (49.5-65.6)	60.1 (55.1-64.9)	NS	59.5 (55.2-63.6)
Swellings in groin area	16.2 (11.0-23.2)	18.2 (14.6-22.3)	NS	17.6 (14.6-21.1)
Anal discharge	7.0 (3.8-12.6)	10.2 (7.6-13.7)	NS	9.4 (7.2-12.2)
Anal ulcer/sore	25.4 (18.9-33.2)	50.6 (45.7-55.6)	<0.05	43.9 (39.7-48.2)
Itching	0.7 (0.1-4.9)	0	-	0.2 (0.0-1.3)
% reported urethral discharge in the last 12 months	2.8 (1.1-7.3)	5.6 (3.7-8.4)	NS	4.9 (3.3-7.1)
% reported anal discharge in the last year	1.4 (0.4-5.5)	5.4 (3.5-8.1)	NS	4.3 (2.9-6.4)
% reported genital ulcer/sore in the last year	4.9 (2.4-10.0)	16.6 (13.2-20.7)	<0.05	13.5 (10.9-16.7)
% reported at least one STI symptom in the last year (urethral discharge or anal discharge or genital ulcer/sore in the last year	7.7 (4.3-13.5)	23.3 (19.3-27.7)	<0.05	19.1 (16.0-22.7)
The first choice of source of treatment for the last STI episode (Denominator is who reported STIs in last 12 months)	N=11	N=91		N=102
Hospital	18.2 (4.5-51.4)	1.1 (0.1-7.6)	NS	2.9 (0.9-8.9)
Drug seller	18.2 (4.5-51.4)	9.9 (5.2-18.1)	NS	10.8 (6.0-18.6)
Private doctor	0	15.4 (9.2-24.5)	-	13.7 (8.2-22.0)
NGO clinic	54.5 (26.4-80.1)	64.8 (54.3-74.1)	NS	63.7 (53.8-72.6)
Advice/treatment from friends	0	2.2 (0.5-8.5)	-	2.0 (0.5-7.7)
Did not seek treatment	9.1 (1.2-44.7)	6.6 (3.0-14.1)	NS	6.9 (3.3-13.9)
The first choice of source of treatment for the last STI symptom (Denominator is who reported STIs in last 12 months)	N=11	N=91		N=102
Qualified practitioner[θ]	72.7 (40.9-91.1)	81.3 (71.8-88.2)	NS	80.4 (71.4-87.1)
Un-qualified practitioner[¶]	18.2 (4.5-51.4)	12.1 (6.8-20.7)	NS	12.7 (7.5-20.9)
No treatment	9.1 (1.2-44.7)	6.6 (3.0-14.1)	NS	6.9 (3.3-13.9)
Waiting days till seeking treatment for the last STI episode (Denominator is who sought STI treatment in last one year)	N=10	N=85		N=95
Mean (95% CI)	7.7 (4.7-10.7)	4.6 (3.7-5.4)	NS	4.9 (4.1-5.7)
Median (IQR)	7.0 (3.0-10.0)	4.0 (3.0-5.0)		4.0 (3.0-5.0)
Expenditure (in taka) for the last STI treatment in the last year	N=9	N=84		N=93

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
(Denominator is who reported STI last year and sought treatment)				
Mean (95% CI)	505.6 (0.0-1126.5)	292.3 (167.5-417.1)	NS	313.0 (184.6-441.4)
Median (IQR)	0.0 (0.0-700.0)	0.0 (0.0-100.0)		0.0 (0.0-120.0)

[θ]Qualified practitioner refers to hospital, private clinic, private doctor and NGO clinic
[¶] Un-qualified practitioner refers to drug seller, canvasser/traditional healer, advice/treatment from friends and self-medication
*Multiple responses
IQR, Inter quartile range
NS refers to not significant

6.11 Knowledge of HIV and its Modes of Prevention and Transmission (Table 54)

Almost all hijra had heard of HIV/AIDS. However, misconceptions about the transmission of HIV especially that HIV can be transmitted by mosquito bites and sharing food with an HIV infected person, was not uncommon.

Table 54: Knowledge of HIV and modes of HIV prevention and transmission

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% heard about HIV/AIDS	98.6 (94.5-99.6)	99.2 (97.6-99.8)	NS	99.1 (97.8-99.6)
% mentioned condom use (correctly and consistently in any type of sex) as a mode of prevention	84.5 (77.6-89.6)	82.4 (78.2-85.8)	NS	82.9 (79.5-85.9)
% mentioned avoiding anal sex as a mode of prevention	52.1 (43.9-60.2)	46.8 (41.9-51.8)	NS	48.2 (44.0-52.5)
% mentioned avoiding multiple sex as a mode of prevention	53.5 (45.3-61.6)	54.5 (49.5-59.4)	NS	54.2 (50.0-58.4)
% mentioned AIDS can be transmitted by mosquito bites	22.5 (16.4-30.2)	8.2 (5.8-11.4)	<0.05	12.0 (9.5-15.1)
% mentioned AIDS can be transmitted by sharing food with an HIV infected person	14.8 (9.8-21.6)	9.0 (6.5-12.2)	NS	10.5 (8.2-13.4)
% mentioned not sharing needles as a mode of prevention	71.8 (63.9-78.6)	84.7 (80.7-87.9)	<0.05	81.2 (77.7-84.3)
% mentioned one can tell by looking at someone whether they are infected with HIV	16.9 (11.6-24.0)	7.2 (5.0-10.2)	<0.05	9.8 (7.5-12.6)

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
% had comprehensive knowledge of HIV[§]	25.4 (18.9-33.2)	39.6 (34.9-44.6)	<0.05	35.8 (31.9-40.0)

NS refers to not significant

[§]This indicator was computed by correct answers to five questions:

1. Can people reduce their risk of HIV by using a condom correctly and consistently in any type of sex,
2. Can people reduce their risk of HIV by avoiding sex with multiple partners,
3. Can a person get HIV through mosquito bites,
4. Can a person get HIV by sharing a meal with someone who is HIV infected and
5. Can you tell by looking at someone whether s/he is infected with HIV

6.12 Knowledge on Confidential HIV Testing (Table 55)

Approximately 84% of the respondents knew where HIV could be tested confidentially and about 60% had ever been tested and the proportions were similar for both types of hijra. Among those who had been tested, the majority went to the fhi360 clinic for testing and more than half went on their own volition. In the last one year, overall 41.1% of hijra were tested for HIV and knew the result and this was more common among the sex worker than Badhai hijra ($p<0.05$).

Table 55: Confidential HIV testing

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
% knew where HIV can be tested confidentially	84.5 (77.6-89.6)	84.4 (80.4-87.7)	NS	84.4 (81.1-87.3)
% ever tested for HIV	60.6 (52.3-68.3)	60.1 (55.1-64.9)	NS	60.2 (56.0-64.3)
Name of places where HIV testing was done (Denominator is whoever tested for HIV)	N=86	N=235		N=321
Madhumita (fhi 360)	73.3 (62.9-81.6)	67.2 (60.9-73.0)	NS	68.8 (63.5-73.7)
Bandhu Social Welfare Society (BSWS)	26.7 (18.4-37.1)	32.3 (26.6-38.6)	NS	30.8 (26.0-36.1)
Jagori (icddr,b)	0	0.4 (0.1-3.0)	-	0.3 (0.0-2.2)
Motivation for the test (Denominator is whoever tested for HIV)	N=86	N=235		N=321
Self	60.5 (49.8-70.3)	58.7 (52.3-64.9)	NS	59.2 (53.7-64.5)
Someone advised	39.5 (29.7-50.2)	41.3 (35.1-47.7)	NS	40.8 (35.5-46.3)
Person who referred/motivated to test for HIV (Denominator is who mentioned that HIV testing was	N=34	N=97		N=131

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
motivated/referred by someone else)				
NGO worker	64.7 (47.3-78.9)	81.4 (72.3-88.1)	NS	77.1 (69.0-83.6)
Friends	20.6 (10.0-37.6)	15.5 (9.5-24.2)	NS	16.8 (11.3-24.3)
Guru	11.8 (4.4-27.7)	3.1 (1.0-9.3)	NS	5.3 (2.5-10.9)
Doctor	2.9 (0.4-18.5)	0	-	0.8 (0.1-5.3)
% underwent HIV testing and counselling and knew the result (Denominator is whoever tested for HIV)	N=86 95.3 (88.2-98.3)	N=235 99.1 (96.6-99.8)	NS	N=321 98.1 (95.9-99.2)
Time since the most recent HIV test (Denominator is whoever tested for HIV)	N=86	N=235		N=321
Within one year	52.3 (41.8-62.7)	75.3 (69.4-80.4)	<0.05	69.2 (63.9-74.0)
More than one year ago	47.7 (37.3-58.2)	24.7 (19.6-30.6)	<0.05	30.8 (26.0-36.1)
% underwent HIV testing and counselling in the last year and knew the result[ϕ]	31.0 (23.9-39.1)	44.8 (39.9-49.7)	<0.05	41.1 (37.0-45.3)

[ϕ]This indicator was computed by combining responses from two questions:

5. Have you been tested for HIV in the last 12 months?
6. If yes, I don't want to know the results, but did you receive the results of that test?

NS refers to not significant

6.13 Self-perception of Risk and Reasons for those Perceptions (Table 56)

More than half of the hijra perceived themselves to be at little or no risk of HIV of whom the majority stated that this was because they always used condoms. Amongst all hijra 5.6 % were not able to assess their own risk and the proportion is significantly higher in the Badhai group compared to sex workers ($p<0.05$). Among hijra who perceived themselves to be at high or medium risk of HIV, almost 80% mentioned irregular use of condom as one of the main reasons. Having healthy or clean sex partners or washing themselves after sex was considered by a large proportion of sex worker hijra as reasons for considering themselves to be at low/medium risk.

Table 56: Self-perception of risk and their reasons

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% considering themselves to be at risk for HIV				
High risk	7.0 (3.8-12.6)	26.1 (22.0-30.7)	<0.05	21.0 (17.8-24.7)
Medium risk	7.0 (3.8-12.6)	15.1 (11.9-19.0)	NS	12.9 (10.3-16.1)
Little/no risk	75.4 (67.6-81.8)	55.0 (50.0-59.9)	<0.05	60.4 (56.2-64.5)
Not able to assess	10.6 (6.5-16.8)	3.8 (2.3-6.3)	<0.05	5.6 (4.0-7.9)
Reasons for perceiving themselves to be at high or medium risk (Denominator who thought they were at high or medium risk)*	N=20	N=161		N=181
Risky profession	0	48.4 (40.8-56.2)	-	43.1 (36.0-50.5)
Frequent anal sex	10.0 (2.5-32.7)	1.9 (0.6-5.7)	NS	2.8 (1.1-6.5)
Do not use condom	0	6.8 (3.8-12.0)	-	6.1 (3.4-10.7)
Irregular use of condoms	100.0	77.0 (69.8-82.9)	NS	79.6 (73.0-84.9)
Share Needles/Syringes	0	1.2 (0.3-4.9)	-	1.1 (0.3-4.3)
Reasons for assessing themselves to be at little or no risk (Denominator who perceived themselves to be at little or no risk)*	N=107	N=215		N=322
Always use condom	55.1 (45.6-64.3)	41.4 (35.0-48.1)	NS	46.0 (40.6-51.5)
Irregular use of condom	5.6 (2.5-12.0)	47.4 (40.8-54.2)	<0.05	33.5 (28.6-38.9)
Healthy sex partner	4.7 (1.9-10.8)	34.0 (27.9-40.6)	<0.05	24.2 (19.8-29.2)
Clean sex partners	5.6 (2.5-12.0)	40.9 (34.5-47.7)	<0.05	29.2 (24.5-34.4)
Sometime share Needle/Syringes	0	0.5 (0.1-3.3)	-	0.3 (0.0-2.2)
Trusted partner	53.3 (43.8-62.5)	4.7 (2.5-8.5)	<0.05	20.8 (16.7-25.6)
Always Neat and Clean	27.1 (19.5-36.3)	43.7 (37.2-50.5)	<0.05	38.2 (33.0-43.7)
Less Sex	30.8 (22.8-40.2)	16.7 (12.3-22.4)	<0.05	21.4 (17.3-26.3)
Wash after Sex	16.8 (10.8-25.2)	47.4 (40.8-54.2)	<0.05	37.3 (32.1-42.7)
Be alert	1.9 (0.5-7.2)	2.3 (1.0-5.5)	NS	2.2(1.0-4.5)
Perform only thigh and oral sex	0	3.3 (1.6-6.7)	-	2.2 (1.0-4.5)

*Multiple responses
NS refers to not significant

6.14 Measures Taken to Avoid STIs and HIV (Table 57)

Significantly more Badhai hijra compared to sex worker hijra said that they did nothing to avoid STIs (33.1% and 7.7% respectively) and HIV (27.9% and 7.7% respectively) ($p<0.05$ for both). Compared to Badhai hijra, significantly more sex worker hijra used condoms sometimes or always to avoid both STI and HIV ($p<0.05$ for both comparisons).

Table 57: Measures taken to avoid STIs and HIV

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Steps taken to avoid STIs*				
Nothing	33.1 (25.8-41.3)	7.7 (5.4-10.8)	<0.05	14.4 (11.7-17.7)
Wash genital organs with water/soap/dettol/urine	4.2 (1.9-9.1)	45.3 (40.4-50.2)	<0.05	34.3 (30.4-38.5)
Always use condoms	38.7 (31.1-47.0)	22.5 (18.6-26.9)	<0.05	26.8 (23.2-30.8)
Sometimes use condoms	16.9 (11.6-24.0)	59.3 (54.4-64.1)	<0.05	48.0 (43.8-52.3)
Have sex with healthy partner	5.6 (2.8-10.9)	26.3 (22.2-30.9)	<0.05	20.8 (17.6-24.5)
Have sex with clean partner	5.6 (2.8-10.9)	41.2 (36.4-46.1)	<0.05	31.7 (27.9-35.8)
Have sex with trusted partner	7.0 (3.8-12.6)	0	-	1.9 (1.0-3.5)
Only perform thigh/oral sex	0	2.6 (1.4-4.7)	-	1.9 (1.0-3.5)
Others	3.5 (1.5-8.2)	1.3 (0.5-3.0)	NS	1.9 (1.0-3.5)
Steps to taken to avoid HIV* (Denominator is who have heard about HIV)	N=140	N=388		N=528
Do nothing	27.9 (21.0-35.9)	7.7 (5.5-10.9)	<0.05	13.1 (10.4-16.2)
Wash genital organs with water/soap/dettol/urine	4.3 (1.9-9.2)	45.1 (40.2-50.1)	<0.05	34.3 (30.3-38.4)
Always use condoms	37.9 (30.2-46.2)	20.9 (17.1-25.2)	<0.05	25.4 (21.8-29.3)
Sometimes use condoms	15.0 (10.0-21.9)	61.9 (56.9-66.6)	<0.05	49.4 (45.2-53.7)
Be alert	0	1.3 (0.5-3.1)	-	0.9 (0.4-2.3)
Have sex with trusted partner	22.1 (16.0-29.8)	13.4 (10.4-17.2)	NS	15.7 (12.8-19.1)
Have sex with clean partner/clients	7.1 (3.9-12.8)	43.0 (38.2-48.0)	<0.05	33.5 (29.6-37.7)
Only perform thigh/oral sex	0	3.1 (1.8-5.4)	-	2.3 (1.3-4.0)
Currently not practicing sex	2.1 (0.7-6.5)	0	-	0.6 (0.2-1.8)

*Multiple responses
NS refers to not significant

6.15 Violence (Table 58)

More hijra sex workers reported being beaten than Badhai hijra (p<0.05). Overall approximately 31% of hijra were beaten in the last year and notably a great majority said that they were beaten by other hijra followed by hoodlums and men in uniform. Significantly more sex worker hijra were raped last year compared to Badhai hijra (33.2% and 5.6% respectively) (p<0.05). The most common perpetrator of rape of sex worker hijra was hoodlums (73.1%) followed by men in uniform and local people. Only seven hijra reported that they had been jailed last year all of whom were sex workers and most were jailed for selling sex.

Table 58: Violence

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% reported being beaten in the last year	20.4 (14.6-27.9)	34.5 (30.0-39.4)	<0.05	30.8 (27.0-34.8)
Beating was perpetuated by* (Denominator who were beaten in the last year)	N=29	N=135		N=164
Men in uniform	10.3 (3.3-27.9)	37.8 (29.9-46.3)	<0.05	32.9 (26.1-40.6)
Mastans (Hoodlums)	13.8 (5.2-31.7)	44.4 (36.2-53.0)	<0.05	39.0 (31.8-46.8)
New clients	0	1.5 (0.4-5.8)	-	1.2 (0.3-4.8)
Regular sex partners/clients	20.7 (9.5-39.3)	5.9 (3.0-11.5)	NS	8.5 (5.1-14.0)
Relatives	13.8 (5.2-31.7)	8.1 (4.5-14.2)	NS	9.1 (5.6-14.7)
Hijra	58.6 (40.2-74.9)	43.7 (35.5-52.3)	NS	46.3 (38.8-54.1)
Local people	3.4 (0.5-21.1)	15.6 (10.3-22.8)	NS	13.4 (9.0-19.6)
Tokai	0	0.7 (0.1-5.2)	-	0.6 (0.1-4.3)
% reported being raped in the last year	5.6 (2.8-10.9)	33.2 (28.7-38.1)	<0.05	25.9 (22.3-29.8)
% reported being beaten or raped in the last year	23.9 (17.6-31.7)	48.3 (43.4-53.3)	<0.05	41.8 (37.7-46.1)
Rape was perpetuated by* (Denominator who reported being raped in the last year)	N=8	N=130		N=138
Men in uniform	37.5 (12.3-71.9)	49.2 (40.6-57.9)	NS	48.6 (40.2-57.0)
Mastans (Hoodlums)	37.5 (12.3-71.9)	73.1 (64.7-80.1)	NS	71.0 (62.8-78.0)
New clients	0	6.2 (3.1-11.9)	-	5.8 (2.9-11.3)
Regular sex partners/clients	0	1.5 (0.4-6.0)	-	1.4 (0.4-5.7)
Local people	37.5 (12.3-71.9)	30.8 (23.4-39.3)	NS	31.2 (23.9-39.5)
Tokai	0	2.3 (0.7-7.0)	-	2.2 (0.7-6.6)
% reported being jailed in the last year	0	1.5 (0.7-3.4)	-	1.1 (0.5-2.5)
Reasons for being sent to jail in the last year (Denominator is who had been jailed in the last year)		N=6		N=6
Sex work in hotel/spot	-	66.7 (16.9-95.2)	-	66.7 (16.9-95.2)
Section-54		33.3 (4.8-83.1)		33.3 (4.8-83.1)

*Multiple responses

§ When police may arrest without any warrant for any suspicious behaviour

NS refers to not significant

6.16 Mobility (Table 59)

Almost half of the hijra travelled to another city in the last year. Among the sex worker hijra who travelled to another city 49.5% sold sex while away of whom 52.2% used a condom during the last sex. Buying sex while in

another city was relatively uncommon. Both groups of hijra (overall 26.6%) had non-transactional sex while travelling and 47.1% used condom during last sex in the last year while in another city.

Travelling abroad in the last year to India was reported by 37 hijra. Of the sex worker hijra who travelled abroad last year (N=25), 80% sold sex while in India and of these 40% used a condom in the last sex act (while selling sex). Although buying sex while abroad was reported by both groups of hijra it was less common (8.1%) and of these only three used condom while buying sex the last time. Only four hijra had non-transactional sex while abroad in the last year all of whom were sex workers and none used condoms in the last intercourse.

Table 59: Mobility

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
% visited another city in the last year	52.1 (43.9-60.2)	46.5 (41.6-51.5)	NS	48.0 (43.8-52.3)
% sold sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=74 0	N=182 49.5 (42.2-56.7)	-	N=256 35.2 (29.5-41.2)
% used condom during last sex while selling sex in another city in the last year (Denominator is who visited another city and sold sex in the last year)	-	N=90 52.2 (41.8-62.5)	-	N=90 52.2 (41.8-62.5)
% bought sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=74 0	N=182 2.2 (0.8-5.7)	-	N=256 1.6 (0.6-4.1)
% used condom in the last sex while buying sex in another city in the last year (Denominator is who visited another city and bought sex in the last year)	-	N=4 25.0 (0.5-95.9)	-	N=4 25.0 (0.5-95.9)
% had non-transactional sex while visiting another city in the last year (Denominator is who visited another city in the last year)	N=74 37.8 (27.5-49.4)	N=182 22.0 (16.5-28.6)	NS	N=256 26.6 (21.5-32.4)
% used condom during the last non-transactional intercourse while visiting another city in the last year (Denominator is who visited another city and had non-transactional l sex in the last year)	N=28 57.1 (38.2-74.2)	N=40 40.0 (25.8-56.1)	NS	N=68 47.1 (35.3-59.2)
% travelled abroad in the last year	8.5 (4.9-14.3)	6.4 (4.4-9.3)	NS	6.9 (5.1-9.4)
Name of the countries travelled to in the last year India	N=12 100.0	N=25 100.0	-	N=37 100.0
% sold sex while travelling abroad in the last year (Denominator is who	N=12 0	N=25 80.0 (58.9-91.8)	-	N=37 54.1 (37.4-69.9)

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
travelled abroad in the last year)				
% used condom in the last sex act during selling sex while abroad in the last year (Denominator is who travelled abroad and sold sex in the last year)	-	N=20 45.0 (23.8-68.2)	-	N=20 45.0 (23.8-68.2)
% bought sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=12 8.3 (1.1-43.8)	N=25 8.0 (1.9-28.4)	NS	N=37 8.1 (2.5-23.3)
% used condom while buying sex last time abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	Only 1 person	Only 2 persons		Only 3 persons
% had non-transactional sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=12 0	N=25 16.0 (5.8-36.9)	-	N=37 10.8 (3.9-26.5)
% used condom during last non-transactional intercourse while abroad in the last year (Denominator is who travelled abroad and had non-transactional sex in the last year)	N=0 -	N=4 0	-	N=4 0

NS refers to not significant

6.17 Exposure to HIV/AIDS Prevention Programmes (Table 60)

Most hijra interviewed (89.1%) said that they had participated in different activities of HIV/AIDS prevention programmes and more than one third participated in the programme within the last month. Among those who participated in these programmes, 89.9%% said that they were involved with the programmes for more than 12 months. The most common service received in the last month by the hijra who participated in the prevention programme was receiving condoms and lubricants. Among those who participated in prevention programmes in the last year, 79.5% said that they had learnt about HIV/AIDS/STI/safe sex and correct use of condom through the programme. Also 58.5% reported that the prevention programme helped them in adopting safer behaviours.

When data were analysed to assess how many were reached which included hijra knowing where to get an HIV test and having received condoms in the last year, 70.7% of hijra were found to have been reached. More sex worker hijra were reached compared to Badhai hijra (76% versus 56.3% respectively) ($p<0.05$).

Table 60: Exposure to HIV/AIDS prevention programme

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% ever participated in HIV/AIDS prevention programmes (NGO/Self-help group/CBO)	84.5 (77.6-89.6)	90.8 (87.5-93.3)	NS	89.1 (86.2-91.5)
Time since last participation in HIV/AIDS prevention programmes (Denominator is whoever participated in any HIV/AIDS prevention programmes)	N=120	N=355		N=475
Within a month	26.7 (19.5-35.3)	41.4 (36.4-46.4)	<0.05	37.7 (33.4-42.1)
1-6 months ago	43.3 (34.7-52.4)	32.1 (27.4-37.2)	NS	34.9 (30.8-39.4)
7-12 months ago	16.7 (11.0-24.5)	23.1 (19.0-27.8)	NS	21.5 (18.0-25.4)
> 12 months ago	13.3 (8.3-20.7)	3.4 (1.9-5.9)	<0.05	5.9 (4.1-8.4)
Mean (months) (95% CI)	7.1 (5.2-9.0)	4.1 (3.4-4.8)	<0.05	4.9 (4.2-5.6)
Median (IQR)	3.0 (0.0-8.0)	2.0 (0.0-7.0)		2.0 (0.0-7.0)
Duration of involvement with HIV/AIDS prevention programmes (Denominator is whoever participated in any HIV/AIDS prevention programmes)	N=120	N=355		N=475
Less than one month	2.5 (0.8-7.5)	5.4 (3.4-8.3)	NS	4.6 (3.1-6.9)
1-6 months	0.8 (0.1-5.7)	2.3 (1.1-4.5)	NS	1.9 (1.0-3.6)
7-12 months	0.8 (0.1-5.7)	4.2 (2.6-6.9)	NS	3.4 (2.1-5.4)
> 12 months	95.8 (90.4-98.3)	87.9 (84.0-90.9)	NS	89.9 (86.8-92.3)
Cannot remember	0	0.3 (0.0-2.0)	-	0.2 (0.0-1.5)
		N=354		N=474
Mean (months) (95% CI)	70.4 (63.4-77.3)	52.6 (49.2-56.0)	<0.05	57.1 (54.0-60.3)
Median (IQR)	60.0 (36.0-120.0)	48.0 (32.0-72.0)		58.0 (36.0-72.0)
% participated in any HIV/AIDS prevention programmes in the last year	68.3 (60.2-75.4)	87.5 (83.8-90.4)	<0.05	82.4 (78.9-85.4)
Mean number of times participated in the prevention programmes in the last month (Denominator is who participated in HIV/AIDS prevention programmes in the last month)	N=32	N=147		N=179
Mean (95% CI)	2.0 (1.5-2.5)	2.3 (1.9-2.6)	NS	2.2 (1.9-2.5)
Median (IQR)	1.5 (1.0-2.5)	2.0 (1.0-3.0)		2.0 (1.0-3.0)
% involved with different types of prevention programmes in the last month* (Denominator is who				

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
participated in any prevention programme in the last month)	N=32	N=147		N=179
Educational programmes	18.8 (8.6-36.1)	27.2 (20.6-35.0)	NS	25.7 (19.8-32.7)
Received condoms	87.5 (70.9-95.3)	94.6 (89.4-97.3)	NS	93.3 (88.5-96.2)
Received lubricants	90.6 (74.4-97.0)	94.6 (89.4-97.3)	NS	93.9 (89.2-96.6)
Treatment received for STIs	15.6 (6.6-32.7)	13.6 (8.9-20.2)	NS	14.0 (9.6-19.9)
Management of general health problems	21.9 (10.7-39.5)	25.2 (18.8-32.9)	NS	24.6 (18.8-31.5)
Attended VCT	21.9 (10.7-39.5)	25.9 (19.4-33.6)	NS	25.1 (19.3-32.1)
Attended DIC	12.5 (4.7-29.1)	25.9 (19.4-33.6)	NS	23.5 (17.8-30.3)
Cultural programme (Street drama)	3.1 (0.4-19.4)	0	-	0.6 (0.1-3.9)
% involved with different types of prevention programmes in the last year* (Denominator is who participated in any prevention programme in the last year)	N=97	N=342		N=439
Needle/Syringe Exchange	0	0	-	0
Educational programmes	49.5 (39.6-59.4)	59.1 (53.7-64.2)	NS	56.9 (52.2-61.5)
Received condoms	84.5 (75.9-90.5)	96.5 (93.9-98.0)	<0.05	93.8 (91.2-95.8)
Received lubricants	90.7 (83.1-95.1)	95.0 (92.1-96.9)	NS	94.1 (91.4-95.9)
Treatment received for STIs	52.6 (42.6-62.3)	54.1 (48.8-59.3)	NS	53.8 (49.1-58.4)
Management of general health problems	41.2 (31.9-51.3)	47.7 (42.4-53.0)	NS	46.2 (41.6-50.9)
Attended VCT	47.4 (37.7-57.4)	59.6 (54.3-64.7)	NS	56.9 (52.2-61.5)
Attended DIC	37.1 (28.1-47.2)	40.1 (35.0-45.4)	NS	39.4 (34.9-44.1)
Attended World AIDS day	1.0 (0.1-7.0)	9.1 (6.4-12.6)	NS	7.3 (5.2-10.1)
% reported benefit from prevention programme in the last year (Denominator is who was exposed to prevention programmes in the last year)	N=97	N=342		N=439
Helped in changing risk behaviour	47.4 (37.7-57.4)	61.7 (56.4-66.7)	NS	58.5 (53.9-63.1)
Received useful information but did not change behaviour	24.7 (17.1-34.3)	11.4 (8.4-15.2)	<0.05	14.4 (11.4-18.0)
Learnt about HIV/AIDS/STI/safe sex and correct use of condom	66.0 (56.0-74.7)	83.3 (79.0-86.9)	<0.05	79.5 (75.4-83.0)
Information was hard to understand	8.2 (4.2-15.7)	2.0 (1.0-4.2)	NS	3.4 (2.1-5.6)
Information was not relevant to their needs	3.1 (1.0-9.2)	1.5 (0.6-3.5)	NS	1.8 (0.9-3.6)
Learned sewing	0	0.3 (0.0-2.1)	-	0.2 (0.0-1.6)
% reached with prevention programmes$^{\phi}$	56.3 (48.1-64.3)	76.0 (71.5-79.9)	<0.05	70.7 (66.7-74.5)

$^{\phi}$This indicator was computed by combining the responses from two questions:

5. Do you know where you can go if you wish to receive an HIV test?

6. In the last twelve months, have you been given condoms? (e.g. through an outreach service, drop-in centre or sexual health clinic)

*Multiple responses
IQR, Inter Quartile Range
NS refers to not significant

6.18 Venue for Meeting Friends, Sex Partners and for Sex Act (Table 61)

The most common places for meeting friends were at the hijra's home (72.8%). For contacting clients for sex, cruising spots and streets (68.5% and 64.2% respectively) were the most common places reported by hijra who sold sex and means of contacting was usually cell phone (96.7%). The internet was used by a small minority (0.5%). More than half of the sex worker hijra said that the venue for sex was the home.

Table 61: Meeting place of friends, sex partners and place of sex act

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Usual meeting place with other hijra friends*				
Cruising spot	8.5 (4.9-14.3)	64.2 (59.3-68.8)	<0.05	49.3 (45.1-53.6)
At home	71.8 (63.9-78.6)	73.1 (68.5-77.3)	NS	72.8 (68.8-76.4)
Club	0	0.8 (0.2-2.4)	-	0.6 (0.2-1.7)
Party	4.9 (2.4-10.0)	9.0 (6.5-12.2)	NS	7.9 (5.9-10.5)
Tea stall	0.7 (0.1-4.9)	21.0 (17.2-25.3)	<0.05	15.6 (12.7-18.9)
On the street	19.7 (14.0-27.1)	55.8 (50.8-60.6)	<0.05	46.2 (41.9-50.4)
Bazaar	20.4 (14.6-27.9)	27.9 (23.6-32.5)	NS	25.9 (22.3-29.8)
Hotel/Boarding	0	1.3 (0.5-3.0)	-	0.9 (0.4-2.2)
Working place	7.0 (3.8-12.6)	40.9 (36.1-45.9)	<0.05	31.9 (28.1-36.0)
School/college/Madrasa	0	0.3 (0.0-1.8)	-	0.2 (0.0-1.3)
Guru house	93.0 (87.4-96.2)	88.5 (84.9-91.3)	NS	89.7 (86.8-92.0)
At DIC	0	0.3 (0.0-1.8)	-	0.2 (0.0-1.3)
Usual place/means for contacting male partners for sex* (Denominator is who ever sold sex)				
Cruising spot	-	68.5 (63.7-73.0)	-	-
Cell phone		96.7 (94.3-98.1)		
Internet		0.5 (0.1-2.0)		
Friends		17.6 (14.2-21.8)		
Broker		8.7 (6.3-11.9)		
Club		2.3 (1.2-4.4)		
Party		7.4 (5.2-10.5)		
Hotel/boarding		7.2 (5.0-10.2)		
Tea stall		17.4 (13.9-21.5)		
On the street		64.2 (59.3-68.8)		
At home		51.9 (46.9-56.9)		
Bazaar		33.2 (28.7-38.1)		
Working place		45.0 (40.1-50.0)		

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Venue for sex act with new clients in the last week* (Denominator is who had new clients in the last week)*		N=322		
Park	-	29.8 (25.0-35.1)	-	-
Hotel		18.9 (15.0-23.6)		
Home		58.1 (52.6-63.4)		
Car/launch/boat		16.8 (13.1-21.3)		
Roof top		5.6 (3.5-8.7)		
Cinema Hall		6.5 (4.3-9.8)		
Road side/lake side/brick field		54.0 (48.5-59.4)		
Working place		36.6 (31.5-42.1)		
Bus stand		26.4 (21.8-31.5)		
Market/Bazar		10.2 (7.4-14.1)		
Venue for sex act with regular clients in the last week* (Denominator is who had regular clients in the last week)*		N=358		
Park	-	31.0 (26.4-36.0)	-	-
Hotel		16.8 (13.2-21.0)		
Home		74.0 (69.2-78.3)		
Car/ launch/CNG auto		17.9 (14.2-22.2)		
Roof top		5.3 (3.4-8.2)		
Cinema Hall		3.1 (1.7-5.5)		
Roadside/over-bridge/brickfield/lake and river side		49.4 (44.3-54.6)		
Working place		37.4 (32.5-42.6)		
Bus stand		26.8 (22.5-31.7)		
Market/Bazar		17.6 (14.0-21.9		

*Multiple responses
NS refers to not significant

6.19 Using Illicit Drugs (Table 62)

Taking illicit drugs in the last year was reported by 10.9% hijra and this was significantly more common among sex worker compared to Badhai hijra ($p<0.05$). Among those who had taken illicit drugs in the last year, methamphetamine was the most common (70.7%) followed by codeine containing cough syrup (41.4%). Only three sex workers reported injecting drugs in the last year and one shared needles/syringes during the last injection. Both groups of hijra admitted that 3.4% of their Parikh injected drugs and 16.4% of sex worker hijra said their clients injected drugs.

Table 62: Using illicit drugs

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% took illicit drugs (except alcohol and cannabis) in the last year	4.2 (1.9-9.1)	13.3 (10.3-17.1)	<0.05	10.9 (8.5-13.8)
Type of drugs taken in the last year*				
Codeine containing cough syrup (Phensidyl)	2.1 (0.7-6.4)	5.4 (3.5-8.1)	NS	4.5 (3.0-6.6)
Heroin	0	0.5 (0.1-2.0)	-	0.4 (0.1-1.5)
Buprenorphine/Pethedine	0	0.8 (0.2-2.4)	-	0.6 (0.2-1.7)
Methamphetamine (Yaba)	2.8 (1.1-7.3)	9.5 (6.9-12.8)	NS	7.7 (5.7-10.3)
% injected drugs in the last year	0	0.8 (0.2-2.4)	-	0.6 (0.2-1.7)
% had Parikh who injected drugs	N=118 2.5 (0.8-7.6)	N=207 3.9 (1.9-7.6)	NS	N=325 3.4 (1.9-6.0)
% had new/regular clients who injected drugs	-	16.4 (13.0-20.4)	-	-

*Multiple responses
NS refers to not significant

6.20 History of Selling Blood

Only three sex worker hijra reported selling blood for money in the last one year.

6.21 History of Taking Female Hormones (Table 63)

Three in every four hijra said they had taken oestrogen and progesterone containing hormone tablets and injections some time in their lives and in the last three months 49% had done so. Their purpose for taking these hormones were mostly for the enhancement of breast size followed by increasing smoothness of the skin.

Table 63: History of taking female hormone

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
% ever took female hormones	78.2 (70.6-84.2)	76.0 (71.5-79.9)	NS	76.5 (72.7-80.0)
% took female hormones in the				

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
last 3 months (Denominator is who ever taken female hormone)	N=111 41.4 (32.6-50.8)	N=297 51.9 (46.1-57.5)	NS	N=408 49.0 (44.2-53.9)
Reasons for taking female hormones* (Denominator is who had taken female hormones in the last three months)	N=46	N=154		N=200
Enhancing breast size	100.0	96.1 (91.5-98.3)	NS	97.0 (93.4-98.7)
Improving shape of thigh/hip	6.5 (2.1-18.5)	21.4 (15.6-28.7)	NS	18.0 (13.2-24.0)
Increasing smoothness of skin	21.7 (12.1-36.0)	36.4 (29.1-44.3)	NS	33.0 (26.8-39.9)
Suppressing growth of facial hair	17.4 (8.9-31.2)	12.3 (8.0-18.6)	NS	13.5 (9.4-19.0)
To become fat	0	3.2 (1.3-7.6)	-	2.5 (1.0-5.9)

*Multiple responses
NS refers to not significant

6.22 Profile of Clients as Identified by hijra (Table 64)

The majority of the clients of sex worker hijra were businessmen (36.3%) whom they characterized as belonging largely to the general population (66%) i.e. not being a KP. The most common characterisation of the last casual partner by sex worker hijra was as a client of female sex workers and also as men who belonged to the general population. Most of their Parikhs (for both groups of hijra) were businessmen and service holders.

Table 64: Occupational profile/characterization of different sex partners

Indicators	Badhai N=142, unless otherwise stated % (95% CI)	Sex worker N=391, unless otherwise stated % (95% CI)	Comparison p-value	Total Total N=533, unless otherwise stated % (95% CI)
Main occupation of clients (new or regular)		N=391		
Student	-	5.6 (3.7-8.4)	-	-
Rickshaw puller		7.4 (5.2-10.5)		
Men in uniform		1.3 (0.5-3.0)		
Service holder		18.7 (15.1-22.9)		
Motor driver		12.5 (9.6-16.2)		
Business		36.3 (31.7-41.2)		
Day labourer		17.1 (13.7-21.2)		
Unemployed		0.5 (0.1-2.0)		
Cannot remember		0.5 (0.1-2.0)		
Characterization of the last client in last week (Denominator who had clients in the last week)		N=385		
General person	-	65.5 (60.5-70.1)	-	-

Indicators	Badhai	Sex worker	Comparison p-value	Total
	N=142, unless otherwise stated % (95% CI)	N=391, unless otherwise stated % (95% CI)		Total N=533, unless otherwise stated % (95% CI)
Female sex worker		8.8 (6.4-12.1)		
MSM		20.8 (17.0-25.1)		
Male who injects drugs		0.5 (0.1-2.1)		
Cannot remember		4.4 (2.8-7.0)		
Characterisation of last casual male sex partner in the last month (Denominator who had casual sex in the last month)	N=5	N=119		N=124
General Man	60. 0 (19.6-90.2)	42.9 (34.2-52.0)	NS	43.5 (35.0-52.5)
Client of female sex worker	0	43.7 (35.0-52.8)	-	41.9 (33.5-50.9)
MSM	20.0 (2.6-69.8)	8.4 (4.5-15.0)	NS	8.9 (4.9-15.4)
Cannot remember	20.0 (2.6-69.8)	5.0 (2.3-10.9)	NS	5.6 (2.7-11.5)
Main occupation of the Parikh (Denominator who had Parikh)	N=118	N=207		N=325
Student	13.6 (8.5-21.0)	11.6 (7.9-16.7)	NS	12.3 (9.1-16.4)
Rickshaw puller	0	1.4 (0.5-4.4)	-	0.9 (0.3-2.8)
Men in uniform	0	2.4 (1.0-5.7)	-	1.5 (0.6-3.7)
Service holder	29.7 (22.1-38.5)	18.8 (14.1-24.8)	NS	22.8 (18.5-27.7)
Motor driver	12.7 (7.8-20.1)	14.0 (9.9-19.5)	NS	13.5 (10.2-17.7)
Business	28.8 (21.3-37.7)	26.1 (20.5-32.5)	NS	27.1 (22.5-32.2)
Day labour	6.8 (3.4-13.0)	5.3 (3.0-9.4)	NS	5.8 (3.8-9.0)
Unemployed	8.5 (4.6-15.1)	19.8 (14.9-25.8)	NS	15.7 (12.1-20.1)
Cannot remember	0	0.5 (0.1-3.4)	-	0.3 (0.0-2.2)

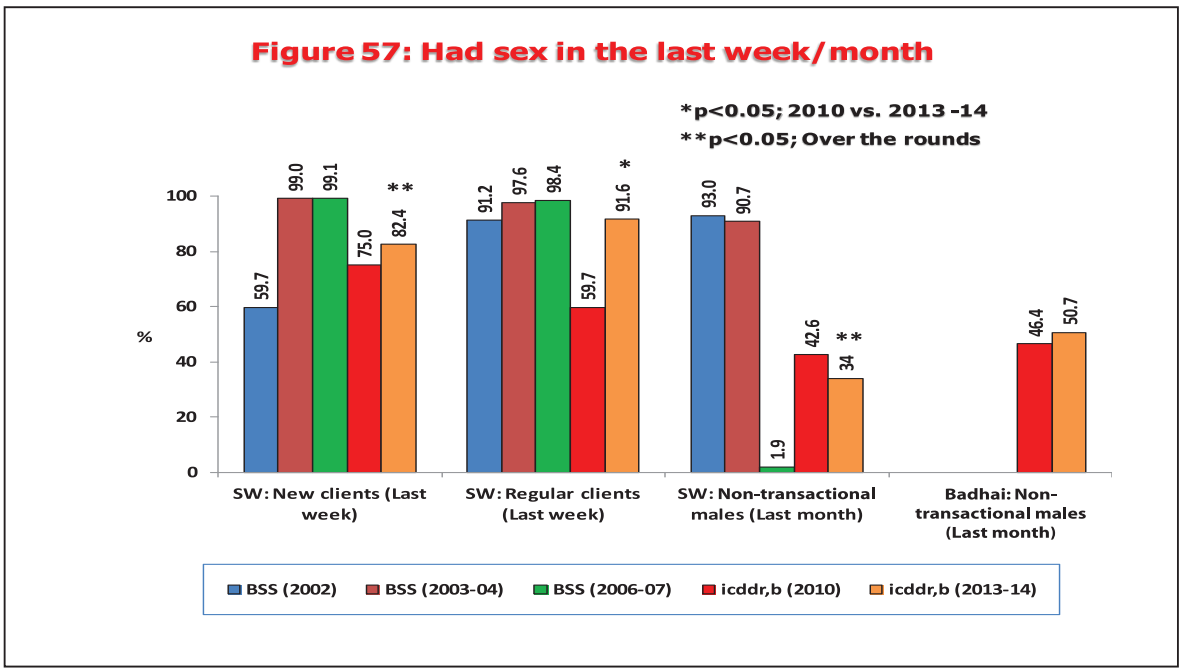
NS refers to not significant

6.23: Changes in Risk Behaviours over the Rounds in hijra

Changes in some selected risk behaviours have been compared over the years of BSS from 2002-2013 for sex worker hijra in Dhaka; for Badhai hijra, comparisons were done from 2010 only as this group was not sampled in BSS before.

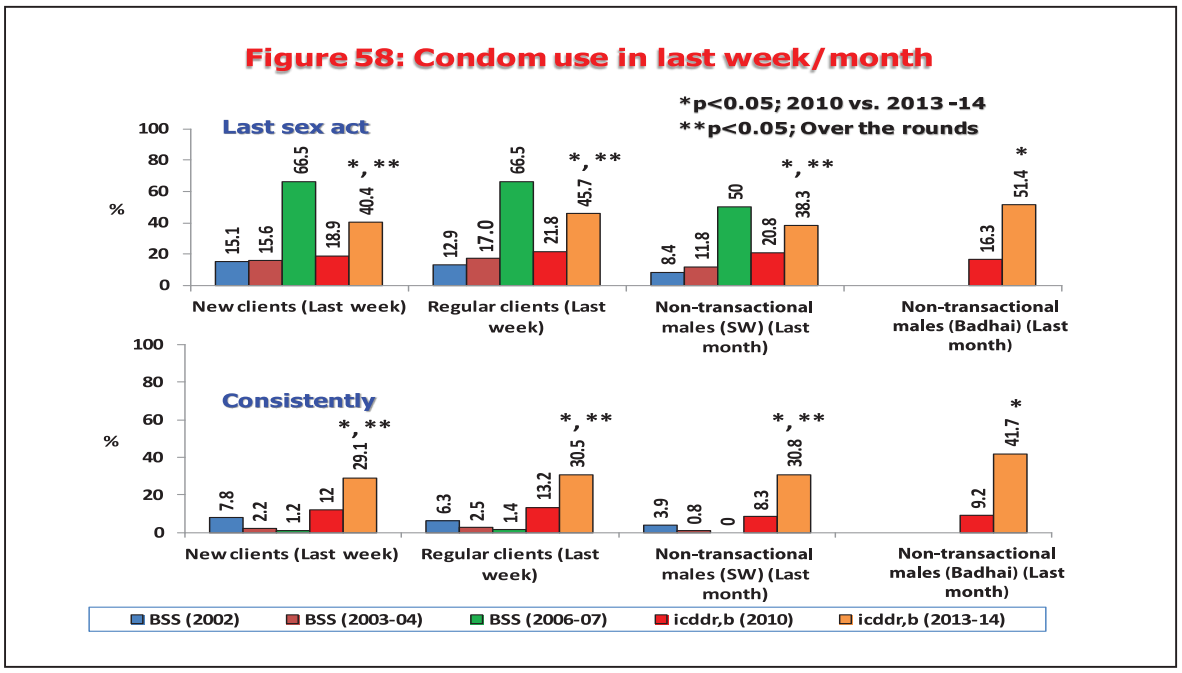
6.23.1 Male Sex Partners in the Last Week and Month

Figure 57 shows the proportions of hijra reporting sex with different types of male sex partners in Dhaka. Proportions of hijra reporting sex with new clients increased significantly over time ($p<0.05$) and with regular clients although there was no change over the years but this increased in 2013 compared to 2010 ($p<0.05$). Significantly fewer hijra sex workers reported sex with non-transactional partners over the years ($p<0.05$).



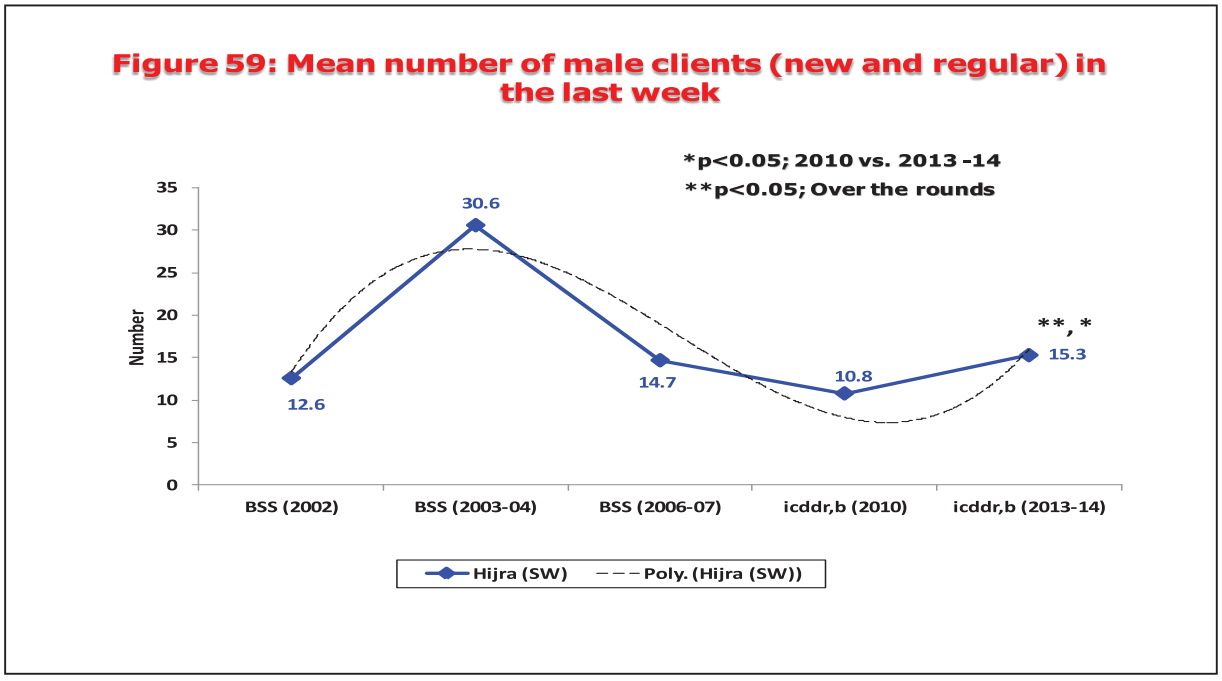
6.23.2 Condom Use in the Last Week and Month

Condom use both last time and consistently significantly increased over time with all types of sex partners (Figure 58) ($p<0.05$).



6.23.3 Number of Clients in the Last Week (among hijra Sex Workers)

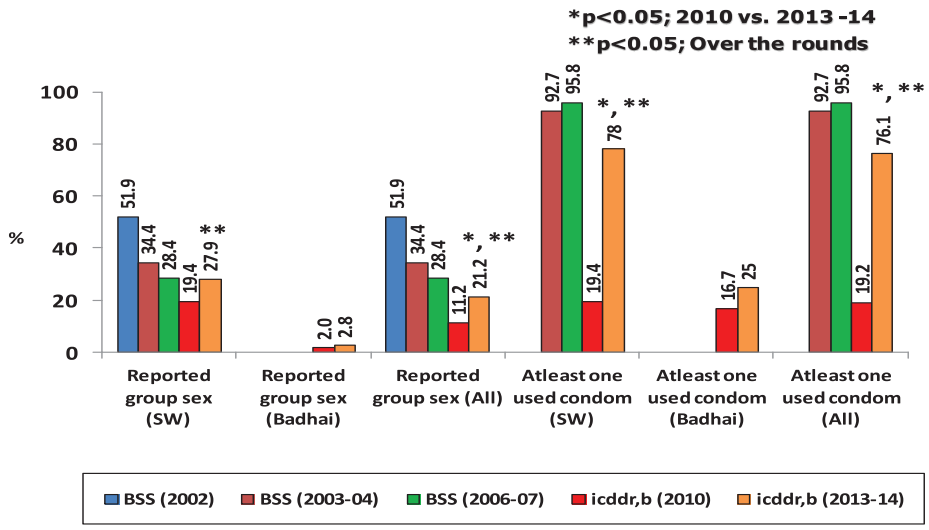
The data over several years show that the mean number of clients of hijra varied. A polynomial trend line [22] denoted by dash line in Figure 59 showed that the mean number of male clients increased in 2003/04 then showed a declining trend till 2010 and then again showed a significant increasing trend in 2013 ($p<0.05$).



6.23.4 Group Sex and Condom Use

Over the years, significantly fewer hijra reported group sex but condom use by at least one partner during last group sex also declined significantly (Figure 60) ($p<0.05$). However, between 2010 and 2013, proportions reporting that at least one partner using a condom in the last group sex increased significantly ($p<0.05$).

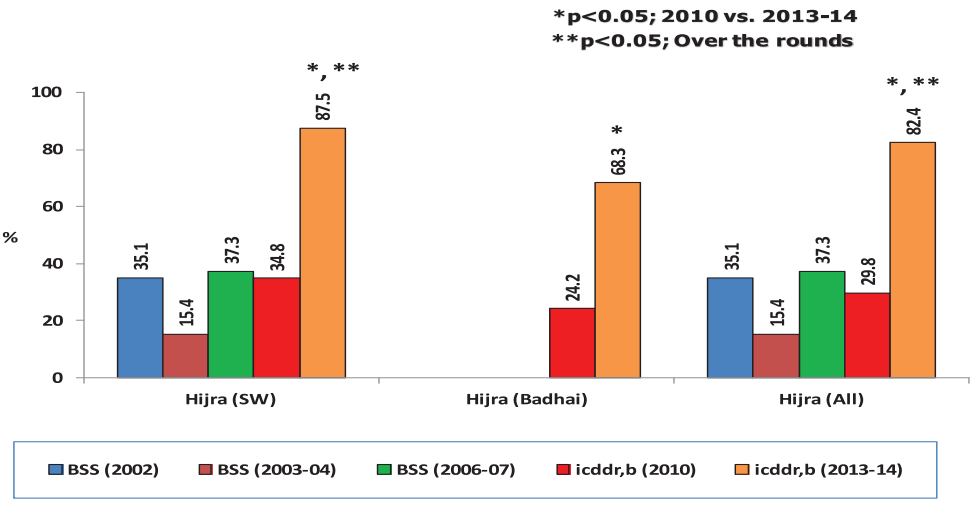
Figure 60: Group sex and condom use in the last month



6.23.5 Exposure to HIV Prevention Programmes

Participation in HIV prevention programmes increased significantly over time (Figure 61) ($p<0.05$). Participation also increased significantly in 2013 compared to 2010 ($p<0.05$).

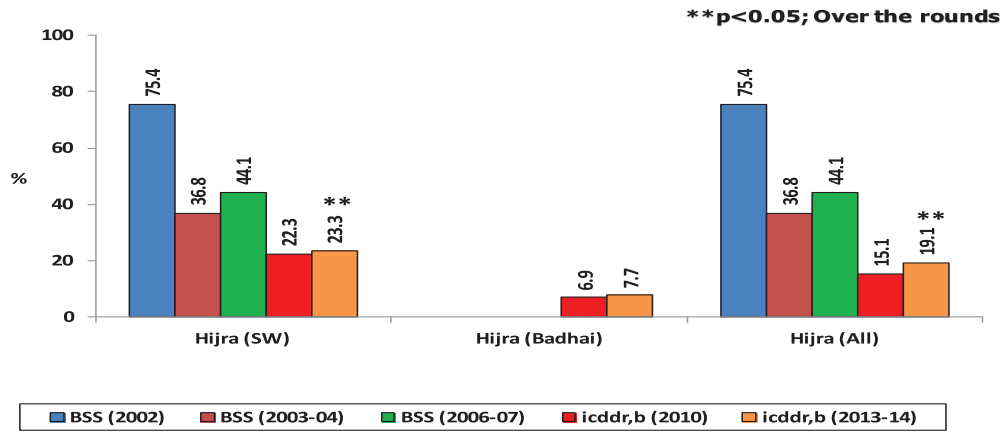
Figure 61: Participated in HIV prevention programmes in the last year



6.23.6 Self-reported STIs and HIV Testing

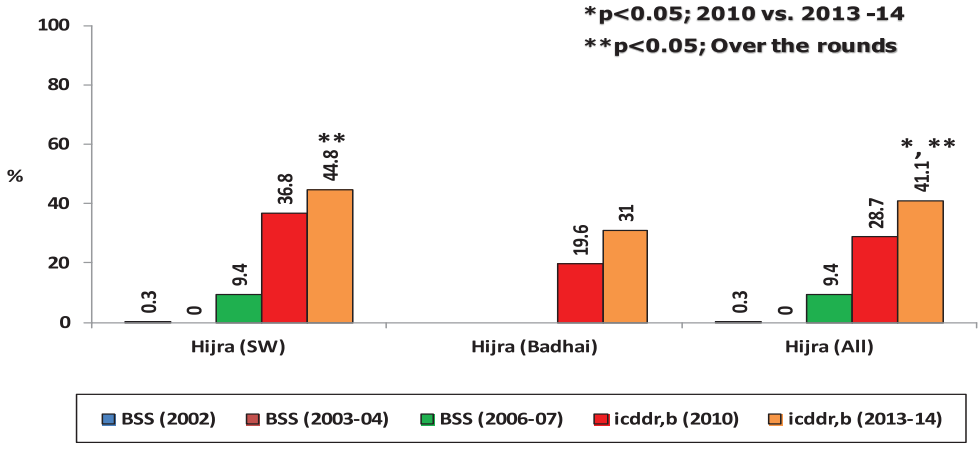
The proportions of sex worker hijra reporting at least one STI symptom in the last year declined significantly over time (Figure 62) ($p<0.05$).

Figure 62: Complained at least one STI symptom in the last year



Proportions of hijra reporting having tested for HIV and knowing their test result increased significantly over time for only sex worker hijra ($p<0.05$); no changes were observed for Badhai hijra between 2010 and 2013 (Figure 63).

Figure 63: Tested for HIV and knew the result in the last year



6.23.7 Violence

Rape in the last year was reported by fewer sex worker hijra over all the years (Figure 64) (p<0.05). However, significantly more sex worker hijra reported being raped in 2013 compared to 2006/07 (Figure 65) (p<0.05).

Figure 64: Beaten in the last year

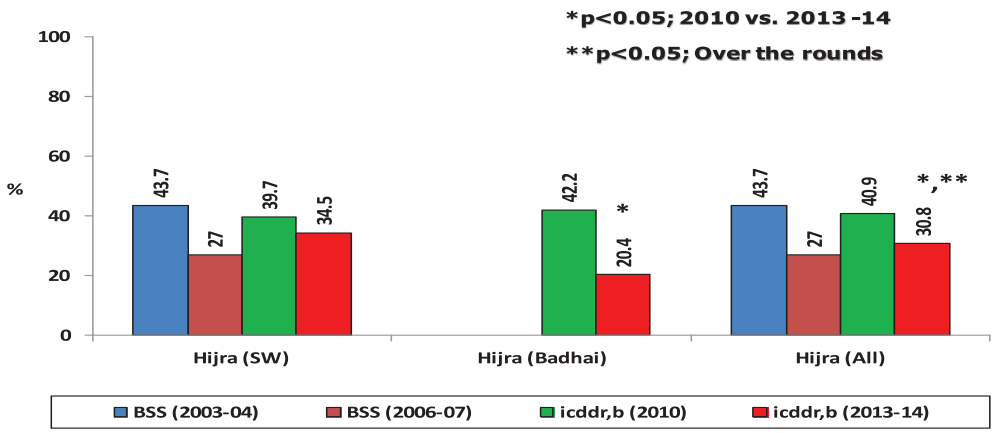
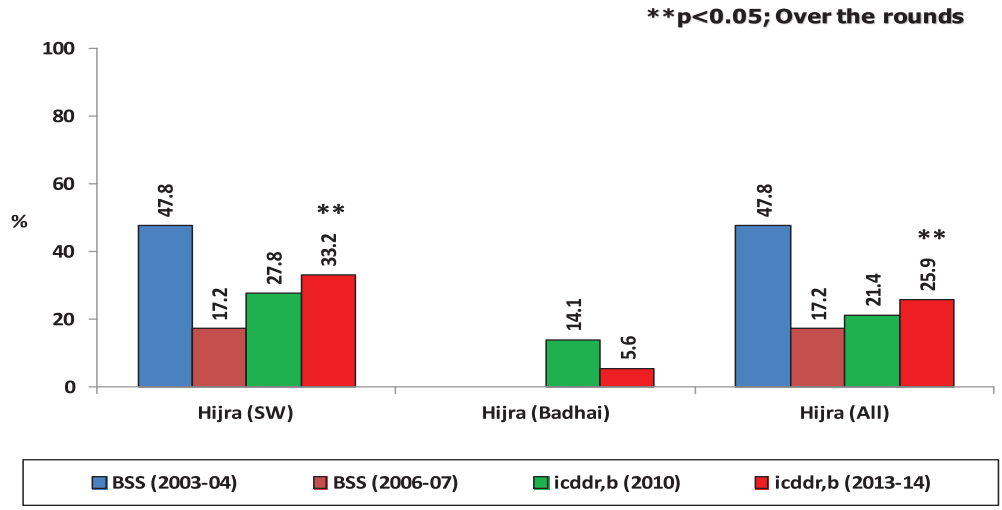


Figure 65: Raped in the last year



Chapter 7: Discussion

Overall, the data from the present survey of MSM, MSW and hijra from Dhaka, Chittagong, Sylhet and Hili shows encouraging results. The prevalence of HIV continues to be low and that of active syphilis has either remained stable at low levels or declined as in the case of MSW and hijra. Along with the low levels, in most cases condom use has improved with more MSM, MSW and hijra reporting condom use with different types of sex partners. At the same time participation in HIV prevention programmes has increased as has HIV testing. However, data from this survey has also revealed areas of weaknesses where enhancement of efforts is required.

The methodologies followed here for both serological and behavioural surveys were similar to that of the national serological surveillance and BSS followed in earlier years [14, 15] and the cities selected were based on a consensus reached by the Technical Working Group for National M&E and Strategic Information on HIV and AIDS, which is a subcommittee of the Technical Committee of the National AIDS Committee. There were however, a few differences in the methodologies for sampling hijra; a birit based method was used which had been successfully applied during the exercise for counting hijra [8] and for the baseline survey on hijra that was conducted in 2010 prior to starting the programme activities of the Global Fund RCC project of icddr,b [13]. In addition, in earlier rounds of BSS, only sex workers hijra were interviewed. Since the baseline survey conducted in 2010 both non-sex worker (Badhai) and sex worker hijra were interviewed so that the comparisons for Badhai hijra with earlier rounds of BSS were not possible. Such a differentiation between sex worker and Badhai hijra was not made in serological surveillance.

This section will focus on some key findings that are presented under broad heads as shown below.

HIV prevalence

HIV prevalence among these three KPs was highest in hijra and it was of concern that HIV in hijra in Dhaka had reached 1% in 2011 [14]. Fortunately, the prevalence among hijra in Dhaka was below 1% during this survey. In Hili, the numbers of hijra sampled were very few both in 2011 (n=31) and in 2013(n=28). However, in both years, 1-2 hijra were found to be positive so that it is apparent that there is HIV in Hili although the numbers are low and this is not only amongst hijra as during the serological surveillance of 2011, HIV was also detected among female sex workers and PWID. Thus Hili as a geographical area appears to be vulnerable to HIV which may be related to it being a border city and the frequent cross border mobility of KPs to India as has been documented not only in this survey but also previous rounds of serological surveillances and a mobility study on hijra [21]. The mobility study on hijra showed that the reasons of travel were also different for hijra in border compared to those in non-border areas; significantly ($p<0.05$) more participants in border areas travelled abroad for sex work while more from non-border areas travelled for Badhai and to mitigate conflicts.

STIs

Active syphilis among all groups was below 5% and the significant decline in prevalence among hijra and MSW of Dhaka suggests either effective treatment for syphilis or adoption of safer behaviours or both. From this survey it is not possible to be certain that STIs other than syphilis are also absent. Rectal STIs are common among MSM and has been reported at high levels from other countries such as Indonesia where the prevalence of rectal gonorrhoea or chlamydia was approximately 32% in three cities [23]. However, as in the present survey the proportion of MSM, MSW and hijra who complained of suffering from at least one STI in the last year declined compared to previous years it is likely that there has been an improvement in the overall STI prevalence in Bangladesh. Oral STIs is a common problem among those who practice male to male sex and has

been reported in different settings [24]. Condom use in oral sex was not commonly reported in the present survey and there is no data on oral STIs in Bangladesh. This is an issue that needs attention.

Unsafe sex

In Dhaka MSW and hijra were generally more sexually active as they reported a greater number of both sex partners and sex acts. Fortunately condom use in anal sex increased with clients over the years and this gradual rise is encouraging and needs to be maintained as consistent and correct condom use can reduce sexual transmission of HIV by 78–85% [25, 26].

In the present survey, among both MSW and sex worker hijra many said they had requested their clients to use condoms and data analysis from earlier studies have shown that condoms will more likely be used when sex workers (males or females) ask their clients to use condoms [27]. Also studies in Bangladesh have shown that clients of female sex workers are amenable to using condoms if requested by sex workers [27]. In India, many male clients of female sex workers reported learning how to use a condom from female sex workers [28]. Thus empowerment of sex workers such that they can request, provide and demonstrate the use of condoms to their clients is possible and needs to be addressed more actively in ongoing programmes.

In contrast to clients, with non-transactional partners condom use was less frequent and about 80% of Badhai hijra never used condom with their casual sex partners. Less frequent condom use in non-transactional sex is not unusual and is often related to trust and intimacy [1].

Another concern is group sex which was generally more commonly reported by MSW and sex worker hijra and substantial proportions could not say whether any of the partners in the group sex used a condom. Group sex is often non-consensual and therefore there can be an element of violence in such acts [1]. Even when group sex is not rape, MSW are not in a position to negotiate condoms; condoms are either unavailable or inadequate in number [27]. Group sex is particularly worrying as it allows transmission of infections from one person to several people at the same time.

Young age and male to male sex

All three KPs sampled included those who were 15 years and above. For both the serological and behavioural components of the survey very few were found who were between 15-18 years. The reasons for this are not fully clear because anecdotal evidence suggests that young MSM and MSW exist. The sampling procedures used may be a reason for not accessing younger individuals. For the serological survey, individuals who were within intervention programmes were sampled and as these programmes are targeted to adults (18 years and above) it can be difficult to find those who are younger. For the behavioural survey, TLS was used so that sampling was done in public venues in the evening. Field notes suggest that there are MSM, MSW and hijra who are young but they are usually not available in public venues because of various reasons including not being allowed out late by parents, fear of exposure, greater use of mobile phones for connecting with their network of friends and clients, younger Kothis are often threatened by older ones as they fear that clients will prefer younger Kothis.

Time Location Sampling may therefore not be the appropriate methodology for sampling younger KPs and alternate sampling methodologies have been suggested which may be considered in future [29]. That young people are engaged in male to male sex was also apparent from the data on age at first sex, which was below 15 years on average for hijra and MSW and it was just over 15 years for MSM. Very young age at sex has also been reported for other KPs in Bangladesh such as female sex workers but it is most prevalent among MSM, MSW and hijra [27]. It has also been reported from the US in a study of high school youth where it was found that self identification as gay, lesbian or bisexual was associated with young age at first sex (before 13 years) [30]. Sexual

debut at a very young age can have implications especially when adults are engaged in the sex act in which case it is generally assumed that this has been coercive and may also be violent. An ethnographic study on hijra in Bangladesh [6] showed that many hijra were sexually abused in their childhood by older males, some of whom were their relatives. In the current survey, all hijra said their first sex partner was male and this was true for the vast majority of MSW.

Concurrent female sex partners

Many MSM and MSW were married to females and this is not unique to Bangladesh and has been reported consistently from other countries such as China where approximately 17% of MSM were married [31, 32], and India where the proportions married were higher at 35-42% [33, 34].

The reason why many MSM marry is usually related to traditional cultural and family values [31, 35]. However, many MSM are bisexual and they have other female sex partners even if they are married and these include girlfriends and female sex workers. Having multiple female sex partners has been documented in Bangladesh not only through BSS but other research studies conducted in Bangladesh [3]. Also such findings have been reported from many countries including China, Nigeria, South Africa and Kenya [31, 36-38].

The worrisome issue here is the vulnerability of the female sex partners who are often unaware of their male partners' male to male sexual behaviour. And as MSM behaviour is hidden, partner notification, which is an important component of HIV and STI prevention, is difficult so that women in these relationships remain at immense risk of infections.

Illicit drugs

Illicit drugs were used in the last year by approximately 10% of the KPs sampled in this survey. The drugs most commonly used were methamphetamine (Yaba) and the codeine containing cough syrup (Phensidyl). These are two very different drugs causing different effects; Yaba enhances mood, boosts energy and sex drive while Phensidyl is an opioid drug resulting in a feeling of wellbeing and generally slows people down. Both however are of concern as they enhance risk taking and blur judgement. The use of stimulants such as methamphetamine, ecstasy and others are common among MSM globally [39]. Although very few of the MSM, MSW and hijra sampled in this survey said that they injected drugs, a not insubstantial population said their clients or regular partners injected drugs. A better understanding of the context of illicit drug use amongst the community of MSM and hijra in Bangladesh is required in order to be able to provide effective services.

Female hormones

Taking female hormones was very commonly reported by MSW and most so by hijra. In the Asia Pacific region, many transgender people use a range of hormones without medical supervision; for example 88.6% transgender persons in Thailand reported that they used hormones [40, 41]. This practice often begins at an early age and is unregulated so that the potential serious side-effects are not considered [42]. Another danger with injectable hormones is sharing of injection equipment as has been reported from South East Asia [43].

In addition to the issues highlighted here, others such as those on violence, barriers to accessing services are still of concern but less so than previous years. The scaling up of services has no doubt made a difference to the KPs sampled in the present survey but much still remains to be done to ensure healthy lives.

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